



**Madhya Pradesh Professional Examination Board  
(PEB)  
Bhopal**

***TENDER DOCUMENT  
FOR***

***Selection of a system integrator for design,  
development, maintenance and operations of an end  
to end computerized examination system***

**March 2019**



# Madhya Pradesh Professional Examination Board (PEB)

Dated: 07<sup>th</sup> March, 2019

Tender Notice No. – 32/2018-19

Bids, valid for a minimum period of 90 days from the date of opening, are invited by Madhya Pradesh Professional Examination Board (PEB) for Selection of a system integrator for design, development, maintenance and operations of an end to end computerized examination system.

<b>Tender Fees (non-refundable)</b>	INR 10,000/- (INR Ten Thousand Only)
<b>Earnest Money Deposit (refundable)</b>	INR 40,00,000/- (INR Forty Lacs Only)

S No.	Topic	Date
1	Start date of issuance / sale of RFP document	07 <sup>th</sup> March 2019
2	Date and Time of Pre-Bid Meeting	18 <sup>th</sup> March 2019, 11:30 AM
3	End date of sale of RFP document	03 <sup>rd</sup> April 2019
4	Last Date and Time for Online Submission of bids	04 <sup>th</sup> April 2019, 05:00 PM
5	Date and time of opening of Pre-Qualification bids	09 <sup>th</sup> April 2019, 11:00AM
6	Date and time for opening of Technical bids	12 <sup>th</sup> April 2019, 11:00AM
7	Date and time for Technical Presentation / PoC demonstration	Tentative 22 <sup>nd</sup> April 2019, 11:00AM
8	Date and time for opening of Commercial bids	Tentative 25 <sup>th</sup> April 2019, 11:00AM

Authorized Signatory  
Director, PEB

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## Terms used in RFP

- i. **“Agreement”** means the form of agreement together with the contents and specifications set out in all the volumes of the RFP;
- ii. **“Applicable Laws”** includes all applicable statutes, enactments, acts of legislature or parliament, laws, ordinances, rules, by-laws, regulations, notifications, guidelines, policies, directions, directives and orders of any Governmental authority, tribunal, board, court or other quasi-judicial authority;
- iii. **“Bidder”** means the companies / firms bidding for the Project through this invitation of Request for proposal (RFP) exclusively for Madhya Pradesh Professional Examination Board (PEB) for the specified scope of work
- iv. **“Bid Evaluation Committee”** means the committee constituted by Madhya Pradesh Professional Examination Board (PEB) for the purpose of evaluation of bids received in response to this RFP document
- v. **“Bespoke Software”** means the software designed, customized, developed, tested and deployed by the Bidder for the purposes of rendering the Services to the Stakeholders of the Project and includes the source code along with associated documentation, which is the work product of the development efforts involved in the Project and the improvements and enhancements effected during the term of the Project, but does not include the third party software products (except for the customization components on such products), proprietary software components and tools deployed by the Bidder, and which, i.e., the bespoke software, shall be solely owned by Madhya Pradesh Professional Examination Board (PEB)
- vi. **“Confidential Information”** means any information disclosed to or by any Party to this Contract and includes any information in relation to the Parties, a third party or any information with regard to any candidate / department, including any such information that may come to the knowledge of the Parties hereto / Bidder’s team by virtue of this Contract that:
  1. is by its nature confidential or by the circumstances in which it is disclosed confidential; or
  2. is designated by the disclosing Party as confidential or identified in terms connoting its confidentiality;but does not include information which is or becomes public knowledge other than by a breach of this Contract
- vii. **“Contract”** means the Agreement entered into between the Purchaser and the Bidder as recorded in the Contract form signed by the Purchaser and the Bidder including all attachments and Annexes thereto, the Tender and all Annexes thereto and the agreed terms as set out in the bid, all documents incorporated by reference therein and amendments and modifications to the above from time to time;
- viii. **“Deliverables”** means the products, infrastructure and services agreed to be delivered by the Bidder in pursuance of the Agreement as listed in Section 7: Scope of Work of the RFP and includes all documents related to the solution, user manual, business designs, training

materials, technical manual, design, process and operating manuals, service mechanisms, policies and guidelines and source code and all respective modifications

- ix. **"Intellectual Property Rights"** means and includes all rights in the Bespoke Software, its improvements, upgrades, enhancements, modified versions that may be made from time to time, database generated, compilations made, source code and object code of the software, the said rights including designs, copyrights, trademarks, patents, trade secrets, moral and other rights therein
- x. **"Project"** means the project involving system design, development, training of personnel, implementation, maintenance and operations of the overall solution as per terms and conditions laid down in the RFP and in conformance to the SLA
- xi. **"Material Adverse Impact"** means material adverse effect on (a) the ability of the Bidder to perform/discharge any of its duties/obligations under and in accordance with the provisions of this MSA and/or SLA; and/or (b) the legal validity, binding nature or enforceability of this RFP and/or the SLA
- xii. **"Nodal Officer, PEB"** means the Director, Madhya Pradesh Professional examination Board (PEB)
- xiii. **"Operations and Maintenance" or "O&M"** means the services to be rendered, as per the SLA, during the period commencing from the "Go-Live date" till the expiry or termination of the Master Service Agreement
- xiv. **"Performance Guarantee" or "Performance Bank Guarantee" or "PBG"** shall mean an unconditional and irrevocable bank guarantee provided by a Nationalized Bank to PEB on behalf of the Bidder amounting to 10% of the agreement value, pursuant to the Agreement. The PBG shall be valid for a period of 90 days post the expiry of the contract, unless extended pursuant to the Agreement
- xv. **"Project Data"** means all proprietary data of the Project generated out of the Project operations and transactions, documents and related information including but not restricted to user data which the Bidder obtains, possesses or processes in the context of providing the Services to the users pursuant to this RFP including the SLA;
- xvi. **"Project Implementation Phase"** means the period between the Effective Date and the Go-Live date, it is expected that the Implementation would be done by SI in a period of 36 weeks from the Effective Date;
- xvii. **"Project Implementation Completion date"** means the date on which the proposed System is completely operational as per the functional, technical and operational requirements specified in the RFP have been met by Bidder covering all phases and Operation and Maintenance Phase has commenced, which includes integration, configuration, customization, extension and third party audit by STQC. Application Software, data migration, Change management & Capacity Building and Handholding support are successfully concluded to the satisfaction of PEB



- xviii. **“Project Operations and Maintenance Phase/Stage”** means the phase in which operations & maintenance is to be carried out by the System Integrator as per the terms and conditions of this contract period, after declared completion of Project Implementation Phase
- xix. **“Project Proprietary Information”** shall mean Proprietary Information of PEB provided to the Bidder for providing the Services and include all modifications, enhancements and other derivative works of such Project Proprietary Information arising as a result of Services rendered by the Bidder
- xx. **“Proprietary Information”** means processes, methodologies and technical and business information, including drawings, designs, formulae, flow charts, data and computer programs already owned by, or granted by third parties to a Party hereto prior to its being made available under this RFP, or the SLA
- xxi. **“Purchaser”** means Madhya Pradesh Professional Examination Board (PEB)
- xxii. **“RFP” or “Request for Proposal”** means the documents containing the Technical, Functional, Operational, Commercial and Legal specifications for the implementation of the Project, issued in this one volume and also includes the clarifications, explanations and amendments issued by PEB from time to time
- xxiii. **“Replacement Service Provider”** means any third party that the Purchaser may appoint to replace the Bidder upon expiry of the Term or otherwise termination of this RFP or the SLA to undertake the Services or part thereof
- xxiv. **“Services”** means the contents and services to be rendered during the Project Implementation Phase and the Project Operations and Management Phase including but not limited to the services to be delivered to the Stakeholders as specified in the RFP
- xxv. **“Service Level”** means the level of service and other performance criteria which will apply to the Services as set out in SLA
- xxvi. **“Service Level Agreement” or “SLA”** means the agreement on service levels between PEB and Bidder, in terms of the Service Level requirements as per the model set out in Appendix IV of this RFP
- xxvii. **“System Integrator” or “SI”** means the agency selected by the Purchaser, which is responsible for integration, configuration, customization and extension of PEB’s Web Portal, data migration, change management & capacity building, handholding support and operation & maintenance.
- xxviii. **“Third Party Systems”** means systems (or any part thereof) in which the Intellectual Property Rights are owned by a third party and to which SI has been granted a license to use and which are used in the provision of Services
- xxix. **“Third Party Agency”** means the agency appointed by PEB for the purpose of certification of the hardware and software by conducting various types of tests
- xxx. **“Term”** means the total man-months required by the Bidder to complete the project as per the specified scope of work

## **1 Request for Proposal**

Sealed tenders are invited from eligible, reputed, qualified firms with sound technical and financial capabilities for design, development, implementation and maintenance of an end to end computerized examination system as detailed out in the scope of work under Section 7 of this RFP document. This invitation to bid is open to all Bidders meeting the minimum eligibility criteria as mentioned in Section 5.1 of this RFP document.

## **2 Structure of the RFP**

This RFP document for the project of End to End Computerization of Examination System at MP Professional Examination Board for the Purchaser comprises of the following:

- 1) Instructions on the bid process for the purpose of responding to this RFP. This broadly covers:
  - a) General instructions for bidding process
  - b) Bid evaluation process including the parameters for pre-qualification, technical evaluation and commercial evaluation to facilitate the Purchaser in determining Bidder's suitability as the implementation partner
  - c) Payment schedule
  - d) Commercial bid and other formats
- 2) Functional and technical requirements of the project. The contents of the document broadly cover the following areas:
  - a) About the project and its objectives
  - b) Scope of work for the implementation agency
  - c) Functional and Technical requirements
  - d) Project Schedule
  - e) Service levels for the implementation partner

The Bidder is expected to respond to the requirements as completely and in as much relevant detail as possible, and focus on demonstrating Bidder's suitability to become the implementation partner of the Purchaser.

The Bidders are expected to examine all instructions, forms, terms, project requirements and other information in the RFP documents. Failure to furnish all information required as mentioned in the RFP documents or submission of a proposal not substantially responsive to the RFP documents in every respect will be at the Bidder's risk and may result in rejection of the proposal.

### **3 Background Information**

#### **3.1 About Madhya Pradesh Professional Examination Board (PEB)**

The Madhya Pradesh Professional Examination Board (PEB) is the only organization of its kind in the country that organizes competitive tests for entrance to various professional courses every year on a very large scale.

The responsibility of conducting recruitment examinations for different state level posts, which are not filled through the Public Service Commission, has been entrusted to the Board by the State Government. To name a few, Sub Inspectors of Police (Home Department), Assistant grade III/Steno typists in General Administration Department, Rural Extension Officers in the Department of Agriculture, Training Officers in the Directorate of Employment and Training, Samvida Shikshak, MPLUN, Jail Head Quarter, Mahila Evam Bal Vikas, Controller Food & Drugs, Pollution Control and a large number of other examinations were conducted to fill up the backlog of posts in various Government departments.

#### **3.2 Basic Information**

- 1) Purchaser invites responses to this Request for Proposals from reputed Information Technology (IT) companies / systems implementation agencies for the provision of end to end computerized examination system as described in Section 7 of this RFP, "Scope of Work"
- 2) Any contract that may result from this Government procurement competition will be issued for a term of 69 months ("the Term").
- 3) The Purchaser reserves the right to extend the Term for a period or periods of up to 12 months with a maximum of 36 months such extension or extensions on the same terms and conditions, subject to the Purchaser's obligations at law.
- 4) Proposals must be received not later than time, date and venue mentioned in the RFP
- 5) Proposals that are received late WILL NOT be considered.

#### **3.3 Project Background**

Keeping in line with the pace of technological advancement PEB recently decided to automate its entire examination system. The idea behind this was to ensure ease of access to all internal & external stakeholders, especially candidates & departments. Some of the envisaged benefits from this automation process are as follows:

- 1) Get the demand letter from the department online for Recruitment and Entrance examinations
- 2) Get the full details of the recruitment and entrance rules from the department online
- 3) Generate the computerized rule book and application form

- 4) Computerize the complete work of PEB like inviting applications from the candidates, question bank management, test admit card generation, exam conduction, question-answer challenge procedure etc.
- 5) Generate the computerized result and to provide the result data to the department online
- 6) Transfer data through online secure communication without manual intervention
- 7) Backup plan for disaster recovery

PEB also wanted to explore opportunities for the introduction of novel technologies to assist in better managing the examination system and to enable them to monitor the examination process in a more effective manner through introduction of emerging technologies like artificial intelligence, machine learning, blockchain etc.

## **4 Instruction to Bidders**

### **4.1 General**

- 1) While every effort has been made to provide comprehensive and accurate background information and requirements and specifications, Bidders must form their own conclusions about the solution needed to meet the requirements. Bidders and recipients of this RFP may wish to consult their own legal advisers in relation to this RFP.
- 2) All information supplied by Bidders may be treated as contractually binding on the Bidders, on successful award of the assignment by the Purchaser on the basis of this RFP.
- 3) No commitment of any kind, contractual or otherwise shall exist unless and until a formal written contract has been executed by or on behalf of the Purchaser. Any notification of preferred Bidder status by the Purchaser shall not give rise to any enforceable rights by the Bidder. The Purchaser may cancel this public procurement at any time prior to a formal written contract being executed by or on behalf of the Purchaser.
- 4) This RFP supersedes and replaces any previous public documentation & communications, and Bidders should place no reliance on such communications.

### **4.2 Compliant Proposals / Completeness of Response**

- 1) Bidders are advised to study all instructions, forms, terms, requirements and other information in the RFP documents carefully. Submission of the bid shall be deemed to have been done after careful study and examination of the RFP document with full understanding of its implications.
- 2) Failure to comply with the requirements of this paragraph may render the Proposal noncompliant and the Proposal may be rejected. Bidders must:
  - a) Include all documentation specified in this RFP

- b) Follow the format of this RFP and respond to each element in the order as set out in this RFP
- c) Comply with all requirements as set out within this RFP.

### **4.3 Code of integrity**

No official of a procuring entity or a Bidder shall act in contravention of the codes which includes

- 1) Prohibition of
  - a) Making offer, solicitation or acceptance of bribe, reward or gift or any material benefit, either directly or indirectly, in exchange for an unfair advantage in the procurement process or to otherwise influence the procurement process.
  - b) Any omission, or misrepresentation that may mislead or attempt to mislead so that financial or other benefit may be obtained or an obligation avoided.
  - c) Any collusion, bid rigging or anticompetitive behaviour that may impair the transparency, fairness and the progress of the procurement process.
  - d) Improper use of information provided by the procuring entity to the Bidder with an intent to gain unfair advantage in the procurement process or for personal gain.
  - e) Any financial or business transactions between the Bidder and any official of the procuring entity related to tender or execution process of contract; which can affect the decision of the procuring entity directly or indirectly.
  - f) Any coercion or any threat to impair or harm, directly or indirectly, any party or its property to influence the procurement process.
  - g) Obstruction of any investigation or auditing of a procurement process.
  - h) Making false declaration or providing false information for participation in a tender process or to secure a contract;
- 2) Disclosure of conflict of interest.
- 3) Disclosure by the Bidder of any previous transgressions made in respect of the provisions of sub-clause (a) with any entity in any country during the last three years or of being debarred by any other procuring entity.

In case of any reported violations, the procuring entity, after giving a reasonable opportunity of being heard, comes to the conclusion that a Bidder or prospective Bidder, as the case maybe, has contravened the code of integrity, may take appropriate measures.

#### 4.4 Pre-Bid Meeting & Clarifications

##### 4.4.1 Pre-bid Conference

- 1) Purchaser shall hold a pre-bid meeting with the prospective Bidders on 18<sup>th</sup> March 2019, 11:30 AM at " Conference Hall, Madhya Pradesh Professional Examination Board, Chayan Bhawan", Main Road No.1, Chinar Park (East), Bhopal - 462011.
- 2) The Bidders will have to ensure that their queries for pre-bid meeting should reach by email only at **establishment.peb@gmail.com** on or before 20<sup>th</sup> March 2019, 5:00PM
- 3) The queries should necessarily be submitted in the following format:

S. No.	Clause no.	Page no.	Content of RFP requiring clarification(s)	Points of clarification

- 4) Purchaser shall not be responsible for ensuring that the Bidders' queries have been received by them. Any requests for clarifications post the indicated date and time may not be entertained by the Purchaser.

##### 4.4.2 Responses to Pre-Bid Queries and Issue of Corrigendum

- 1) The officer notified by the Purchaser will endeavour to provide timely response to all queries. However, Purchaser makes no representation or warranty as to the completeness or accuracy of any response made in good faith, nor does Purchaser undertake to answer all the queries that have been posed by the Bidders.
- 2) At any time prior to the last date for receipt of bids, Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the RFP Document by a corrigendum.
- 3) The corrigendum (if any) & clarifications to the queries from all Bidders will be posted on the [www.peb.mp.gov.in](http://www.peb.mp.gov.in) and [www.mptenders.gov.in](http://www.mptenders.gov.in) and may be emailed to all participants of the pre-bid conference.
- 4) Any such corrigendum shall be deemed to be incorporated into this RFP.
- 5) In order to provide prospective Bidders reasonable time for taking the corrigendum into account, the Purchaser may, at its discretion, extend the last date for the receipt of Proposals.

## **4.5 Key instructions for the bid**

### **4.5.1 Right to Terminate the Process**

- 1) Purchaser may terminate the RFP process at any time and without assigning any reason. Purchaser makes no commitments, express or implied, that this process will result in a business transaction with anyone.
- 2) This RFP does not constitute an offer by the Purchaser. The Bidder's participation in this process may result Purchaser selecting the Bidder to engage towards execution of the subsequent contract.

### **4.5.2 RFP document fees**

- 1) The RFP document has been made available for download without any fee from the website [www.peb.mp.gov.in](http://www.peb.mp.gov.in) and [www.mptenders.gov.in](http://www.mptenders.gov.in)
- 2) Bidders shall submit, along with their Proposals, confirmation of submission of a tender fee of INR 10,000/- (INR Ten Thousand Only) through [www.mptenders.gov.in](http://www.mptenders.gov.in)
- 3) Proposals received without or with inadequate RFP document fees shall be rejected.

### **4.5.3 Earnest Money Deposit (EMD) / Bid Security**

- 1) Bidders shall submit, along with their Proposals, confirmation of submission of an EMD of INR 40,00,000/- (INR Forty Lacs Only) through [www.mptenders.gov.in](http://www.mptenders.gov.in)
- 2) EMD of all unsuccessful Bidders would be refunded by the Purchaser within 90 days of the Bidder being notified as being unsuccessful.
- 3) The EMD, for the amount mentioned above, of successful Bidder would be returned upon submission of Performance Bank Guarantee as per the format provided in Appendix III.
- 4) The EMD amount is interest free and will be refundable to the unsuccessful Bidders without any accrued interest on it.
- 5) Proposals not accompanied with the EMD or containing EMD with infirmity(ies) (relating to the amount or validity period etc.), mentioned above, shall be summarily rejected.
- 6) The EMD may be forfeited in the event of:
  - a) A Bidder withdrawing its bid during the period of bid validity
  - b) A successful Bidder fails to sign the subsequent contract in accordance with this RFP
  - c) The Bidder being found to have indulged in any suppression of facts, furnishing of fraudulent statement, misconduct, or other dishonest or other ethically improper activity, in relation to this RFP
  - d) A Proposal contains deviations (except when provided in conformity with the RFP) conditional offers and partial offers.

#### **4.5.4 Bidder's Authorized Signatory**

A Proposal should be accompanied by an appropriate board resolution or power of attorney (Please refer Form 13) in the name of an authorised signatory of the Bidder stating that he is authorised to execute documents and to undertake any activity associated with the Bidder's Proposal. Furthermore, the bid must also be submitted online after being digitally signed by an authorized representative of the bidding entity.

### **4.6 Preparation & submission of Proposals**

#### **4.6.1 Proposal Preparation Costs**

The Bidder shall be responsible for all costs incurred in connection with participation in the RFP process, including, but not limited to, costs incurred in conduct of informative and other diligence activities, participation in meetings/discussions/presentations, preparation of proposal, in providing any additional information required by Purchaser to facilitate the evaluation process, and in negotiating a definitive contract or all such activities related to the bid process.

Purchaser will in no event be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

#### **4.6.2 Language**

The Proposal should be filled by the Bidder in English language only. If any supporting documents submitted are in any language other than English, translation of the same in English language is to be duly attested by the Bidders. For purposes of Proposal evaluation, the English translation shall govern.

#### **4.6.3 Submission of Proposals**

Bidders should submit their responses as per the procedure specified in the e-Procurement portal (through [www.mptenders.gov.in](http://www.mptenders.gov.in)) being used for this purpose. The documents to be uploaded include:

- 1) Documents confirming submission of Tender Fee & EMD
- 2) Pre-qualification response
- 3) Technical proposal
- 4) Financial proposal

However, each of the above documents must be uploaded in the format specified for this purpose and as per the specified folder structure in the e-Procurement portal. The bidder must ensure that the bid is digitally signed by the Authorized Signatory of the bidding firm and has been duly submitted within the submission timelines. Please note that prices should not be indicated in the pre-qualification proposal or technical proposal but should only be indicated in the commercial proposal.



Purchaser will in no case be responsible if the bid is not submitted online within the specified timelines. All the pages of the Proposal document must be sequentially numbered and must contain the list of contents with page numbers. Any deficiency in the documentation may result in the rejection of the Bidder's Proposal.

#### **4.6.4 Proposals submitted after designated time for submission**

Bids submitted after the due date will not be accepted by the e-Procurement system and hence will automatically be rejected. The Purchaser shall not be responsible for any delay in the online submission of the proposal.

Alternatively, bids of Bidders not sending in the tender fee & EMD instruments before the designated deadline for proposal submission shall be summarily rejected.

#### **4.6.5 Deviations**

The Bidder may provide deviation to the contents of the RFP document in the format prescribed in Appendix I: Form 11. The Bid Evaluation Committee would evaluate and classify them as "material deviation" or "non-material deviation". In case of material deviation, the committee may decide to "monetize" the value of the deviations, which will be added to the price bid submitted by the Bidder OR declare the bid as nonresponsive. The Bidders would be informed in writing on the committee's decision on the deviation, prior to the announcement of technical scores. The Bidders would not be allowed to withdraw the deviations submitted without the prior consent of the Purchaser.

In case of non-material deviations, the deviations would form a part of the proposal & subsequent agreement.

### **4.7 Evaluation Process**

- 1) The Purchaser will constitute a Bid Evaluation Committee to evaluate the responses of the Bidders.
- 2) The Bid Evaluation Committee constituted by the Purchaser shall evaluate the responses to the RFP and all supporting documents / documentary evidence.
- 3) The decision of the Bid Evaluation Committee in the evaluation of responses to the RFP shall be final. No correspondence will be entertained outside the process of negotiation/ discussion with the Bid Evaluation Committee.
- 4) The Bid Evaluation Committee may ask for additional documents/meetings with the Bidders to seek clarifications on their proposals.
- 5) The Bid Evaluation Committee reserves the right to reject any or all Proposals on the basis of any deviations contained in them.
- 6) Each of the responses shall be evaluated as per the criteria and requirements specified in this RFP.

#### 4.7.1 Proposal Opening

The Proposals submitted up to 05:00 PM on 04<sup>th</sup> April 2019 will be opened at 11:00 AM on 09<sup>th</sup> April 2019 by members of the Bid Evaluation Committee, in the presence of the Bidder's representatives who may be present at the time of opening.

The representatives of the Bidders are advised to carry an identity card or a letter of authority from the Bidding entity to identify their bonafides for attending the opening of the Proposal.

#### 4.7.2 Proposal Validity

The offer submitted by the Bidders should be valid for minimum period of 90 days from the date of submission of the Proposal.

#### 4.7.3 Proposal Evaluation

- 1) Initial Proposal scrutiny will be held to confirm that Proposals do not suffer from the infirmities detailed below. Proposals will be treated as non-responsive, if a Proposal is found to have been:
  - a) Submitted in a manner not conforming with the manner specified in the RFP document
  - b) Submitted without appropriate EMD as prescribed herein
  - c) Received without the appropriate power of attorney (Please refer Form 13)
  - d) Containing subjective/incomplete information
  - e) Submitted without the documents requested in the checklist
  - f) Non-compliant with any of the clauses stipulated in the RFP
  - g) Having lesser than the prescribed validity period.

The EMD of all non-responsive bids shall be returned to the bidders.

- 2) All responsive bids will be considered for further processing as below. Purchaser will prepare a list of responsive Bidders, who comply with all the Terms and Conditions of the Tender. All eligible bids will be considered for further evaluation by the Bid Evaluation Committee according to the evaluation process define in this RFP document. The decision of the Bid Evaluation Committee will be final in this regard.

## 5 Criteria for Evaluation

### 5.1 Pre-Qualification Criteria

Sr. No.	Pre-qualification Criteria	Documentary Evidence Required
1	Bidder should be a company registered in India under the Indian Companies Act or a registered partnership company / firm / society and existing for the past 10 years as on 28 <sup>th</sup> February 2019.	a) In case the Bidder is a registered company, they should produce the copy of the certificate of incorporation

Sr. No.	Pre-qualification Criteria	Documentary Evidence Required
		issued by the Registrar of Companies or MCA b) In case the Bidder is a registered partnership company / firm / society, they should produce a copy of the certificate of incorporation
2	The Bidder should have an annual turnover of at least INR 150 Crores during each of the last three financial years (i.e. 2017-2018, 2016-17, 2015-16).  This turnover should be on account of software development, implementation and maintenance (i.e. revenue should be on account of system integration / turnkey solutions or products and their associated implementation and maintenance).	Statutory auditor's certificate & copy of audited balance sheets and profit and loss accounts.
3	The Bidder should have net worth of INR 50 crores (measured as paid-up capital plus free reserves) and profit after tax of INR 25 crores during each of the last three financial years (i.e. 2017-2018, 2016-17, 2015-16).  This net worth should be on account of software development, implementation and maintenance (i.e. revenue should be on account of system integration / turnkey solutions or products and their associated implementation and maintenance).	
4	The Bidder must have successfully completed at least the following number of software development, implementation & maintenance engagement(s) for a Central / State Government Organization / Public Sector Unit (PSU) in India, during the last 5 years (as on 28.02.2019), of value specified herein :  1. One project of value not less than INR 15 crores; OR 2. Two projects of value not less than INR 10 crores each; OR 3. Three projects of value not less than INR 7 crores each  The project(s) should mandatorily include at least 2 of the following aspects:  a) Cloud implementation b) Artificial intelligence solutions c) Machine learning solutions d) Blockchain solutions e) Dashboard analytics	a) Experience details as per the Appendix I: Form 5 (Project Citation Format) b) Documentary evidence for contract value, along with client contact details, in the form of work order and completion certificate from the client c) Scope of work should be included
5	The Bidder shall not be under a declaration of ineligibility / banned / blacklisted by any State or Central	Affidavit for not being blacklisted, signed by the authorised signatory

Sr. No.	Pre-qualification Criteria	Documentary Evidence Required
	Government / any other Government institutions in India for any reason as on last date of submission of the Bid or convicted of economic offense in India for any reason as on last date of submission of the Bid.	of the bidder
6	The Bidder should necessarily furnish an affirmative statement as to existence of, absence of, or potential for conflict of interest on the part of the bidder, due to prior, current, or proposed contracts, engagements, or affiliations with any of the clients – that may have an impact on the contract with Purchaser	Declaration by authorised signatory of the Bidder
7	Board Resolution / Power of Attorney, in the name of person signing the Bid, authorizing him to submit/execute this agreement as a binding document	Copy of Board Resolution / Power of Attorney (Please refer Form 13)
8	<p>The Bidder should have a minimum CMMi Level 3 certification or both ISO 27001:2013 &amp; ISO 9001:2015 certifications</p> <p>Note:</p> <ol style="list-style-type: none"> <li>1. In case the certificate is under renewal, the Bidder to provide the last valid certificate along with a certificate from authorized signatory that the renewed certificate will be made available at least by the time of opening of commercial bids.</li> <li>2. In case the certificate is not provided by the mentioned time, the bidder will be disqualified and its commercial bids will not be considered for evaluation. Commercial bids of such bidders will be returned un-opened</li> </ol>	Copy of the certificate(s) signed and stamped by the authorised signatory of the Bidder
9	The bidder should have at least 200 professionally qualified personnel (relevant degree holders i.e. BTech / BE / MCA / MTech) working in the area of software development, implementation and maintenance in India as on 28.02.2019	Certificate from HR Head

## 5.2 Technical Qualification Criteria

Sr. No.	Technical Qualification Criteria	Max Marks	Documentary Evidence Required
<b>A</b>	<b>Past Experience of the Bidder</b>	<b>65</b>	
A1	<p><b>System Integration:</b></p> <p>Experience of Bidder in having executed / be in the process of executing a web-based portal with workflow engine during the last 5 years (as on 28.02.2019).</p> <p>The project(s) should mandatorily include at least 1 of the following aspects:</p> <p>a) Artificial intelligence solutions b) Machine learning solutions c) Blockchain solutions</p> <ul style="list-style-type: none"> <li>Each project should be of value greater than or equal to INR 7 crores: <b>4 marks (maximum 6 projects)</b></li> <li>Additional <b>1 marks</b> will be provided for each completed project with Central / State Government / PSU Organization in India <b>(Maximum 6 marks)</b></li> </ul>	30	<p>a) Experience details as per the Appendix I: Form 5 (Project Citation Format)</p> <p>b) Documentary evidence for scope of work and contract value, along with client contact details, in the form of work order / purchase order / completion certificate from the client</p> <p>c) Scope of work should be included</p>
A2	<p><b>System Integration (Cloud):</b></p> <p>Experience of Bidder in having executed / be in the process of executing a web-based portal with workflow engine during the last 5 years (as on 28.02.2019).</p> <p>The project(s) should mandatorily include the following aspects:</p> <p>a) Cloud implementation b) Dashboard analytics</p> <ul style="list-style-type: none"> <li>Each project should be of value greater than or equal to INR 7 crores: <b>2 marks (maximum 4 projects)</b></li> </ul> <p>Additional <b>1 marks</b> will be provided for each completed project with Central / State Government / PSU Organization in India <b>(Maximum 2 marks)</b></p>	10	<p>a) Experience details as per the Appendix I: Form 5 (Project Citation Format)</p> <p>b) Documentary evidence for scope of work and contract value, along with client contact details, in the form of work order / purchase order / completion certificate from the client</p> <p>c) Scope of work should be mandatorily included</p>
A3	<p><b>Handholding &amp; Change Management:</b></p> <p>Experience of Bidder in providing handholding services &amp; successful delivery of training for use of web based portals, capacity development and change management for a user base of more than 200 during the last 5 years in Central Government /</p>	5	<p>a) Experience details as per the Appendix I: Form 5 (Project Citation Format)</p> <p>b) Documentary evidence for scope of work and contract value, along with client contact details, in the form</p>

Sr. No.	Technical Qualification Criteria	Max Marks	Documentary Evidence Required
	State Governments / PSUs (as on 28.02.2019). <ul style="list-style-type: none"> <li>• <b>1 mark</b> per project (maximum 5 projects)</li> </ul>		of work order / purchase order / completion certificate from the client c) Scope of work should be mandatorily included
A4	<b>Examination System:</b> Experience of Bidder in having developed / be in the process of developing a software solution for implementing & conducting a computer-based examination system during the last 5 years with a project value of at least 1 crore (as on 28.02.2019). <ul style="list-style-type: none"> <li>• <b>3 marks</b> per project (<b>maximum 6 projects</b>)</li> </ul> Additional <b>1 mark</b> will be provided for each completed project with Central / State Government / PSU Organization in India (Maximum 2 marks)	20	a) Experience details as per the Appendix I: Form 5 (Project Citation Format) b) Documentary evidence for scope of work and contract value, along with client contact details, in the form of work order / purchase order / completion certificate from the client c) Scope of work should be mandatorily included
<b>B</b>	<b>Approach &amp; Methodology</b>	<b>15</b>	
B1	<b>Overall Approach &amp; Methodology</b> <ul style="list-style-type: none"> <li>• Understanding of Requirements</li> <li>• Overall solution architecture and software development methodology</li> <li>• Strategy for project monitoring</li> </ul>	10	Signed Technical Bid
B2	<b>Project Timelines</b> <ul style="list-style-type: none"> <li>• Comprehensiveness of roll out plan</li> <li>• Work breakdown structure and identification of key tasks</li> <li>• Strategy to meet the timelines mentioned in RFP for each component</li> <li>• Resource deployment plan</li> </ul>		Signed Technical Bid
B3	<b>Change Management Methodology</b> <ul style="list-style-type: none"> <li>• Capacity building approach</li> <li>• Innovativeness in imparting the training to the participants</li> <li>• Adoption of standards in case of web based training delivery (if proposed)</li> </ul>		Signed Technical Bid
B4	<b>Program Management Methodology</b> <ul style="list-style-type: none"> <li>• Formal approach to project management (usage of project specific tools)</li> </ul>		Signed Technical Bid

Sr. No.	Technical Qualification Criteria	Max Marks	Documentary Evidence Required
	<ul style="list-style-type: none"> <li>Business continuity plan</li> <li>Quality control procedures proposed</li> <li>Risks as seen on this project and their mitigation plan</li> <li>Business continuity plan</li> <li>Handover plan</li> </ul>		
B5	<b>Presentation</b> <ul style="list-style-type: none"> <li>Presentation of the proposed solution</li> <li>Presentation of proof of concept (PoC) of one use case</li> </ul>	5	Copy of the presentation & PoC demonstration (to be presented on the day of the presentation)
<b>C</b>	<b>Staff Strength</b>	<b>15</b>	
C1	Software professionals with experience in working with emerging technologies like AI, ML & blockchain <ul style="list-style-type: none"> <li>More than 15 professionals – <b>2.5 marks</b></li> <li>More than 30 professionals – <b>5 marks</b></li> </ul>	5	Certificate from HR Head
C2	Software professionals experience in cloud implementation <ul style="list-style-type: none"> <li>More than 15 professionals – <b>2.5 marks</b></li> <li>More than 30 professionals – <b>5 marks</b></li> </ul>	5	Certificate from HR Head
C3	The bidder should provide onsite and offsite resources as specified in Section 9.1	5	Details as per Section 9.1
<b>D</b>	<b>Certification</b>	<b>5</b>	
D1	The Bidder should have:  CMMi level 5 (Development/Services) and ISO 27001 and ISO 9001 - <b>5 marks</b>  CMMi level 5 (Development/Services) and ISO 27001 or ISO 9001 - <b>4 marks</b>  CMMi level 3 (Development/Services) or ISO 27001 or ISO 9001- <b>3 marks</b>	5	Copies of the certificates from authorized agencies

A bid will be considered as technically qualified by the Bid Evaluation Committee when the technical score of the Bidder is equal to or more than 70%.

### 5.3 Commercial Bid Evaluation

- 1) The Financial Bids of technically qualified Bidders will be opened on the prescribed date in the presence of Bidder representatives.
- 2) If a firm quotes NIL charges / consideration, the bid shall be treated as unresponsive and will not be considered.
- 3) The Bidder with lowest qualifying financial bid (L1) will be awarded 100% score (amongst the Bidders which did not get disqualified on the basis of point 2 above). Financial Scores for other than L1 Bidders will be evaluated using the following formula:

$$\text{Financial Score of Bidder (Fn)} = \{(\text{Commercial Bid of L1}/\text{Commercial Bid of Bidder}) \times 100\}\%$$

**(Adjusted to two decimal places)**

- 4) Only fixed price financial bids indicating total price for all the deliverables and services specified in this bid document will be considered.
- 5) The bid price will include all taxes and levies and shall be in Indian Rupees and mentioned separately.
- 6) Any conditional bid would be rejected
- 7) Arithmetical errors will be rectified on the following basis: "If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail".

### 5.4 Combined & Final Evaluation

- 1) The technical and financial scores secured by each Bidder will be added using weightage of 70% and 30% respectively to compute a Composite Bid Score.
- 2) The Bidder securing the highest Composite Bid Score will be adjudicated as the most responsive Bidder for award of the Project. The overall score will be calculated as follows:-

$$\langle B_n = 0.70 * T_n + 0.30 * F_n \rangle$$

**Where**

**B<sub>n</sub> = overall score of Bidder**

**T<sub>n</sub> = Technical score of the Bidder (out of maximum of 100 marks)**

**F<sub>n</sub> = Normalized financial score of the Bidder**

- 3) In the event the bid composite bid scores are 'tied', the Bidder securing the highest technical score will be adjudicated as the Best Value Bidder for award of the Project.



## **6 Appointment of Systems Implementation Agency / Partner**

### **6.1 Award Criteria**

The Purchaser will award the Contract to the successful Bidder whose proposal has been determined to be substantially responsive and has been determined as the most responsive bid as per the process outlined above.

### **6.2 Right to Accept Any Proposal and To Reject Any or All Proposal(s)**

The Purchaser reserves the right to accept or reject any proposal, and to annul the tendering process and reject all proposals at any time prior to award of contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for Purchaser's action.

### **6.3 Notification of Award**

Prior to the expiration of the validity period, Purchaser will notify the successful Bidder in writing or by fax or email, that its proposal has been accepted (Letter of Intent). In case the tendering process / public procurement process has not been completed within the stipulated period, the Purchaser, may request the Bidders to extend the validity period of their Proposal.

The decision to extend the validity period of a Bidder's Proposal shall be the Bidder's sole prerogative.

### **6.4 Purchaser Contract Finalization & Award**

The Purchaser shall reserve the right to negotiate with the Bidder(s) whose Proposal has been ranked best value bid on the basis of Technical and Commercial Evaluation to the proposed Project, as per the guidance provided by Central Vigilance Commission (CVC).

On this basis the draft contract agreement would be finalized for award & signing.

### **6.5 Performance Guarantee**

On receipt of a letter of intent from the Purchaser, the successful Bidder will furnish a bank guarantee, by way of performance security, equivalent to 10 per cent of the total contract value, on or before the signing of the subsequent contract, within 15 days from notification of award.

In case the successful Bidder fails to submit Performance Guarantee within the time stipulated, the Purchaser may at its sole discretion cancel the letter of intent without giving any notice and encash the EMD furnished by the Bidder, in addition to any other right available to it under this RFP.

The Performance Guarantee furnished by the successful Bidder shall be in the manner prescribed in Appendix III. The successful Bidder shall ensure, the Performance Guarantee is valid at all times during the Term of the subsequent contract (including any renewal) and for a period of 90 days beyond all contractual obligations, including warranty terms.

The Purchaser may invoke the Performance Guarantee in the event of a material breach by the successful Bidder leading to termination for material breach.

## **6.6 Signing of Contract**

Subsequent to receipt of valid Performance Guarantee from the successful Bidder, the parties shall enter into a contract, incorporating all clauses, pre-bid clarifications and the Proposal of the Bidder, between the Purchaser and the successful Bidder.

## **6.7 Failure to Agree with the Terms and Conditions of the RFP**

Failure of the successful Bidder to agree with the Draft Legal Agreement and Terms & Conditions of the RFP shall constitute sufficient grounds for the annulment of the award, in which event Purchaser may award the contract to the next best value Bidder or call for new proposals from the interested Bidders.

In such a case, the Purchaser shall invoke the PBG of the most responsive Bidder.

## **6.8 Terms & Conditions Applicable Post Award of Contract**

### **6.8.1 Key Performance Measurements**

- 1) Unless specified by Purchaser to the contrary, the Bidder shall perform the Services and carry out the scope of work in accordance with the terms of this Contract, Scope of Work, Service Specifications and Service Levels as laid down in this tender.
- 2) If the Contract, Scope of Work, Service Specification includes more than one document, then unless Purchaser specifies to the contrary, the latter in time shall prevail over a document of earlier date to the extent of any inconsistency.
- 3) Purchaser reserves the right to amend any of the terms and conditions in relation to the Contract / Service Specifications upon agreement with the System Integrator and may issue any such directions which are not necessarily stipulated therein if it deems necessary for the fulfilment of the Schedule of Requirements.
- 4) If any such change causes an increase or decrease in the cost of, or the time required for the Bidder's performance of any part of the work under the Contract, whether changed or not changed by the order, an equitable adjustment shall be made in the Contract Value or time schedule, or both, and the Contract shall accordingly be amended. Any claims by the Bidder for adjustment under this Clause must be asserted within thirty (30) days from the date of the Bidder's receipt of Purchaser's changed order.

### **6.8.2 Transition Management**

- 1) Post the contract period, the Bidder is expected to provide a smooth handover of all the knowledge material and assets to Purchaser at no transfer cost.

- 2) Post the contract period, if a new vendor is selected by Purchaser for the next contract, the Bidder is expected to provide adequate knowledge transfer and training to the new vendor over a period of contract. The knowledge transfer/training should necessarily cover details on
  - a) Design, Development, Operations and Maintenance aspects
  - b) Database architecture and management
  - c) Nature and type of incidents and resolutions including any FAQs and reference material
  - d) Effective resolution mechanisms, if any, etc.

#### **6.8.3 Purchaser's Right of Monitoring, Inspection and Periodic Audit**

- 1) Purchaser reserves the right to inspect and monitor/assess the progress / performance / maintenance of the systems at any time during the course of the Contract. Purchaser may demand and upon such demand being made, the Purchaser shall be provided with any document, data, material or any other information which it may require, to enable it to assess the progress of the project.
- 2) Purchaser shall also have the right to conduct, either itself or through another agency as it may deem fit, an audit to monitor the performance by the Bidder of its obligations/functions in accordance with the standards committed to or required by Purchaser and the Bidder undertakes to cooperate with and provide to Purchaser/ any other agency appointed by Purchaser, all documents and other details or information as may be required by them for this purpose. Any deviations or contravention identified as a result of such audit/assessment would need to be rectified by the Bidder failing which Purchaser may, without prejudice to any other rights that it may have issue a notice of default.

#### **6.8.4 Intellectual Property Rights**

- 1) In case of Bespoke development of the application: The Bidder undertakes to disclose all such Intellectual Property Rights arising in performance of the Services to the Purchaser and execute all such agreements/documents and file all relevant applications, effect transfers and obtain all permits and approvals as may be necessary as per the existing laws in India to effectively transfer such rights to the Purchaser. Once transferred, the Purchaser shall own and have a right to use all such Intellectual Property Rights which have been developed solely during execution of this Contract, including but not limited to program source codes, all processes, products, specifications, reports, drawings and other documents which have been newly created and developed by the Bidder solely during the performance of Services and for the purposes of inter-alia use or sub-license of such Services under this Contract.
- 2) In case of deployment of COTS products: Purchaser shall own and have a right in perpetuity to use all newly created Intellectual Property Rights which have been developed solely during execution of this Contract, including but not limited to all program source codes,

processes, products, specifications, reports and other documents which have been newly created and developed by the Bidder solely during the performance of Services and for the purposes of inter-alia use or sub-license of such Services under this Contract. All documentation and configuration items such as scripts, code, queries etc. developed by the Bidder shall be property of the Purchaser. The Bidder should create a repository of such resources and provide access to Purchaser. The Bidder undertakes to disclose all such Intellectual Property Rights arising in performance of the Services to the Purchaser and execute all such agreements/documents and file all relevant applications, effect transfers and obtain all permits and approvals that may be necessary in this regard to effectively transfer and conserve the Intellectual Property Rights of the Purchaser

- a) Bidder shall not only support Purchaser with the proposed COTS during the contract period, but also, confirm that after the expiration / termination of the initial contract, continued support will be provided by the Bidder to the Purchaser, in case Purchaser chooses to maintain / upgrade the COTS proposed, either directly or through third party agency(ies)
  - b) Continued support to the Purchaser will be subject to the purchase of support by the Purchaser post termination / expiry of contract
  - c) The customized source code with its full rights shall be handed over to the Purchaser
- 3) If Purchaser desires, the Bidder shall be obliged to ensure that all approvals, registrations, licenses, permits and rights etc. which are inter-alia necessary for use of the goods supplied / installed by the Bidder, and which may be assigned by the Purchaser to the Bidder for the purpose of execution of any of its obligations under the terms of the Bid, Tender or this Contract, shall be acquired in the name of the Purchaser, prior to termination of this Contract. However, subsequent to the term of this Contract, such approvals, registrations, licenses, permits and rights etc. shall endure to the exclusive benefit of the Purchaser.
- 4) The Bidder / Bidder's Team shall ensure that while it uses any software, processes, document or material in the course of performing the Services, it does not infringe the Intellectual Property Rights of any person and the Bidder shall keep the Purchaser indemnified against all costs, expenses and liabilities howsoever, arising out any illegal or unauthorized use (piracy) or in connection with any claim or proceedings relating to any breach or violation of any permission/license terms or infringement of any Intellectual Property Rights by the Bidder or the Bidder's Team during the course of performance of the Services. In case of any infringement by the Bidder / Bidder's Team, Bidder shall have sole control of the defense and all related settlement negotiations.

#### **6.8.5 Information Security**

- 5) The Bidder / Bidder's Team shall not carry any written/printed document, layout diagrams, CDs, DVDs, hard disk, storage tapes, other storage devices or any other goods /material

proprietary to Purchaser into / out of the Purchaser's office location without written permission from the Purchaser.

- 6) The Bidder / Bidder's Team shall not destroy any unwanted documents, defective tapes/media present at Purchaser's office location on their own. All such documents, tapes/media shall be handed over to the Purchaser.
- 7) All documentation and media shall be properly identified, labeled and numbered by the Bidder. Bidder shall keep track of all such items and provide a summary report of these items to the Purchaser on a monthly basis.
- 8) The Bidder / Bidder's Team shall follow Purchaser's Information Security policy, if any. Access to Purchaser and Purchaser's data and systems, Email and Internet facility by the Bidder / Bidder's team at Purchaser's office location shall be in accordance with the security and access policies set by the Purchaser, if any.
- 9) Bidder / Bidder's Team acknowledge that Purchaser's business data and other Purchaser proprietary information or materials, whether developed by Purchaser / Purchaser or being used by Purchaser pursuant to a license agreement with a third party (the foregoing collectively referred to herein as "proprietary information") are confidential and proprietary to Purchaser; and Bidder along with its team agrees to use reasonable care to safeguard the proprietary information and to prevent the unauthorized use or disclosure thereof, which care shall not be less than that used by Bidder to protect its own proprietary information. Bidder recognizes that the goodwill of Purchaser depends, among other things, upon Bidder keeping such proprietary information confidential and that unauthorized disclosure of the same by Bidder / Bidder's team could damage the goodwill of Purchaser, and that by reason of Bidder / Bidder's duties hereunder. Bidder / Bidder's team may come into possession of such proprietary information, even though Bidder does not take any direct part in or furnish the services performed for the creation of said proprietary information and shall limit access thereto to employees with a need to such access to perform the services required by this agreement. Bidder shall use such information only for the purpose of performing the said services
- 10) Bidder shall, upon termination of this agreement for any reason, or upon demand by Purchaser, whichever is earliest, return any and all information provided to Bidder by Purchaser, including any copies or reproductions, both hardcopy and electronic.

#### **6.8.6 Records of Contract Documents**

- 1) The Bidder shall at all time make and keep sufficient copies of the process manuals, training manuals operating procedures, specifications, Contract documents and any other documentation at head quarter/division/circle level to fulfill his duties under the Contract.
- 2) The Bidder shall keep at Purchaser's head quarter at least three copies of each and every specification and contract document, in excess of his own requirement and those copies

shall be available at all times for use by Purchaser's Representative and by any other person authorized by Purchaser's Representative. Where one or more of Bidder's offices are deployed in the works, all requirements of the Contract and Bidder's obligation under the Contract shall apply equally at each office so deployed.

#### **6.8.7 Ownership and Retention of Documents**

- 1) Purchaser shall own the Documents, prepared by or for the Bidder arising out of or in connection with this Contract.
- 2) Forthwith upon expiry or earlier termination of this Contract and at any other time on demand by Purchaser, the Bidder shall deliver to Purchaser all documents provided by or originating from Purchaser and all Documents produced by or from or for the Bidder in the course of performing the Services, unless otherwise directed in writing by Purchaser at no additional cost. The Bidder shall not, without the prior written consent of Purchaser store, copy, distribute or retain any such Documents.

#### **6.8.8 Confidentiality**

- 1) The Bidder shall not use Confidential Information, the name or the logo of Purchaser and Purchaser except for the purposes of providing the Service as specified under this contract;
- 2) The Bidder may only disclose Confidential Information in the following circumstances:
  - a) with the prior written consent of Purchaser;
  - b) to a member of the Bidder's Team ("Authorized Person") if:
    - the Authorized Person needs the Confidential Information for the performance of obligations under this contract;
    - the Authorized Person is aware of the confidentiality of the Confidential Information and is obliged to use it only for the performance of obligations under this contract. The Bidder shall do everything reasonably possible to preserve the confidentiality of the Confidential Information to the satisfaction of Purchaser.
- 3) The Bidder shall notify Purchaser promptly if it is aware of any disclosure of the Confidential Information otherwise than as permitted by this Contract or with the authority of Purchaser.
- 4) The Bidder shall be liable to fully recompense Purchaser for any loss of revenue arising from breach of confidentiality. Purchaser reserves the right to adopt legal proceedings, civil or criminal, against the Bidder in relation to a dispute arising out of breach of obligation by the Bidder under this clause.

### **6.8.9 Change Orders/Alteration/Variation**

- 1) The Bidder agrees that the requirements and Service requirements given in the Tender documents are minimum requirements and are in no way exhaustive and guaranteed by the Purchaser:
  - a) Any upward revision and/or additions consequent to errors, omissions, ambiguities, discrepancies in the quantities, specifications, drawings etc. of the Tender documents which the Bidder had not brought out to the Purchaser's notice till the time of award of work and not accounted for in his Bid shall not constitute a change order and such upward revisions and/or addition shall be carried out by Bidder without any time and cost effect to Purchaser.
  - b) It shall be the responsibility of the Bidder to meet all performance and other requirements of the Purchaser as stipulated in the Tender document / Contract. Any upward revisions / additions of quantities, specifications, technical manpower, service requirements to those specified by the Bidder in his Bid documents, that may be required to be made during installation / acceptance of the System or at any time during the currency of the contract in order to meet the conceptual design, objective and performance levels or other requirements as defined in the Tender documents shall not constitute a change order and shall be carried out by the Bidder without any change order and without any time and cost effect to the Purchaser whatsoever
- 2) The Purchaser may at any time, by a written change order given to the Bidder, make changes within the general scope of the Contract, including but not limited to:
  - a) Development of enhancements / new features
  - b) Any integration that will be required to be done with any new external system, which is currently not in scope, but can be requested later by Purchaser
  - c) Designing solution and developing new modules/applications as required by Purchaser
  - d) Developing any new website or portal.
  - e) Any major enhancements in website
- 3) The clause for change order will come into effect from the date of go-live of the web portal and change order worth up to 5% of the total contract value would be covered under this contract and hence would not entail any additional payment by the purchaser
- 4) The written advice to any change shall be issued by the Purchaser to the Bidder up to 4 (four) weeks prior to the due date of commencement of services.
- 5) In case of increase in Quantities/ Licenses / Specifications or Service requirements or in case of additional requirement, the Bidder agrees to carry out / provision for such additional requirement at the rate and terms and conditions as provided in the Contract or as mutually

agreed to by both the parties except for the appropriate extension of time to be allowed for delivery/installation of such extra goods/equipment or for commencement of such services. In case of decrease in Quantities or Specifications of goods/equipment or Service requirements, the Bidder shall give a reduction in price at the rate given in the Contract corresponding to the said decrease.

- 6) In case applicable rates for the increase/decrease in question are not available in the Contract then the rates as may be mutually agreed shall apply. The Bidder shall not be entitled to any claim by way of change of price, damages, losses, etc. The Bidder shall be compensated at actual for any cancellation charges provided the claim is duly supported by documentary evidence of having incurred cancellation charges, which results from Purchaser's action in reducing/canceling Scope of work

#### **6.8.9.1 Conditions for Change Order**

- 1) The change order will be initiated only in case (i) the Purchaser directs in writing the Bidder to incorporate changes to the goods or design requirements already covered in the Contract. (ii) the Purchaser directs in writing to the Bidder to include any addition to the scope of work or services covered under this Contract or delete any part thereof, (iii) Bidder requests to delete any part of the work which will not adversely affect the operational capabilities and functioning of the system and if the deletions proposed are agreed to by the Purchaser and for which cost and time benefits shall be passed on to the Purchaser.
- 2) Any change order comprising an alteration which involves change in the cost of the goods and/or services (which sort of alteration is hereinafter called a "Variation") shall be the Subject of an amendment to the Contract by way of an increase or decrease in the Contract Value and adjustment of the implementation schedule if any.
- 3) If the Contract provides applicable rates for the valuation of the variation in question the Contract Value shall subject to Clause (d) of this section be increased or decreased in accordance with those rates.
- 4) If parties agree that the Contract does not contain applicable rates or that the said rates are inappropriate or the said rates are not precisely applicable to the variation in question, then the parties shall negotiate a revision of the Contract Value which shall represent the change in cost of the goods and/or works caused by the Variations. Any change order shall be duly approved by the Purchaser in writing. In case of any change request entailing additional payment, the additional payment must be agreed upon and must be preapproved by purchaser before SI executes the same.
- 5) If there is a difference of opinion between the Bidder and Purchaser's Representative on whether a particular item, work or part of the work constitutes a change order or not, the



matter shall be handled in accordance with the procedures set forth in Clause (k) of Section 6.8.9.2.

**6.8.9.2 Procedures for Change Order**

- 1) Upon receiving any revised requirement/advice, in writing, from the Purchaser, the Bidder would verbally discuss the matter with Purchaser's Representative.
- 2) In case such requirement arises from the side of the Bidder, he would also verbally discuss the matter with Purchaser's Representative giving reasons thereof.
- 3) In either of the two cases as explained in Clause (a) and Clause (b) of this section, the representatives of both the parties will discuss on the revised requirement for better understanding and to mutually decide whether such requirement constitutes a change order or not.
- 4) If it is mutually agreed that such Requirement constitutes a "Change Order" then a joint memorandum will be prepared and signed by the Bidder and Purchaser to confirm a "Change Order" and basic ideas of necessary agreed arrangement.
- 5) Bidder will study the revised requirement in accordance with the joint memorandum under Clause (d) of this section and assess subsequent schedule and cost effect, if any.
- 6) Upon completion of the study referred to above under Clause (e) of this section, the results of this study along with all relevant details including the estimated time and cost effect thereof with supporting documents would be submitted to the Purchaser to enable the Purchaser to give a final decision whether Bidder should proceed with the change order or not in the best interest of the works.
- 7) The estimated cost and time impact indicated by Bidder shall be considered as a ceiling limit and shall be provisionally considered for taking a decision to implement change order.
- 8) The time impact applicable to the Contract shall be mutually agreed, subsequently, on the basis of the detailed calculations supported with all relevant back up documents.
- 9) In case Bidder fails to submit all necessary substantiation/calculations and back up documents, the decision of the Purchaser regarding time and cost impact shall be final and binding on the Bidder.
- 10) If Purchaser accepts the implementation of the change order under Clause (f) of this section in writing, which would be considered as change order, then Bidder shall commence to proceed with the enforcement of the change order pending final agreement between the parties with regard to adjustment of the Contract Value and the Schedule.
- 11) In case, mutual agreement under Clause (d) of this section, i.e. whether new requirement constitutes the change order or not, is not reached, then Bidder in the

interest of the works, shall take up the enforcement of the change order, if advised in writing to do so by Purchaser's Representative pending settlement between the two parties to the effect whether such requirement constitutes a change order or not as per the terms and conditions of Contract documents. The time and cost effects in such a case shall be mutually verified and recorded. Should it establish that the said work constitutes a change order, the same shall be compensated taking into account the records kept in accordance with the Contract.

- 12) The Bidder shall submit necessary back up documents for the change order showing the break-up of the various elements constituting the change order for the Purchaser's review. If no agreement is reached between the Purchaser and Bidder within 60 days after Purchaser's instruction in writing to carry out the change concerning the increase or decrease in the Contract Value and all other matters described above, either party may refer the dispute to arbitration

#### **6.8.9.3 Conditions for revised work / change order**

The provisions of the Contract shall apply to revised work / change order as if the revised work / Change order has been included in the original Scope of work. However, the Contract Value shall increase / decrease and the schedule shall be adjusted on account of the revised work / Change orders as may be mutually agreed in terms of provisions set forth in Section 6.8.9.2. The Bidder's obligations with respect to such revised work / change order shall remain in accordance with the Contract.

#### **6.8.10 Suspension of Work**

- 1) The Bidder shall, if ordered in writing by Purchaser's Representative, temporarily suspend the works or any part thereof for such a period and such a time as ordered. The Bidder shall not be entitled to claim compensation for any loss or damage sustained by him by reason of temporary suspension of the Works as aforesaid. An extension of time for completion, corresponding with the delay caused by any such suspension of the works as aforesaid shall be granted to the Bidder, if request for same is made and that the suspension was not consequent to any default or failure on the part of the Bidder. In case the suspension of works, is not consequent to any default or failure on the part of the Bidder, and lasts for a period of more than 2 months, the Bidder shall have the option to request Purchaser to terminate the Contract with mutual consent.
- 2) In the event that Purchaser suspends the progress of work for any reason not attributable to the Bidder for a period in excess of 30 days in aggregate, rendering the Bidder to extend his performance guarantee then Purchaser shall bear only the cost of extension of such bank guarantee for such extended period restricted to the normal bank rates as applicable in the international banking procedures subject to the Bidder producing the requisite evidence from the bank concerned.

- 3) If the Bidder is not able to comply with the contractual obligations, the EMD/Bank Guarantee for Contract Performance will be forfeited in full. Besides legal action shall be taken separately.

#### **6.8.11 Penalty Calculation Process**

Any unjustified and unacceptable delay beyond the delivery, installation and commissioning schedule as per contract will render the Bidder liable for penalty or liquidity damages as per the rates mentioned in "Appendix IV: Service Level Agreement" subject to a limit of 10% of the total contract value.

#### **6.8.12 Payment Process**

- 1) Purchaser shall make payments only to the Bidder at the times and in the manner set out in the Payment schedule as specified later in this RFP in Section 10 subject always to the fulfillment by the Bidder of the obligations herein. Purchaser will make all efforts to make payments to the Bidder within 30 days of receipt of invoice(s) and all necessary supporting documents.
- 2) Purchaser shall make all payments under this Contract, as set out in the Payment clause to the Bidder only and shall not be liable to make any payments or for any other related obligation under this contract to any other party including but not limited to the Bidder's sub-contractors or any other member of Bidder's Team or any third party engaged by the Bidder in any way connected with the discharge of the Bidder's obligation under the Contract and in any manner whatsoever. The Bidder shall be fully liable and responsible for meeting all such obligations and all payments to be made to the aforesaid entities/parties.
- 3) All payments agreed to be made by Purchaser to the Bidder in accordance with the Bid shall be inclusive of all statutory levies, duties, taxes and other charges whenever levied/applicable including costs of maintenance, if any and Purchaser shall not be liable to pay any such levies/other charges under or in relation to this Contract and/or the Services.
- 4) Payment shall be paid at the times and in the manner set out in the Payment schedule as specified under Section 10: Payment Schedule, against value of contract. GST shall be charged on actuals as per the applicable rates. However, GST shall be reimbursed against submission of payment proofs. Works contract taxes, if any applicable, shall be reimbursed against actual and against submission of payment proofs.
- 5) In case of change in taxes under change in law, appropriate parties shall be passed the benefit of the same over and above the contract value. No invoice for extra work/change order on account of change order will be submitted by the Bidder unless the said extra work /change order has been approved by the Purchaser as per mutually agreed rates in writing in accordance with Clause on Change order.

- 6) In the event of Purchaser noticing at any point of time that any amount has been disbursed wrongly to the Bidder or any other amount is due from the Bidder to the Purchaser, the Purchaser shall, after notifying the Authorised Representative of the Bidder in writing and without prejudice to its rights, deduct such amount from any payment due to the Bidder or recover such amounts by other means. The details of such recovery, if any, will be intimated to the Bidder within a stipulated time frame as agreed to by both the parties.
- 7) In the event of the Bidder noticing at any point of time that there has been short payment by the Purchaser on any invoice, the Bidder shall bring it to the record of the Authorised Representative of the Purchaser. The amount due to the Bidder will be released through a fresh invoice or as mutually agreed to by both the parties.

#### **6.8.13 Deductions**

All payments to the Bidder shall be subject to the deductions of tax at source under Income Tax Act, and other taxes and deductions as provided for under any law, rule or regulation. All costs, damages or expenses which Purchaser may have paid or incurred, for which under the provisions of the Contract, the Bidder is liable, the same shall be deducted by Purchaser from any dues to the Bidder. All payments to the Bidder shall be made after making necessary deductions as per terms of the Contract and recoveries towards facilities, if any, provided by the Purchaser to the Bidder on chargeable basis.

#### **6.8.14 Duties, Taxes and Statutory levies**

- 1) The Bidder shall bear all personnel taxes levied or imposed on its personnel, sub-contractor(s), consultants, or any other member of Bidder's Team, etc. on account of payment received under this Contract. The Bidder shall bear all corporate taxes, levied or imposed on the Bidder on account of payments received by it from the Purchaser for the work done under this Contract.
- 2) Bidder shall bear all taxes and duties etc. levied or imposed on the Bidder under the Contract including but not limited to GST, Sales Tax, Customs duty, Excise duty, Octroi, Service Tax, VAT, Works Contracts Tax and all Income Tax levied under Indian Income Tax Act – 1961 or any amendment thereof up to the date for submission of final price bid, i.e., on account of payments received by him from the Purchaser for work done under the Contract. It shall be the responsibility of the Bidder to submit to the concerned tax authorities the returns and all other connected documents required for this purpose. The Bidder shall also provide the Purchaser such information, as it may be required in regard to the Bidder's details of payment made by the Purchaser under the Contract for proper assessment of taxes and duties. The amount of tax withheld by the Purchaser shall at all times be in accordance with Indian Tax Law and the Purchaser shall promptly furnish to the Bidder original certificates (Challans) for tax deduction at source and paid to the Tax Authorities.

- 3) If there is any increase / reduction in taxes / duties due to any reason whatsoever, after Notification of Award, the same shall be passed on to the Purchaser.
- 4) The Bidder shall be solely responsible for the payment /fulfillment of its tax liabilities and obligations under the Income Tax Act and other such laws in force and the Purchaser shall not bear responsibility for the same. Bidder shall indemnify Purchaser against any and all liabilities or claims arising out of this Contract for such taxes including interest and penalty any such Tax Authority may assess or levy against the Purchaser/Bidder.
- 5) The Purchaser shall if so required by applicable laws in force, at the time of payment, deduct income tax payable by the Bidder at the rates in force, from the amount due to the Bidder and pay to the concerned tax authority directly.

#### **6.8.15 Protection and Limitations**

The warranty period for the systems shall be taken into account from the date of completion of supply of products, its successful installation/commissioning and acceptance by Purchaser, including free spare parts, kits etc. Failure to provide satisfactory warranty service/support shall attract penalties.

#### **6.8.16 Representation and Warranties**

- 1) In order to induce the Purchaser to enter into this Contract, the Bidder hereby represents and warrants as of the date hereof, which representations and warranties shall survive the term and termination hereof, the following:
  - a) That the selected Bidder has the power and the authority that would be required to enter into this Contract and the requisite experience, the technical know-how and the financial wherewithal required to successfully execute the terms of this contract and to provide services sought by the Purchaser under this contract
  - b) That the Bidder is not involved in any major litigation or legal proceedings, pending, existing, and potential or threatened, that may have an impact of affecting or compromising the performance or delivery of Services under this Contract.
  - c) That the representations and warranties made by the Bidder in its Bid, Tender and Contract are and shall continue to remain true and correct throughout the term of this Contract and Bidder shall fulfill all the requirements as are necessary for executing the obligations and responsibilities as laid down in the Contract and the Tender and unless the Purchaser specifies to the contrary, the Bidder shall be bound by all the terms of the Bid.
  - d) That the Bidder and its team has the professional skills, personnel, infrastructure and resources/authorizations that are necessary for providing all such services as are necessary to fulfill the scope of work stipulated in the Tender and this Contract.

- e) That the Bidder shall ensure that all assets/ components including but not limited to equipment, software, licenses, processes, documents, etc. installed, developed, procured, deployed and created during the term of this Contract are duly maintained and suitably updated, upgraded, replaced..
- f) That the Bidder /Bidder's Team shall use such assets of the Purchaser as the Purchaser may permit for the sole purpose of execution of its obligations under the terms of the Bid, Tender or this Contract. The Bidder shall however, have no claim to any right, title, lien or other interest in any such property, and any possession of property for any duration whatsoever shall not create any right in equity or otherwise, merely by fact of such use or possession during or after the term hereof.
- g) That the Bidder shall procure all the necessary permissions and adequate approvals and licenses for use of various software and any copyrighted process/product free from all claims, titles, interests and liens thereon and shall keep the Purchaser indemnified in relation thereto.
- h) That the execution of the scope of work and the Services herein is and shall be in accordance and in compliance with all applicable laws.
- i) That the Bidder has the corporate power to execute, deliver and perform the terms and provisions of this Contract and has taken all necessary corporate action to authorize the execution, delivery and performance by it of the Contract.
- j) That all conditions precedent under the Contract have been satisfied.
- k) That neither the execution and delivery by the Bidder /Bidder's Team of the Contract nor the Bidder's /Bidder Team's compliance with or performance of the terms and provisions of the Contract (i) will contravene any provision of any Applicable Law or any order, writ, injunction or decree of any court or Governmental Authority binding on the Bidder, (ii) will conflict or be inconsistent with or result in any breach of any or the terms, covenants, conditions or provisions of, or constitute a default under any agreement, contract or instrument to which the Bidder is a party or by which it or any of its property or assets is bound or to which it may be subject or (iii) will violate any provision of the Memorandum and Articles of Association of the Bidder.
- l) That the Bidder certifies that all registrations, recordings, filings and notarizations of the Contract and all payments of any tax or duty, including but not limited to stamp duty, registration charges or similar amounts which are required to be effected or made by the Bidder which is necessary to ensure the legality, validity, enforceability or admissibility in evidence of the Contract have been made.
- m) That the Bidder confirms that there has not been and shall not occur any execution, amendment or modification of any agreement/contract without the prior written

consent of the Purchaser, which may directly or indirectly have a bearing on the Contract or the project.

- n) That the Bidder owns or has good, legal or beneficial title, or other interest in, to the property, assets and revenues of the Bidder on which it grants or purports to grant or create any interest pursuant to the Contract, in each case free and clear of any encumbrance and further confirms that such interests created or expressed to be created are valid and enforceable.
  - o) That the Bidder owns, has license to use or otherwise has the right to use, free of any pending or threatened liens or other security or other interests all Intellectual Property Rights, which are required or desirable for the performance of the project under this contract and regarding the same the Bidder does not, so far as the Bidder is aware, in carrying on its business and operations, infringe any Intellectual Property Rights of any person. So far as the Bidder is aware, none of the Intellectual Property Rights owned or enjoyed by the Bidder or which the Bidder is licensed to use, which are material in the context of the Bidder's business and operations for the performance of this contract are being infringed nor, so far as the Bidder is aware, is there any infringement or threatened infringement of those Intellectual Property Rights licensed or provided to the Bidder by any person. All Intellectual Property Rights (owned by the Bidder or which the Bidder is licensed to use) required by the Bidder for the performance of the contract are valid and subsisting. All actions (including registration, payment of all registration and renewal fees) required to maintain the same in full force and effect have been taken thereon and shall keep the Purchaser indemnified in relation thereto. The remedy for any breach of this Clause shall be the indemnity set forth in Clause (c) of Section 6.8.4 for Intellectual Property Rights.
  - p) That the Bidder agrees to incorporate, within the contract value, all hardware configuration, software changes, upgrades and patches to the system, announced by him from time to time keeping in view the advancement in technology, shortcomings of the system and any changes required for improving the overall efficiency of the system during the contract period.
  - q) That the Bidder shall provide adequate and appropriate support and participation, on a continuing basis, in tuning all supplied hardware and software to meet the requirements of the applications.
- 2) For the specified SLAs, the Bidder should additionally warrant the following conditions:
- a) The Bidder has full capacity and authority and all necessary approvals to enter into and perform its obligations under the SLA and to provide the Services;
  - b) The SLA has been executed by a duly authorized representative of the Bidder;

- c) The Bidder is experienced in managing and providing works similar to the Services and that it will perform the Services with all due skill, care and diligence in compliance with the applicable laws;
- d) The Services will be provided and rendered by appropriately qualified, trained and experienced personnel;
- e) Bidder has and will have all necessary licenses, approvals, consents of third parties and all necessary technology, hardware and software to enable it to provide the Services;
- f) The Services will be supplied in conformance with all applicable laws, enactments, orders and regulations;
- g) Bidder will use its reasonable endeavors to ensure that the equipment, software and hardware supplied and/or used in the course of the provision of the Services, are updated, new, operational and functional; and
- h) If Bidder uses, in the course of the provision of the Services, components, equipment, software and hardware manufactured by any third party which are embedded in the Deliverables or are essential for the successful use of the Deliverables, it will pass through third party manufacturer's warranties relating to those components, equipment, software and hardware to Purchaser to the extent possible. In the event that such warranties cannot be enforced by the Purchaser, the Bidder will enforce such warranties on behalf of the Purchaser and pass on to the Purchaser, the benefit of any other remedy received in relation to such warranties.

**6.8.16.1 Warranties regarding project assets**

- 1) A comprehensive warranty applicable on software supplied under this contract shall be provided by the respective OEM for the period of contract from the date of acceptance of respective system by the Purchaser.
- 2) Technical Support for Software applications shall be provided by the respective OEMs for the period of contract. The Technical Support should include all upgrades, updates and patches to the respective Software applications.
- 3) The Purchaser shall promptly notify the Bidder in writing of any claims arising under this warranty.
- 4) Upon receipt of such notice, the Bidder shall, with all reasonable speed, repair or replace the defective Goods or parts thereof, without prejudice to any other rights which the Purchaser may have against the Bidder under the Contract.
- 5) If the Bidder, having been notified, fails to remedy the defect(s) within a reasonable period, the Purchaser may proceed to take such remedial action as may be necessary,



at the Bidder's risk and expense and without prejudice to any other rights which the Purchaser may have against the Bidder under the Contract.

- 6) Any OEM specific warranty terms that do not conform to conditions under this Contract shall not be acceptable
- 7) In the event that any occurrence or circumstance comes to the attention of either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of the same. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive any obligation of either Party under the Agreement
- 8) Notwithstanding what has been stated elsewhere in this RFP and the Appendices attached herein, in the event the System Integrator is unable to meet the obligations pursuant to the implementation of the Projects and/or provide the Operations and Maintenance Services and any related scope of work as stated in this RFP and the Appendices attached herein, Purchaser will, inter alia, have the option to invoke the Performance Bank Guarantee after serving a written notice fifteen days in advance on the System Integrator. Such right of the Purchaser shall be without prejudice to any other rights or remedies available under law or agreement.

#### **6.8.17 Limitation of Liability**

- 1) Neither Party shall be liable to the other Party for any indirect or consequential loss or damage (including loss of revenue and profits) arising out of or relating to the Contract.
- 2) Except in the case of Gross Negligence or Willful Misconduct on the part of the Bidder/Bidder's Team or on the part of any person or firm acting on behalf of the Bidder executing the work or in carrying out the Services, the Bidder, with respect to damage caused by the Bidder including to property and/or assets of the Purchaser or of any of Purchaser's vendors shall regardless of anything contained herein, not be liable for any direct loss or damage that exceeds (A) the Contract Value or (B) the proceeds the Bidder may be entitled to receive from any insurance maintained by the Bidder to cover such a liability, whichever of (A) or (B) is higher.
  - a) For the purposes of the Clause (b) of this section, "Gross Negligence" means any act or failure to act by a Party which was in reckless disregard of or gross indifference to the obligations of the Party under the Contract and which causes harmful consequences to life, personal safety or real property of the other Party which such Party knew, or would have known if it was acting as a reasonable person, would result from such act or failure to act. Notwithstanding the foregoing, Gross Negligence shall not include any action taken in good faith for the safeguard of life or property.

- b) "Willful Misconduct" means an intentional disregard of any provision of this Contract which a Party knew or should have known if it was acting as a reasonable person, would result in harmful consequences to life, personal safety or real property of the other Party but shall not include any error of judgment or mistake made in good faith.
- 3) This limitation of liability slated in Section 6.8.18, shall not affect the Bidder liability, if any, for direct damage by Bidder/Bidder's Team to a Third Party's real property, tangible personal property or bodily injury or death caused by the Bidder/Bidder's Team or any person or firm/company acting on behalf of the Bidder in executing the work or in carrying out the Services."

#### **6.8.18 Data protection and use**

- 1) In the course of providing the Services the Bidder may be compiling, processing and storing proprietary Project Data relating to the Purchaser.
- 2) The Bidder and Purchaser are responsible for complying with its respective obligations under the applicable data protection laws and regulations governing the Project Data.
- 3) As a processor of Project Data, the Bidder will process Project Data in accordance with the terms of this Tender.
- 4) The Bidder shall not transfer any Project Data to any person or organization unless otherwise authorized by the Purchaser in this regard.
- 5) Upon reasonable written request from a Party, the other Party will provide the requesting Party with such information that it has regarding the Project, its Data and its processing which is necessary to enable the requesting party to comply with its obligations under the applicable data protection law or regulation.

#### **6.8.19 Audit, access and reporting**

- 1) Bidder shall monitor progress of all the activities related to the execution of this contract and shall submit to the Purchaser, at no extra cost, progress reports with reference to all related work, milestones and their progress during the implementation phase on a fortnightly basis.
- 2) Post completion of each Phase, the Bidder shall submit to the Purchaser, MIS reports as an ongoing basis.
- 3) Bidder should ensure MIS reporting as per defined service levels in Appendix IV: Service Level Agreements of the RFP. The selected bidder shall establish and maintain a web-based project tracking system wherein all the project tasks / activities are tracked against the baseline plan in a prompt manner – so that any of the project stakeholders can monitor the project progress without having to request / wait for periodic project status reports. In order to meet this requirement, the project members from the Bidder's team must all diligently update the status in this tool at least on a daily basis. This shall be operated throughout the project duration to ensure coverage of the operational activities

- 4) Formats for all abovementioned reports and their dissemination mechanism shall be discussed and finalized at the Kick-Off meeting. The Purchaser on mutual agreement between both parties may change the formats, periodicity and dissemination mechanism for such reports.
- 5) Periodic meetings shall be held between the representatives of the Purchaser and the Bidder once in every 15 days during the implementation phase to discuss the progress of implementation. After the implementation phase is over, the meeting shall be held on an ongoing basis, once in every 30 days to discuss the performance of the contract.
- 6) Bidder shall ensure that the respective solution teams involved in the execution of work are part of such meetings.
- 7) A Core Committee involving representative of the Purchaser, Purchaser and senior officials of the Bidder shall be formed for the purpose of this contract. This committee shall meet at intervals, as decided by the Purchaser later, to oversee the progress of the project.
- 8) All the services and manpower to be provided / deployed by the Bidder under the Contract and the manner and speed of execution and maintenance of the work and services are to be conducted in a manner to the satisfaction of Purchaser's representative in accordance with the Contract.
- 9) The Purchaser reserves the right to inspect and monitor/assess the progress/performance of the work / services at any time during the course of the Contract. The Purchaser may demand and upon such demand being made, the Bidder shall provide documents, data, material or any other information which the Purchaser may require, to enable it to assess the progress/performance of the work / service.
- 10) At any time during the course of the Contract, the Purchaser shall also have the right to conduct, either itself or through another agency as it may deem fit, an audit to monitor the performance by the Bidder of its obligations/functions in accordance with the standards committed to or required by the Purchaser and the Bidder undertakes to cooperate with and provide to the Purchaser/ any other agency appointed by the Purchaser, all Documents and other details as may be required by them for this purpose. Such audit shall not include Bidder's books of accounts.
- 11) Should the rate of progress of the works or any part of them at any time fall behind the stipulated time for completion or is found to be too slow to ensure completion of the works by the stipulated time, or is in deviation to Tender requirements/ standards, the Purchaser's representative shall so notify the Bidder in writing.
- 12) The Bidder shall reply to the written notice giving details of the measures he proposes to take to expedite the progress so as to complete the works by the prescribed time or to ensure compliance to Tender requirements. The Bidder shall not be entitled to any additional payment for taking such steps. If at any time it should appear to the Purchaser or

Purchaser's representative that the actual progress of work does not conform to the approved programme the Bidder shall produce at the request of the Purchaser's representative a revised programme showing the modification to the approved programme necessary to ensure completion of the works within the time for completion or steps initiated to ensure compliance to the stipulated requirements

- 13) The submission seeking approval by the Purchaser or Purchaser's representative of such programme shall not relieve the Bidder of any of his duties or responsibilities under the Contract.
- 14) In case during execution of works, the progress falls behind schedule or does not meet the Tender requirements, Bidder shall deploy extra manpower/ resources to make up the progress or to meet the Tender requirements. Programme for deployment of extra man power/ resources will be submitted to the Purchaser for its review and approval. All time and cost effect in this respect shall be borne, by the Bidder within the contract value.

#### **6.8.20 Bidder's obligation**

- 1) The Bidder's obligations shall include all the activities as specified by the Purchaser in the Scope of Work and other sections of the Tender and Contract and changes thereof to meet the Purchaser's objectives and operational requirements. It will be the Bidder's responsibility to ensure the proper and successful implementation, performance and continued operation of the proposed solution in accordance with and in strict adherence to the terms of his Bid, the Tender and the Contract.
- 2) Security and safety of data will be responsibility of the selected bidder and after completion of the project complete data for all the application software will be handed over to department and department reserves the right to validate the data and selected bidder will provide necessary assistance. However, the physical security of infrastructure will be the responsibility of the Purchaser.
- 3) Purchaser reserves the right to interview the personnel proposed that will be deployed as part of the project team. If found unsuitable, the Purchaser may reject the deployment of the personnel.
- 4) Purchaser reserves the right to require changes in personnel which shall be communicated to the Bidder. Bidder with the prior approval of the Purchaser may make additions to the project team. Bidder shall provide the Purchaser with the resume of Key Personnel and provide such other information as the Purchaser may reasonably require. The Purchaser also reserves the right to interview the personnel and reject, if found unsuitable. In case of change in its team members, for any reason whatsoever, Bidder shall also ensure that the exiting members are replaced with at least equally qualified and professionally competent members.

- 5) In case of change in its team members, Bidder shall ensure a reasonable amount of time overlap in activities to ensure proper knowledge transfer and handover / takeover of documents and other relevant materials between the outgoing and the new member.
- 6) The Bidder shall ensure that the Bidder's Team is competent, professional and possesses the requisite qualifications and experience appropriate to the task they are required to perform under this Contract. The Bidder shall ensure that the Services are performed through the efforts of the Bidder's Team, in accordance with the terms hereof and to the satisfaction of the Purchaser. Nothing in this Contract relieves the Bidder from its liabilities or obligations under this Contract to provide the Services in accordance with the Purchaser's directions and requirements and as stated in this Contract and the Bid to the extent accepted by the Purchaser and the Bidder shall be liable for any non-performance, non-compliance, breach or other loss and damage resulting either directly or indirectly by or on account of its Team.
- 7) The Bidder shall ensure that all the personnel identified for this project have high level of integrity. Bidder shall undertake necessary due diligence to ensure that the personnel have high standard of trustworthiness. In addition, the Bidder would also get the background verification checks carried out for the personnel deployed, & will submit an undertaking verifying the same, as and when demanded by the Purchaser. Purchaser reserves the right to carry out background verification beyond the undertaking submitted by SI.
- 8) The Bidder shall provide its team at the Purchaser's office location, requisite equipment & tools etc. that may be required by it during the contract period for performance of Services under this contract, at no extra cost to the Purchaser, as per the SLAs defined in the RFP
- 9) The Bidder shall be fully responsible for deployment / installation / development and integration of all the software components and resolve any problems / issues that may arise due to integration of components.
- 10) The Bidder shall ensure that the COTS OEMs supply the software applications and shall support the Bidder in the installation / deployment, integration, roll-out and maintenance of these applications during the entire period of contract.
- 11) All the software licenses that the Bidder proposes should be perpetual software licenses ie. one time license cost should cover all future updates & support. The software licenses shall not be restricted based on location and the Purchaser should have the flexibility to use the software licenses for other requirements if required. Any Email solution or software as a service solution should be provided for the entire contract period.
- 12) The Bidder shall ensure that the Annual Maintenance support for the software components is provided for the period from date of deployment of the software component till the end of contract. Annual Maintenance support shall include patches, updates and upgrades of the software. Bidder shall ensure that there is a comprehensive onsite warranty / support

arrangement for the aforementioned period with all the OEMs or transfer in favour of purchaser for the benefit of any warranties given by OEMs.

- 13) The Bidder shall ensure that he conducts the preventive maintenance on a monthly basis and break-fix maintenance in accordance with the best practices followed in the industry.
- 14) The Bidder shall ensure that the documentation and training services associated with the components shall be provided by the OEMs without any additional cost to the Purchaser.
- 15) The Bidder's Representative(s) shall have all the powers requisite for the execution of scope of work and performance of services under this contract. The Bidder's Representative(s) shall liaise with the Purchaser's Representative for the proper coordination and timely completion of the works and on any other matters pertaining to the works. He will extend full co-operation to Purchaser's representative in the manner required by them for supervision/inspection/observation of the equipment/goods/material, procedures, performance, progress, reports and records pertaining to the works. He shall also have complete charge of the Bidder's personnel engaged in the performance of the works and to ensure compliance of rules, regulations and safety practice. He shall also cooperate with the other Bidders/Vendors of the Purchaser working at the Purchaser's office location.
- 16) The Bidder shall be responsible on an ongoing basis for coordination with other vendors and agencies of the Purchaser in order to resolve issues and oversee implementation of the same. The Bidder shall also be responsible for resolving conflicts between vendors in case of borderline integration issues.
- 17) The Bidder shall perform the Services in accordance with the Applicable Laws and shall take all practicable steps to ensure that all its Personnel and agents, comply with the Applicable Laws.

#### **6.8.20.1 Project Charter**

- 1) Within 2 weeks of Effective date of the Contract, the Bidder shall submit to the Purchaser for its approval a detailed Project Charter with details of the programme showing the sequence, procedure and method in which he proposes to carry out the works as stipulated under Scope of Work of this Tender whenever reasonably required by the Purchaser's Representative furnish in writing the arrangements and methods proposed to be made for carrying out the works. The Charter so submitted by the Bidder shall conform to the requirements and timelines specified in the Contract. The Purchaser and the Bidder shall discuss and agree upon the work procedures to be followed for effective execution of the works, which the Bidder intends to deploy and shall be clearly specified. The Project Charter shall include but not limited to project organization, communication structure, proposed staffing, roles and responsibilities, processes and tool sets to be used for quality assurance, security and confidentiality practices in accordance with

industry best practices, project plan and delivery schedule in accordance with the Contract.

- 2) If the Bidder's work plans necessitate a disruption/ shutdown in Purchaser's operation, the plan shall be mutually discussed and developed so as to keep such disruption/shutdown to the barest unavoidable minimum. Any time and cost arising on account of failure of the Bidder to bring its work plans to the notice of the Purchaser shall be to his account.

#### **6.8.20.2 Bidder's Organization**

- 1) The Bidder should provision for minimum manpower resources required for execution of work and provision of services under this contract.
- 2) The Bidder should to the best of his efforts, avoid any change in the organization structure proposed for execution of this contract or replacement of any manpower resource appointed. If the same is however unavoidable, Bidder shall promptly inform the Purchaser in writing, and the same shall require subsequent approval by the Purchaser.
- 3) In case of replacement of any manpower resource, the Bidder should ensure efficient knowledge transfer from the outgoing resource to the incoming resource and adequate hand-holding period and training for the incoming resource in order to maintain the continued level of service.
- 4) All manpower resources deployed by the Bidder for execution of this contract must strictly adhere to the attendance reporting procedures and make their services available as agreed upon for the entire reporting time period at the Purchaser's office location.
- 5) The Bidder shall be responsible for the deployment, transportation, accommodation and other requirements of all its employees required for the execution of the work and provision of services for all costs/charges in connection thereof.
- 6) The Purchaser's Representative may at any time object to and require the Bidder to remove forthwith from the Purchaser's office any authorized representative or employee of the Bidder or any person(s) of the Bidder's team, if, in the opinion of the Purchaser's Representative the person in question has mis-conducted or his / her deployment is otherwise considered undesirable by the Purchaser's Representative. The Bidder shall forthwith remove and shall not again deploy the person without the written consent of the Purchaser's Representative.
- 7) The Purchaser's Representative may at any time object to and request the Bidder to remove from the Purchaser's office any of Bidder's authorized representative including any employee of the Bidder or his team or any person(s) deployed by Bidder or his team for professional incompetence or negligence or for being deployed for work for which he is not suited. The Bidder shall consider the Purchaser's Representative request and may



accede to or disregard it. The Purchaser's Representative, having made a request, as aforesaid in the case of any person, which the Bidder has disregarded, may in the case of the same person at any time but on a different occasion, and for a different instance of one of the reasons referred to above in this Clause object to and require the Bidder to remove that person from deployment on the work, which the Bidder shall then forthwith do and shall not again deploy any person so objected to on the work or on the sort of work in question (as the case may be) without the written consent of the Purchaser's Representative.

- 8) The Purchaser's Representative shall state to the Bidder in writing his reasons for any request or requirement pursuant to this Clause.
- 9) The Bidder shall promptly replace every person removed, pursuant to this section, with a competent substitute, and at no extra cost to the Purchaser.

#### **6.8.20.3 Adherence to safety procedures, rules regulations and restriction**

- 1) Bidder's Team shall comply with the provision of all laws including labour laws, rules, regulations and notifications issued there under from time to time. All safety and labour laws enforced by statutory agencies and by Purchaser shall be applicable in the performance of this Contract and Bidder's Team shall abide by these laws.
- 2) The Bidder shall take all measures necessary or proper to protect the personnel, work and facilities and shall observe all reasonable safety rules and instructions. Bidder's Team shall adhere to all security requirement/regulations as per the law and as per the regulations/guidelines issued by the relevant authorities/agencies apart from any specific requirement of the Purchaser during the execution of the work. The list of additional security requirements/regulations would be shared with the selected Bidder.
- 3) The Bidder shall report as soon as possible any evidence, which may indicate or is likely to lead to an abnormal or dangerous situation and shall take all necessary emergency control steps to avoid such abnormal situations.

#### **6.8.20.4 Statutory Requirements**

During the tenure of this Contract nothing shall be done by the Bidder or his team in contravention of any law, act and/ or rules/regulations, there under or any amendment thereof governing inter-alia customs, stowaways, foreign exchange etc. and shall keep Purchaser indemnified in this regard.

#### **6.8.20.5 Bidder's obligation – OEM**

- 1) The Bidder must pass on the standard OEMs' warranty which comes bundled with the purchased software wherever it is superior to the warranty specified in this tender document.



- 2) Bidder has to provide documentary evidence for back-to-back support agreement with the respective OEM along with the OEM.
- 3) The Bidder undertakes to ensure the maintenance of the acceptance criteria /standards in respect of the systems

#### **6.8.21 Purchaser's Obligation**

- 1) Purchaser or his/her nominated representative shall act as the nodal point for implementation of the contract and for issuing necessary instructions, approvals, commissioning, acceptance certificates, payments etc. to the Bidder.
- 2) Purchaser shall ensure that timely approval is provided to the Bidder as and when required, which may include approval of project plans, implementation methodology, design documents, specifications, or any other document necessary in fulfillment of this contract.
- 3) The Purchaser's Representative shall interface with the Bidder, to provide the required information, clarifications, and to resolve any issues as may arise during the execution of the Contract. Purchaser shall provide adequate cooperation in providing details, coordinating and obtaining of approvals from various governmental agencies, in cases, where the intervention of the Purchaser is proper and necessary.
- 4) Purchaser may provide on Bidder's request, particulars/information/ or documentation that may be required by the Bidder for proper planning and execution of work and for providing services covered under this contract and for which the Bidder may have to coordinate with respective vendors.
- 5) Purchaser shall provide to the Bidder only seating space, for up to 5 people, at the Purchaser's office location. Persons deputed by the Bidder have to observe the norms & code of conduct of the Purchaser's organisation.

#### **6.8.22 Indemnity**

- 1) The Bidder shall indemnify the Purchaser from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind howsoever suffered, arising or incurred inter alia during and after the Contract period out of:
  - a) any negligence or wrongful act or omission by the Bidder or the Bidder's Team or any third party associated with Bidder in connection with or incidental to this Contract; or
  - b) Any breach of any of the terms of the Bidder's Bid as agreed, the Tender and this Contract by the Bidder, this' Team or any third party.
  - c) Any infringement of patent, trademark/copyright or industrial design rights arising from the use of the supplied goods and related services or any part thereof.
- 2) The Bidder shall also indemnify the Purchaser against any privilege, claim or assertion made by a third party with respect to right or interest in, ownership, mortgage or disposal of any

asset, property, and movable or immovable as mentioned in any Intellectual Property Rights, licenses and permits.

### **6.8.23 Termination**

Purchaser reserves the right to cancel the contract placed on the selected Bidder and recover expenditure incurred by Purchaser under the following circumstances:-

- 1) The selected Bidder commits a breach of any of the terms and conditions of the bid.
- 2) The Bidder goes into liquidation, voluntarily or otherwise.
- 3) If the selected Bidder fails to complete the assignment as per the time lines prescribed in the RFP and the extension if any allowed, it will be a breach of contract. The Purchaser reserves its right to cancel the order in the event of delay and forfeit the bid security as liquidated damages for the delay.
- 4) If deductions on account of penalties & liquidated damages exceeds more than 10% of the total contract price.
- 5) In case the selected Bidder fails to deliver the quantity as stipulated in the delivery schedule, Purchaser reserves the right to procure the same or similar product from alternate sources at the risk, cost and responsibility of the selected Bidder.
- 6) After award of the contract, if the selected Bidder does not perform satisfactorily or delays execution of the contract, Purchaser reserves the right to get the balance contract executed by another party of its choice by giving one month's notice for the same. In this event, the selected Bidder is bound to make good the additional expenditure, which Purchaser may have to incur in executing the balance contract. This clause is applicable, if for any reason, the contract is cancelled.
- 7) Purchaser reserves the right to recover any dues payable by the selected Bidder from any amount outstanding to the credit of the selected Bidder, including the pending bills and/or invoking the bank guarantee under this contract.
- 8) The Bidder shall not assign or sublet the contract or any part of it. In case of noncompliance of this Para, the contract may be cancelled and the damages, if any, may be recovered from the contractor.
- 9) The Bidder acknowledges that he has fully acquainted himself with all conditions and circumstances under which he has to complete the Project with all the terms, clauses, conditions, specifications and other details of this contract.
- 10) In the event of termination of the Contract due to any cause whatsoever, Purchaser shall be entitled to impose any such obligations and conditions and issue any clarifications as may be necessary to ensure an efficient transition and effective business continuity of the Service(s) which the Bidder shall be obliged to comply with and take all available steps to minimize loss resulting from that termination/breach, and further allow the next successor to take over the obligations of the erstwhile Bidder in relation to the execution/continued execution of the scope of the Contract.

- 11) Nothing herein shall restrict the right of Purchaser to invoke the Purchaser Guarantee and other guarantees and pursue such other rights and/or remedies that may be available Purchaser under law or otherwise.
- 12) The termination hereof shall not affect any accrued right or liability of either Party nor affect the operation of the provisions of the Contract that are expressly or by implication intended to come into or continue in force on or after such termination.

#### **6.8.24 Liquidated Damages**

- 1) Notwithstanding Purchaser's right to cancel the order, liquidated damages for non-conformance to the SLAs mentioned in Appendix IV of this RFP document will be charged as per the penalties, subject to a maximum of 10% of the total value of the Contract.
- 2) Purchaser reserves its right to recover these amounts by any mode such as adjusting from any payments to be made by Purchaser to the Bidder.

#### **6.8.25 Force Majeure**

- 1) For the purposes of this agreement, Force Majeure means an event which is beyond the reasonable control of a Party and which makes a party's performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible in the circumstances and includes but is not limited to war, riots, civil disorder, earthquake, fire , explosion, storm, flood or other adverse conditions, strikes, lockout or other industrial action (except where such strikes, lock out or other industrial action are within the power of the party invoking Force Majeure to prevent), confiscation or any other action by government agencies.
- 2) Force Majeure shall not include any events caused due to acts/omissions of such Party or result from a breach/contravention of any of the terms of the Contract, Bid and/or the Tender. It shall also not include any default on the part of a Party due to its negligence or failure to implement the stipulated/proposed precautions, as were required to be taken under the Contract.
- 3) The failure or occurrence of a delay in performance of any of the obligations of either party shall constitute a Force Majeure event only where such failure or delay could not have reasonably been foreseen, or where despite the presence of adequate and stipulated safeguards the failure to perform obligations has occurred. In such an event, the affected party shall inform the other party in writing within five days of the occurrence of such event. The Purchaser will make the payments due for Services rendered till the occurrence of Force Majeure. However, any failure or lapse on the part of the Bidder / Bidder's Team in performing any obligation as is necessary and proper, to negate the damage due to projected Force Majeure events or to mitigate the damage that may be caused due to the abovementioned events or the failure to provide adequate disaster management/recovery or

any failure in setting up a contingency mechanism would not constitute force majeure, as set out above.

- 4) In case of a Force Majeure, all Parties will endeavor to agree on an alternate mode of performance in order to ensure the continuity of service and implementation of the obligations of a party under the Contract and to minimize any adverse consequences of Force Majeure

#### **6.8.26 Definition for default**

- 1) The failure on the part of the Bidder to perform any of its obligations or comply with any of the terms of this Contract shall constitute an Event of Default on the part of the Bidder. The events of default as mentioned above may include inter-alia the following:
  - a) the Bidder/ Bidder's Team has failed to perform any instructions or directives issued by the Purchaser which it deems proper and necessary to execute the scope of work or provide services under the Contract, or
  - b) the Bidder/ Bidder's Team has failed to confirm / adhere to any of the key performance indicators as laid down in the Key Performance Measures / Service Level Agreements, or if the Bidder has fallen short of matching such standards / benchmarks / targets as the Purchaser may have designated with respect to the system or any goods, task or service, necessary for the execution of the scope of work and performance of services under this Contract. The above mentioned failure on the part of the Bidder may be in terms of failure to adhere to performance, quality, timelines, specifications, requirements or any other criteria as defined by the Purchaser;
  - c) the Bidder has failed to remedy a defect or failure to perform its obligations in accordance with the specifications issued by the Purchaser, despite being served with a default notice which laid down the specific deviance on the part of the Bidder/ Bidder's Team to comply with any stipulations or standards as laid down by the Purchaser; or
  - d) the Bidder/ Bidder's Team has failed to adhere to any amended direction, instruction, modification or clarification as issued by the Purchaser during the term of this Contract and which the Purchaser deems proper and necessary for the execution of the scope of work under this Contract
  - e) the Bidder/ Bidder's Team has failed to demonstrate or sustain any representation or warranty made by it in this Contract, with respect to any of the terms of its Bid, the Tender and this Contract
  - f) There is a proceeding for bankruptcy, insolvency, winding up or there is an appointment of receiver, liquidator, assignee, or similar official against or in relation to the Bidder.

- g) The Bidder/Bidder's Team has failed to comply with or is in breach or contravention of any applicable laws.
- 2) Where there has been an occurrence of such defaults inter alia as stated above, the Purchaser shall issue a notice of default to the Bidder, setting out specific defaults / deviances / omissions / non-compliances / non-performances and providing a notice of thirty (30) days to enable such defaulting party to remedy the default committed.
- 3) Where despite the issuance of a default notice to the Bidder by the Purchaser the Bidder fails to remedy the default to the satisfaction of the Bidder, the Purchaser may, where it deems fit, issue to the defaulting party another default notice or proceed to adopt such remedies as may be available to the Purchaser as per clause 6.8.25.

#### **6.8.27 Consequences of default**

Where an Event of Default subsists or remains uncured the Purchaser shall be entitled to:

- 1) Impose any such obligations and conditions and issue any clarifications as may be necessary to inter alia ensure smooth continuation of project and the Services which the Bidder shall be obliged to comply with which may include re-determination of the consideration payable to the Bidder as agreed mutually by Purchaser and Bidder or through a third party acceptable to both parties. The Bidder shall in addition take all available steps to minimize loss resulting from such event of default.
- 2) Suspend all payments to the Bidder under the Contract by a written notice of suspension to the Bidder, provided that such notice of suspension:
  - a) shall specify the nature of the failure; and
  - b) shall request the Bidder to remedy such failure within a specified period from the date of receipt of such notice of suspension by the Bidder
- 3) Require replacement of any of the Bidder's sub-contractor(s) / Bidder's Team member(s) with another suitable member(s) where the Purchaser deems necessary. The Bidder shall in such case terminate forthwith all their agreements/ contracts/ other arrangements with such member(s) and find suitable replacement for such outgoing member(s) with another member(s) to the satisfaction of the Purchaser, who shall execute such Contracts with the Purchaser as the Purchaser may require. Failure on the part of the Bidder to find a suitable replacement and/or terminate all agreements/contracts with such member(s), shall amount to a breach of the terms hereof and the Purchaser in addition to all other rights, have the right to claim damages and recover from the Bidder all losses/ or other damages that may have resulted from such failure.
- 4) Terminate the Contract in part or in full
- 5) Retain such amounts from the payment due and payable by the Purchaser to the Bidder as may be required to offset any losses caused to the Purchaser as a result of such event of

default and the Bidder shall compensate the Purchaser for any such loss, damages or other costs, incurred by the Purchaser in this regard. Nothing herein shall effect the continued obligation of the Bidder and Bidder's Team to perform all their obligations and responsibilities under this Contract in an identical manner as were being performed before the occurrence of the default.

- 6) Invoke the Performance Bank Guarantee and other Guarantees furnished hereunder, enforce the Deed of Indemnity, recover such other costs/losses and other amounts from the Bidder as may have resulted from such default and pursue such other rights and/or remedies that may be available to the Purchaser under law.

#### **6.8.28 Sub-Contracting**

- 1) The Bidder shall not be permitted to appoint any delegate/subcontractor for the performance of Bidder Services under this contract
- 2) However, the support of OEMs only for certain tasks limited to installation / deployment, commissioning & maintenance support related to their respective product / equipment is permitted.
- 3) However, this shall not affect the responsibilities and liabilities of the SI towards the Purchaser under the Contract

#### **6.8.29 Dispute Resolution**

- 1) The Purchaser and the Bidder shall make every effort to resolve amicably by direct informal negotiations, any disagreement or disputes, arising between them under or in connection with the Contract
- 2) If, after Thirty (30) days from the commencement of such direct informal negotiations, the Purchaser and the Bidder have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanism specified in (c) & (d) below
- 3) In the case of a dispute or difference arising between the Purchaser and the Bidder relating to any matter arising out of or connected with this Contract, such dispute or difference shall be referred to the award of two Arbitrators, one Arbitrator to be nominated by the Purchaser and the other to be nominated by the Bidder or in case of the said Arbitrators not agreeing, then to the award of an Umpire to be appointed by the Arbitrators in writing before proceeding with the reference, and in case the Arbitrators cannot agree to the Umpire, he may be nominated by the Secretary, Indian Council of Arbitration, New Delhi. The award of the Arbitrators, and in the event of their not agreeing, of the Umpire appointed by them or by the Secretary, Indian Council of Arbitration, New Delhi, shall be final and binding on the parties

- 4) The Arbitration and Conciliation Act 1996, the rules hereunder and any statutory modification or re-enactment thereof, shall apply to the arbitration proceedings
- 5) The Arbitration proceedings shall be held in Delhi, India
- 6) The Arbitration proceeding shall be governed by the substantive laws of India
- 7) The proceedings of Arbitration shall be in English language
- 8) Except as otherwise provided elsewhere in the Contract if any dispute, difference, question or disagreement arises between the parties hereto or their respective representatives or assignees, at any time in connection with construction, meaning, operation, effect, interpretation or out of the Contract or breach thereof the same shall be decided by an Arbitral Tribunal consisting of three Arbitrators. Each party shall appoint one Arbitrator and the Arbitrators so appointed shall appoint the third Arbitrator who shall act as Presiding Arbitrator
- 9) In case, a party fails to appoint an arbitrator within 30 days from the receipt of the request to do so by the other party or the two Arbitrators so appointed fail to agree on the appointment of third Arbitrator within 30 days from the date of their appointment upon request of a party, the Chief Justice of India or any person or institution designated by him (in case of International commercial Arbitration) shall appoint the Arbitrators/ Presiding Arbitrator. In case of domestic contracts, the Chief Justice of the High Court or any person or institution designated by him within whose jurisdiction the subject work order/ Contract has been placed/ made, shall appoint the arbitrator/ Presiding Arbitrator upon request of one of the parties
- 10) If any of the Arbitrators so appointed dies, resigns, incapacitated or withdraws for any reason from the proceedings, it shall be lawful for the concerned party/ arbitrator to appoint another person in his place in the same manner as aforesaid. Such person shall proceed with the reference from the stage where his predecessor had left if both parties consent for the same; otherwise, he shall proceed de novo
- 11) It is a term of the Contract that the party invoking arbitration shall specify all disputes to be referred to arbitration at the time of invocation of arbitration and not thereafter
- 12) It is also a term of the Contract that neither party to the Contract shall be entitled for any interest on the amount of the award
- 13) The Arbitral Tribunal shall give reasonable award and the same shall be final, conclusive and binding on the parties
- 14) The fees of the arbitrator shall be borne by the parties nominating them and the fee of the Presiding Arbitrator, costs and other expenses incidental to the arbitration proceedings shall be borne equally by the parties

- 15) Subject to as aforesaid the provisions of the Arbitration and Conciliation Act, 1996 and any statutory modifications or re-enactment in lieu thereof shall apply to the arbitration proceedings under this clause
- 16) Continuance of the Contract:
- 17) Notwithstanding the fact that settlement of dispute(s) (if any) under arbitration may be pending, the parties hereto shall continue to be governed by and perform the work in accordance with the provisions under this Contract

### **6.8.30 Conditions Precedent**

#### **6.8.30.1 Conditions precedent for Project Implementation Phase**

Subject to express terms to the contrary, the rights and obligations of the Parties in respect of the Project Implementation Phase shall be effective only upon fulfillment of all conditions precedent which are set in the RFP. However, Purchaser may at any time at its sole discretion waive fully or partially any of the aforesaid conditions precedent for the Bidder. The following conditions precedent needs to be fulfilled by the Bidder:

- 1) Performance Bank Guarantee (PBG) as specified in Appendix III: Form 1 for Contract Performance to be submitted to Purchaser
- 2) Provide certified true copies of its constitutional documents and board resolutions authorizing the execution, delivery and performance of Form of Agreement, General Conditions of Contract, Scope of Work and SLA

#### **6.8.30.2 Conditions precedent for Project Operations and Maintenance Phase**

Subject to express terms to the contrary, the rights and obligations of the Parties in respect of the Project Operations and Maintenance Phase shall be effective only upon fulfillment of all conditions precedent which are set in Section 6.8.28.1. However, Purchaser may at any time at its sole discretion waive fully or partially any of the aforesaid conditions precedent for the SI. The following conditions precedent needs to be fulfilled by the Bidder:

- 1) Bespoke software is designed, developed, tested, audited and certified before “Go-Live” date in accordance with respective provisions of the RFP
- 2) The ownership of assets (bespoke software and System Software licenses) obtained in favor of Purchaser is passed on to Purchaser-HQ within a period of 15 days from the date of certification of such assets by the third party appointed by Purchaser and the project is declared Go-Live by Purchaser;
- 3) The bespoke software post go-live should have run successfully for a period of 90 days, to the satisfaction of Purchaser and the Bidder shall have been granted requisite certification thereafter as per the Agreement;



- 4) Bidder has to get the bespoke software audited and cleared by a CERT-IN empanelled third party security audit agency as selected by Purchaser before Go-Live date
- 5) Any relevant provisions set out in the Exit Management Schedule as per Clause 6.8.32 hereof are complied with and formalities contained therein fulfilled to the reasonable satisfaction of Purchaser.

**6.8.30.3 Non-fulfillment of Conditions precedent for the Project Implementation Phase**

- 1) In the event that any of the conditions precedent for the project implementation phase has not been fulfilled within 30 days of the effective date and the same has not been waived by Purchaser fully or partially, the Contract stands terminated as on that date, at the sole discretion of Purchaser
- 2) Notwithstanding anything contained to the contrary, in the event of termination of possession shall immediately revert to Purchaser, free and clear from any encumbrances or claims;
- 3) Instead of terminating the contract as per Clause (a) above, Purchaser may extend the time for fulfilling the conditions precedent and the milestones set out in the RFP. It is clarified that any extension of time shall be subject to imposition of penalty (as defined in the Contract) on the Bidder linked to the delay in achieving the milestones as specified in Appendix IV: Service Level Agreement

**6.8.31 Approvals and required consents**

- 1) The Parties will cooperate reasonably to obtain, maintain and observe all relevant and customary regulatory and governmental licenses, clearances and applicable approvals (hereinafter the "Approvals") necessary for the Bidder to undertake implementation of the project and provide the Services. The costs of all such approvals shall be borne by the Bidder.
- 2) Both Parties will give each other all co-operation and information reasonably required to meet their respective obligations under the Agreement.
- 3) Purchaser shall assist Bidder in obtaining the approvals. In the event that any approval is not obtained, the Bidder and Purchaser will co-operate with each other in achieving a reasonable alternative arrangement as soon as it is reasonably practicable for Purchaser, to continue to process its work with as minimal interruption to its business operations as is commercially reasonable until such approval is obtained. The Bidder shall be relieved of its obligations to provide the Services and to achieve the Service Levels until the approvals are obtained if and to the extent that the Bidder's obligations are dependent upon such approvals provided the delay in such approval is caused for reasons not attributable to the Bidder.

### **6.8.32 Exit Management**

#### **6.8.32.1 Exit Management Purpose**

- 1) This schedule sets out the provisions, which will apply on expiry and termination of the contract, the Project Implementation, Operation and service level
- 2) In the case of termination of the Project Implementation and/or Operation and Management, the Parties shall agree at that time whether, and if so during what period, the provisions of this Schedule shall apply.
- 3) The parties shall ensure that their respective associated entities carry out their respective obligations set out in this Exit Management Schedule

#### **6.8.32.2 Cooperation and provision of information**

- 1) The bidder will allow the Purchaser or its nominated agency access to information reasonably required to define the then current mode of operation associated with the provision of the services to enable the Purchaser to assess the existing services being delivered;
- 2) Promptly on reasonable request by the Purchaser, the bidder shall provide access to and copies of all information held or controlled by them which they have prepared or maintained in accordance with this agreement relating to any material aspect of the services. The Purchaser shall be entitled to copy of all such information. Such information shall include details pertaining to the services rendered and other performance data.

#### **6.8.32.3 Confidential Information and Security Data**

- 1) The bidder will promptly on the commencement of the exit management period supply to the Purchaser or its nominated agency the following:
  - a) information relating to the current services rendered and performance data;
  - b) documentation relating to Computerization Project's Intellectual Property Rights;
  - c) documentation relating Original equipment manufacturer (OEM's);
  - d) all current and updated data as is reasonably required for purposes of Purchaser or its nominated agencies transitioning the services to its Replacement bidder in a readily available format nominated by the Purchaser, its nominated agency;
  - e) all other information (including but not limited to documents, records and agreements) relating to the services reasonably necessary to enable Purchaser or its nominated agencies, or its Replacement bidder to carry out due diligence in order to transition the provision of the Services to Purchaser or its nominated agencies, or its Replacement bidder (as the case may be).

- 2) Before the expiry of the exit management period, the bidder shall deliver to the Purchaser or its nominated agency all new or up-dated materials from the categories set out in Schedule above and shall not retain any copies thereof, except that the bidder shall be permitted to retain one copy of such materials for archival purposes only.
- 3) Before the expiry of the exit management period, unless otherwise provided under the contract, the Purchaser or its nominated agency shall deliver to the bidder all forms of bidder confidential information, which is in the possession or control of Purchaser.

#### **6.8.32.4 Employees**

- 1) Promptly on reasonable request at any time during the exit management period, the bidder shall, subject to applicable laws, restraints and regulations (including in particular those relating to privacy) provide to the Purchaser or its nominated agency a list of all employees (with job titles) of the bidder dedicated to providing the services at the commencement of the exit management period.
- 2) Where any national, regional law or regulation relating to the mandatory or automatic transfer of the contracts of employment from the bidder to the Purchaser or its nominated agency, or a Replacement bidder ("Transfer Regulation") applies to any or all of the employees of the bidder, then the Parties shall comply with their respective obligations under such Transfer Regulations.
- 3) To the extent that any Transfer Regulation does not apply to any employee of the bidder, Purchaser, or its Replacement bidder may make an offer of employment or contract for services to such employee of the bidder and the bidder shall not enforce or impose any contractual provision that would prevent any such employee from being hired by the purchaser or any Replacement bidder.

#### **6.8.32.5 Transfer of Certain Agreements**

On request by the Purchaser or its nominated agency the bidder shall effect such assignments, transfers, licences and sub-licences as the purchaser may require in favour of the Purchaser, or its Replacement bidder in relation to any equipment lease, maintenance or service provision agreement between bidder and third party lessors, vendors, and which are related to the services and reasonably necessary for the carrying out of replacement services by the purchaser or its nominated agency or its Replacement bidder.

#### **6.8.33 Applicable Law**

- 1) The Bidder shall be governed by the laws and procedures established by Govt. of India, within the framework of applicable legislation and enactment made from time to time concerning such commercial dealings/processing.
- 2) All disputes in this connection shall be settled in Bhopal jurisdiction only.

- 3) Purchaser reserves the right to cancel this tender or modify the requirement.
- 4) Purchaser also reserves the right to modify/relax any of the terms & conditions of the tender by declaring / publishing such amendments in a manner that all prospective vendors / parties to be kept informed about it.
- 5) Purchaser in view of projects requirement may reject any tender(s), in which any prescribed condition(s) is/are found incomplete in any respect and at any processing state.
- 6) The Bidder should provide all manuals and documentation related to all systems and processes.

## 7 Scope of Work

### 7.1 Broad Scope of Work

- 1) Deployment (including implementation & testing) and maintenance of a comprehensive bespoke software solution for departmental portal to meet requirements of the applications
- 2) Solution should be capable of operation in cloud environment and the definition of Cloud should be as per NIST (National Institute of Standards and Technology)
- 3) Migration of data from legacy departmental applications to the new system
- 4) Maintenance and enhancement of PEB's website
- 5) Setting up, operational management and maintenance of Helpdesk to resolve queries regarding various processes, services of the department etc as well as internal user queries regarding the IT infrastructure, Application trouble shooting etc
- 6) Preparation of Training Plan, Training Material & Delivery of Training to Departmental Staff
- 7) Preparation of Information Security Policy for PEB
- 8) Preparation of audio visual help content ("how to" videos) to guide internal/external users in operating the portal
- 9) Disaster Recovery (DR)

### 7.2 PEB's Processes

This section details out the functional & business logic of the envisaged processes. The information presented in this section is for the purpose of familiarizing the SI with the internal workings of PEB & should not be considered as an exhaustive scope. For the development of the required solution the SI would need to understand the workflow of each of these processes in more detail by interacting with the internal stakeholders at PEB.

#### 7.2.1 Registration of the stakeholders

S. No.	Parameter	Description
1.	Process Objectives	To allow all the stakeholders involved in PEB examination cycle to register online on PEB portal

S. No.	Parameter	Description
	Process Owner	<ul style="list-style-type: none"> <li>PEB</li> </ul>
2.	Stakeholders	<ul style="list-style-type: none"> <li>User Departments</li> <li>PEB officials</li> <li>Candidates</li> <li>Invigilators</li> <li>Observers</li> <li>Vendors- Exam Centre Management, Exam Engine Management, exam city coordinators, empaneled news agencies etc.</li> </ul>
3.	Process Input	<ul style="list-style-type: none"> <li>Aadhar number of all individuals</li> <li>Image processing for candidates' registration</li> </ul>
4.	Process Output	<ul style="list-style-type: none"> <li>PEB ID for all the registered stakeholders</li> </ul>
5.	List of Documents used or generated during the process	<ul style="list-style-type: none"> <li>NA</li> </ul>
6.	Key activities carried out under the process	<ol style="list-style-type: none"> <li>Registration of all the stakeholders</li> <li>Aadhar authentication for all the stakeholders</li> <li>Image processing and face authentication for candidates' registration. Candidates should be able to click their picture meeting the criterion for image type while filling the registration form online (through mobile or computer's web camera)</li> <li>Candidate should be able to put all his qualification details</li> <li>Visually impaired candidates should be able to hear large volume text easier while filling the registration form online using TTS text-to-speech synthesizer</li> <li>Use of artificial intelligence to capture any new degree which was previously not present in the system</li> </ol>

### 7.2.2 Indent Submission and processing by the department

S. No.	Parameter	Description
1.	Process Objectives	To allow different departments to send their request for hiring/ selection of candidates to PEB
2.	Process Owner	<ul style="list-style-type: none"> <li>PEB</li> </ul>
3.	Stakeholders	<ul style="list-style-type: none"> <li>User Departments</li> <li>PEB</li> </ul>
4.	Process Input	<ul style="list-style-type: none"> <li>Details as asked by online indent form related to qualification, number of posts, reservation rules, date of onboarding candidate</li> </ul>
5.	Process Output	<ul style="list-style-type: none"> <li>Final Indent form against an indent ID</li> </ul>
6.	List of Documents used or generated during the process	<ul style="list-style-type: none"> <li>Online advertisement template generation for department's post openings</li> </ul>
7.	Key activities carried out under the process	<ol style="list-style-type: none"> <li>Designated official from the department will be given role based access to login to the PEB portal</li> <li>Department official will login into the system to submit a new indent. Official will fill: <ol style="list-style-type: none"> <li>The number of posts, qualification, job location</li> </ol> </li> </ol>

S. No.	Parameter	Description
		b. Number of candidates required in waiting list and merit list c. Reservation- Seat matrix 3. Department can also open the previously submitted indent in read only format and refer the same for filling the new indent 4. Department official can save the indent and submit it later as per his convenience 5. He can also track the status of the indent saved by him 6. On successful submission of the indent, indent will be segregated into group/ sub group 7. On receiving sufficient number of posts against similar indents, the examination event will be triggered and prospectus, advertisement and candidate application form will be generated. Advertisement will be published in newspapers as per roster and on other platforms and also on student's home page in the new PEB portal 8. Use of artificial intelligence to validate the entries in seat table

### 7.2.3 Application process for the candidates

S. No.	Parameter	Description
1.	Process Objectives	To help candidate to apply for a new application in easy steps. Candidates need not fill the basic details like Name, age, caste, education qualifications etc. every time for every new application (as this detail will be captured during candidate registration).
2.	Process Owner	<ul style="list-style-type: none"> <li>• PEB</li> </ul>
3.	Stakeholders	<ul style="list-style-type: none"> <li>• Candidates</li> <li>• PEB</li> </ul>
4.	Process Input	<ul style="list-style-type: none"> <li>• Exam date and online prospectus</li> <li>• Post and qualification details from the indent submitted by the departments</li> <li>• Candidate ID and password for logging into the system and filling the application</li> </ul>
5.	Process Output	<ul style="list-style-type: none"> <li>• Candidates application for the examination</li> </ul>
6.	List of Documents used or generated during the process	<ul style="list-style-type: none"> <li>• Online prospectus for fetching all the details of the examination</li> <li>• Student application form with their post preferences</li> </ul>
7.	Key activities carried out under the process	<ol style="list-style-type: none"> <li>1. Automatic Notification of new posts openings for different departments to the candidates</li> <li>2. List of recommended available openings based on the qualification submitted by the candidate during candidate registration</li> <li>3. Adding special fields for any unique/ unforeseen type of application</li> <li>4. Candidate form filling</li> <li>5. Online Payment for application form submission by the candidate</li> <li>6. Acknowledgment generation after receipt of payment/ submission of application form</li> <li>7. Student's profile version control for log keeping purposes</li> <li>8. Masked Candidate ID Creation for all further processing to enable security features</li> </ol>

#### 7.2.4 Exam scheduling

S. No.	Parameter	Description
1.	Process Objectives	To allocate students to centres and shifts in their preferred cities. To allocate observers, invigilators for the examination
2.	Process Owner	<ul style="list-style-type: none"> <li>• PEB</li> </ul>
3.	Stakeholders	<ul style="list-style-type: none"> <li>• Candidates</li> <li>• PEB officials</li> <li>• Invigilators</li> <li>• Observers</li> <li>• Exam Centre Management vendor</li> </ul>
4.	Process Input	<ul style="list-style-type: none"> <li>• Student's city preference</li> <li>• Student's exam subjects</li> <li>• List of available centres in student's preferred cities</li> </ul>
5.	Process Output	<ul style="list-style-type: none"> <li>• Examination schedule for the candidate</li> </ul>
6.	List of Documents used or generated during the process	<ul style="list-style-type: none"> <li>• Candidate's admit card (may/ may not be carried during the examination day)</li> </ul>
7.	Key activities carried out under the process	<ol style="list-style-type: none"> <li>1. The exam centre management vendor will give a list of all the centres and the number of candidates who can be scheduled in them</li> <li>2. This information will be fetched along with the candidates; preferences.</li> <li>3. Handicapped and female candidate data will also be fetched (No movement for handicapped and women candidates)</li> <li>4. Total subject for which the candidate will appear in the examination</li> <li>5. Using these details, the system will allocate centres to all the candidates</li> <li>6. The examination schedule and centre details for each candidate will be sent to him through message, email and as notification on home page of the PEB portal.</li> <li>7. Use of geo analytics to allocate the nearest centre to the candidate in case there is a movement required to a different city</li> </ol>

#### 7.2.5 Invigilator/ Observer appointment

S. No.	Parameter	Description
1.	Process Objectives	To select the invigilators and observers to monitor examination
2.	Process Owner	<ul style="list-style-type: none"> <li>• PEB</li> </ul>
3.	Stakeholders	<ul style="list-style-type: none"> <li>• Invigilators</li> <li>• Observers</li> <li>• PEB</li> </ul>
4.	Process Input	<ul style="list-style-type: none"> <li>• List of all the available observers and invigilators and their preferred city for invigilation received from registration module</li> </ul>
5.	Process Output	<ul style="list-style-type: none"> <li>• Appointment of invigilators and observers for each centre and each slot</li> </ul>
6.	List of Documents	<ul style="list-style-type: none"> <li>• SLAs for exam engine and exam centre management vendor</li> </ul>

S. No.	Parameter	Description
	used or generated during the process	provided to the appointed observer for monitoring purposes
7.	Key activities carried out under the process	<ol style="list-style-type: none"> <li>1. List of all the invigilators and observers willing to invigilate and monitor in PEB examination can be obtained from registration module</li> <li>2. The available centres for all slots will be provided by the exam centre management vendor</li> <li>3. The selection of invigilators and observers will be done by the system using the aforementioned details</li> </ol>

### 7.2.6 Exam Conduction

S. No.	Parameter	Description
1.	Process Objectives	To authenticate candidate, invigilator, observers during the examination day at the registration desk.
2.	Process Owner	<ul style="list-style-type: none"> <li>• PEB</li> </ul>
3.	Stakeholders	<ul style="list-style-type: none"> <li>• Candidates</li> <li>• Invigilators</li> <li>• Observers</li> <li>• PEB officials</li> </ul>
4.	Process Input	<ul style="list-style-type: none"> <li>• Candidates image captured during the examination</li> </ul>
5.	Process Output	<ul style="list-style-type: none"> <li>• Final Indent form against an indent ID</li> </ul>
6.	List of Documents used or generated during the process	<ul style="list-style-type: none"> <li>• NA</li> <li>• Online prospectus</li> <li>• Online advertisement</li> <li>• Student Application form</li> </ul>
7.	Key activities carried out under the process	<ol style="list-style-type: none"> <li>1. At the time of examination day, candidate will be authenticated through his /her face by Facial Recognition system and alternatively candidates will be authenticated through his/her finger print.</li> <li>2. Facial Recognition and Aadhar authentication done during the authentication</li> <li>3. No physical Test Admit Cards are required at the day of exam</li> <li>4. User of advanced Artificial Intelligence to extract, compare and match the face.</li> <li>5. No Possibility of impersonation and duplicate results</li> <li>6. At the time of examination day, invigilator/ observer authentication will be done through his/her fingerprint. Fingerprint will be captured through the system and match with the Aadhar Database for authentication.</li> <li>7. The online proctoring videos will be mapped to the Command Control Centre in PEB to manage the examination centrally</li> </ol>

### 7.2.7 Result Generation

S. No.	Parameter	Description
1.	Process Objectives	The result generation module will help PEB to process and view the department wise merit list. The result will be fetched from the exam engine vendor who will conduct the examinations for the students. The



S. No.	Parameter	Description
		result data will be completely in encrypted form and system will facilitate processing result by ensuring various pre-set configurations in the system- the reservation rules as specified in department's seat matrix. The result will also be saved on blockchain for validation purposes before final merit list generation
2.	Process Owner	<ul style="list-style-type: none"> <li>• PEB</li> </ul>
3.	Stakeholders	<ul style="list-style-type: none"> <li>• Candidates</li> <li>• PEB</li> <li>• Departments</li> </ul>
4.	Process Input	<ul style="list-style-type: none"> <li>• Post and qualification details from the indent submitted by the departments</li> <li>• Qualifying score</li> <li>• Candidates application for different posts</li> <li>• Candidate's score</li> </ul>
5.	Process Output	<ul style="list-style-type: none"> <li>• Post wise merit and waiting list for all the departments</li> </ul>
6.	List of Documents used or generated during the process	<ul style="list-style-type: none"> <li>• Indent document</li> <li>• Students applications and score card</li> <li>• Merit list and waiting list document generation</li> </ul>
7.	Key activities carried out under the process	<ol style="list-style-type: none"> <li>1. System will capture all the indent wise requirement for posts</li> <li>2. The scores of all the candidates who have applied for the posts and their preference will be accumulated by the system</li> <li>3. All the reservation rules, age rules and other examination specific rules will be applied</li> <li>4. Final merit list for all the posts along with the waiting list will be generated by the system</li> <li>5. The final merit and waiting list will be communicated to the candidates and will also be published on PEB's portal</li> </ol>

### 7.2.8 Candidate onboarding

S. No.	Parameter	Description
1.	Process Objectives	To allow candidate on boarding using PEB portal. Use of facial recognition to confirm that the same candidate who registered and appeared in the examination is hired by the candidate, hence nullifying any probable chances of impersonation
2.	Process Owner	<ul style="list-style-type: none"> <li>• PEB</li> </ul>
3.	Stakeholders	<ul style="list-style-type: none"> <li>• Candidates</li> <li>• Departments</li> <li>• PEB</li> </ul>
4.	Process Input	<ul style="list-style-type: none"> <li>• Candidate's merit list and waiting list</li> </ul>
5.	Process Output	<ul style="list-style-type: none"> <li>• Hired candidate list</li> </ul>
6.	List of Documents used or generated during the process	<ul style="list-style-type: none"> <li>• NA</li> </ul>
7.	Key activities carried out under the process	<ol style="list-style-type: none"> <li>1. Merit and waiting list will be communicated to the department against their posts</li> <li>2. Candidates will be communicated date of onboarding by mail and through SMS</li> </ol>

S. No.	Parameter	Description
		3. On the day of onboarding, the candidate will be authenticated through facial recognition 4. All the documents will be verified and the verification result will be 5. Online Payment for application form submission by the candidate 6. Acknowledgment generation after receipt of payment/ submission of application form 7. Student's profile version control for log keeping purposes 8. Masked Candidate ID Creation for all further processing to enable security features

### 7.3 Functional Requirements Specifications for Web Portal

#### 7.3.1 Registration Module

Section / Required ID	Requirement Description
<b>Registration Module</b>	
REGM 001	The System Should support following registration sub modules: <ul style="list-style-type: none"> <li>• Candidate Registration</li> <li>• Department Registration</li> <li>• Exam Centre Registration</li> <li>• Vendor Registration</li> <li>• Invigilator Registration</li> <li>• Central Observer Registration</li> <li>• Subject Matter Experts Registration</li> <li>• PEB Official Registration</li> <li>• Grievance and RTI Applicant Registration</li> <li>• Volunteer Registration</li> </ul>
REGM 002	The login screen allows registered users to login to the application to access all the features that their account gives them access to
REGM 003	The System should have "Forgot Password?" option which takes them to a password recovery screen. If the user does not have an account then they click the register button and be taken to the registration screen
<b>Candidate Registration</b>	
REGM 005	The System should have the facility to register the candidate and create PEB id for prospective candidate
REGM 006	The System should have the facility for uploading of documents required with profile creation and record the date of submission
REGM 007	The candidate should have facility to submit the basic details (Name, Sex, Education, Caste etc.) for new registration.
REGM 008	Once the profile is submitted, the applicant cannot change / update the details without facial and AADHAR authentication
REGM 009	The System should have the facility of saving registration information and submission of form.
REGM 010	The System should have the facility to have Provision/ confirmed status of profile creation
REGM 011	The System should have the option of upload the pending documents to clear the provisional status)
REGM 012	The System should have the capability to generate unique PEB ID of each candidate after successful registration
REGM 013	The System should have the facility to capture the candidate photograph from the system enabled camera with proper resolution and background
REGM 014	The System should automatically check candidate's photograph validity on a periodic manner (After every 3 months candidate must upload new photograph in

Section / Required ID	Requirement Description
	their profile
REGM 015	The System should have the facility to cross check, match and compare the Name entered by candidate on registration form and Name fetched from the Aadhar database
REGM 016	The System should have the facility to give notifications to the candidates regarding expiration of photographs through candidate login, SMS and email.
REGM 017	Registration process should be able check and control timelines associated with new application process and able to generate alerts in form of emails / messages
REGM 018	The System should have the facility to fetch the eligible applications, where candidate can able to apply
REGM 019	The System should able to generate alerts in form of emails / messages /Login for candidates for applying new applications
REGM 020	System should have provision of fetching MP Online profile data by entering MP Online Profile id in registration form
REGM 021	System should have the capability to validate the entries against each fields of registration form And the System shall be able to read the text present in the screen, webpage, document or a text entered in a text box using TTS (Text-To-Speech) synthesizer. The text shall be converted into a speech by analyzing and processing the text using Natural Language Processing (NLP) and then using Digital Signal Processing (DSP) technology to convert this processed text into synthesized speech representation of the text for visually impaired people.
REGM 022	System should have the capability to show the type of error to the candidate in registration form
REGM 023	The System be integrated with MP Online legacy data with candidate registration submodule
REGM 024	The System should have the capability to fetch the MP online profile data in candidate registration form
REGM 025	The System should have the capability to validate the fetched data fields in candidate registration form in real time
REGM 026	The System should have the capability to map all education degrees/certificates in candidate registration database
REGM 027	In candidate registration form, maximum entries should be in drop box to avoid any typo errors
REGM 028	The System should have the capability to compare photographs with advanced technology
REGM 029	The System should have the capability for image processing
REGM 030	The System should have the capability to mature itself in due course of time by Machine Learning
REGM 031	The System should have the capability to recognize the photo through Artificial Intelligence
REGM 032	The system should have option to fetch all profile details during the new application process
REGM 033	The System should have option to fill the Application specific mandatory fields pertaining to the new application form
REGM 034	The System should have capability to map new entries in candidate registration database
REGM 035	The System should provide minimum steps for applying the new application based on the profile data.
REGM 036	The System should have the capability to control the profile version during updating
REGM 037	The System should have capability to maintain the validity of last updated profile during the new application examination life cycle
REGM 038	The System should have capability to generate candidate masked ID during each examination life cycle
REGM 039	The System should have capability to keep candidate masked ID unique through the exam cycle and should be flushed after the result declaration

<b>Section / Required ID</b>	<b>Requirement Description</b>
REGM 040	The System Should have option to print and extract the registration details
REGM 041	The system should have capability to provide alert to the candidates via SMS/email for successful registration
REGM 042	The System should have capability to provide alert to the candidates via SMS/email for successful application form submission
REGM 043	The System should have option to generate and print Acknowledgement of successful application
REGM 044	The System should have the facility for online payment with all possible payment gateways including MP online Kiosks
REGM 045	The System should have option to generate and print Acknowledgement of successful payment
REGM 046	The System shall have a facility to extract the text into an audio file like .mp3,*.wav etc. To build an efficient way in which blind people can also interact with the computer and utilize the facilities of the computer.
<b>Department Registration</b>	
REGM 046	The System should have option to take request from department to registration/activation
REGM 047	The System should have the facility to register the department and create department id for department
REGM 048	The department should have facility to submit the basic details (Name, Address, Nodal officers of department etc.) for new registration.
REGM 049	Once the department profile is submitted, the department cannot change / update the details without AADHAR e-sign authentication
REGM 050	The System should have the facility of saving registration information and submission of form.
REGM 051	The System should have the facility to have Provision/ confirmed status of departmental profile creation
REGM 052	The System should have the facility to provide link for registration based on department's request
REGM 053	The System should have the facility to provide one-time password for first login
REGM 054	The System should capability to change the password during first login
REGM 055	System should have the capability to validate the entries against each fields of registration form
REGM 056	System should have the capability to show the type of error to the department in registration form
REGM 057	In department registration form, maximum entries should be in drop box to avoid any typo errors
REGM 058	The System should have the capability to authenticate the department profile details through Aadhar e-Sign by minimum 3 departmental officers
REGM 059	The System should have the capability to control the profile version during updating
REGM 060	The System Should have option to print and extract the registration details
REGM 061	The System should map all existing departments of Government of Madhya Pradesh
REGM 062	The System Should have option to generate and print Acknowledgement of successful department registration
REGM 063	The System should have capability to provide alert to the department via SMS/email for successful registration
<b>Examination Centre Registration</b>	
REGM 064	The System should have option to take request from Examination Centre for registration
REGM 065	The System should have the facility to register the examination centre and create centre id for PEB.
REGM 066	The centre should have facility to submit the basic details (Name of centre, Address, email id, phone no, fax no etc.) for new registration.
REGM 067	Once the examination centre details are submitted, the department can change / update the details any time

<b>Section / Required ID</b>	<b>Requirement Description</b>
REGM 068	The System should have the facility of saving registration information and submission of form.
REGM 069	The System should have the facility to have Provision/ confirmed status of exam centre profile creation
REGM 070	The System should have the facility to provide link for registration based on exam centre's request
REGM 071	The System should have the facility to provide one-time password for first login
REGM 072	The System should capability to change the password during first login
REGM 073	System should have the capability to validate the entries against each fields of registration form
REGM 074	System should have the capability to show the type of error to the user in the registration form
REGM 075	In exam centre registration form, maximum entries should be in drop box to avoid any typo errors
REGM 076	The registration form should provide fields of all IT and Non- IT components required in exam centre with no. of units
REGM 077	The system should be able to capture the GIS details of examination centres
REGM 078	The system should have option to print and extract the registration details
REGM 079	The system should be able to capture the bank details for payment to exam centres
REGM 080	The System Should have option to generate and print Acknowledgement of successful exam centre registration
REGM 081	They System should have capability to provide alert to the centres via SMS/email for successful registration
<b>Vendor Registration</b>	
REGM 082	The System should have option to take request from vendor to register
REGM 083	The System should have the facility to register the vendor and create vendor id for PEB
REGM 084	The vendor should have facility to submit the basic details (Name, Address, GST no., company reg. of vendor etc.) for new registration.
REGM 085	Once the vendor profile is submitted, the vendor can change / update the details any time
REGM 086	The System should have the facility of saving registration information and submission of form
REGM 087	The System should have the facility to have Provision/ confirmed status of vendor profile creation
REGM 088	The System should have the facility to provide link for registration based on vendor's request
REGM 089	The System should have the facility to provide one-time password for first login
REGM 090	The System should capability to change the password during first login
REGM 091	System should have the capability to validate the entries against each fields of registration form
REGM 092	System should have the capability to show the type of error to the department in registration form
REGM 093	In vendor registration form, maximum entries should be in drop box to avoid any typo errors
REGM 094	The System should have the capability to control the profile version during updating
REGM 095	The System should have option to print and extract the registration details
REGM 096	The System should map all existing vendors of PEB
REGM 097	The System Should have option to generate and print Acknowledgement of successful vendor registration
REGM 098	The System should have capability to provide alert to the vendors via SMS/email for successful registration
<b>Invigilator / Central / Centre Observer / SME / PEB Official / RTI applicant / Volunteer Registration</b>	

Section / Required ID	Requirement Description
REGM 099	The System should have option to take request from user to register
REGM 0100	The System should have the facility to register the user and create unique id for PEB
REGM 0101	The department should have facility to submit the basic details (Name, Address, profession etc.) for new registration.
REGM 0102	Once the user profile is submitted, the user cannot change / update the details without AADHAR authentication
REGM 0103	The System should have the facility of saving registration information and submission of form.
REGM 0104	The System should have the facility to have Provision/ confirmed status of user profile creation
REGM 0105	The System should have the facility to provide link for registration based on user's request
REGM 0106	The System should have the facility to provide one-time password for first login
REGM 0107	The System should capability to change the password during first login
REGM 0108	System should have the capability to validate the entries against each fields of registration form
REGM 0109	System should have the capability to show the type of error to the user in registration form
REGM 0110	In department registration form, maximum entries should be in drop box to avoid any typo errors
REGM 0111	The System should have the capability to control the profile version during updating
REGM 0112	The System Should have option to print and extract the registration details
REGM 0113	The System Should have option to generate and print Acknowledgement of successful registration
REGM 0114	The system should have capability to provide alert to the department via SMS/email for successful registration
<b>General Requirements</b>	
REGM 0114	The system shall have ability to send email/SMS notifications to users whenever required.
REGM 0115	The System will require user interfaces for data migration, data backup/recovery.
REGM 0116	Following needs to be supported by the system a.) Data needs to be stored in relational database for quick queries and storage. b.) Passwords shall be sent and stored in encrypted form. c.) System shall be robust to handle all types of data. d.) System must be error/bug free at the time of production use. e.) The system will take care of removal of duplicate records and well standardized optimized database schema/design. f.) System will have data records import/export facility to and from spreadsheets. g.) System shall be able to store images/scanned docs into database in uniform size at acceptable resolution.

### 7.3.2 Indent Module

Section / Required ID	Requirement Description
<b>Indent Submission by Department</b>	
IM01	Indent filling by the department SPOC on an online portal
IM02	Three types of indent- Entrance, recruitment and eligibility
IM03	Types of posts appear in the drop down. Others filed also included in the drop down
IM04	Qualification required appears in the drop down. Others field also included in the drop down
IM05	Total number of posts to be filled- Numeric text box to be included



Section / Required ID	Requirement Description
IM06	SPOC details to be entered by the department
IM07	Most fields to be selected through drop downs instead of text box to prevent error in typing
IM08	Three level of rights given to each department
IM09	Aadhar e signing compulsory for submitting indent
IM10	Seat matrix to be filled by the department
IM11	Seat matrix checked by the system and autogenerated error messages thrown in case of erroneous entries
IM12	Indent editing possible only till the prospectus is not published online and advertisements are sent
IM13	Indent editing also requires compulsory Aadhar e signing by the department
IM14	SPOC
IM15	Facility for the department to print the submitted indent by them
IM15	Provision for review of the indent by PEB designated official
<b>Indent Status Tracking</b>	
IM16	Indent status can be tracked by selecting the indent number or indent description by the department SPOC
IM17	Following stages to be incorporated: i. Pending with the department ii. Pending with PEB iii. Exam scheduled against the selected indent iv. Exam conducted for the selected indent v. Merit list generated for final hiring vi. Candidates on boarded
<b>Indent Segregation &amp; Aggregation</b>	
IM18	Submitted Indent data stored on cloud
IM19	Indent segregated into- Entrance, recruitment or eligibility
IM20	Indent further segregated into group and sub group
IM21	Similar indent count maintained
IM22	Online notification to PEB officials for scheduling examination once 50 posts' vacancies of similar type are received
IM23	Mailer services to be initiated for point IM20
<b>Activity Chart Generation</b>	
IM23	Automatic activity chart generation on Starting examination event
IM24	Schedule for prospectus generation, form filling, form correction, exam scheduling, exam conduction, result generation and publication
IM25	Provision for review of the activity chart by PEB designated official
<b>Prospectus Generation</b>	
IM26	Automatic prospectus generation based on indent received for that exam
IM27	All examination rules included in the prospectus
IM28	Examination date, fees also included
IM29	All the minute detailing about the posts as specified in the indents also included
<b>Advertisement Generation</b>	
IM30	Prospectus' cover page to be used for advertisement generation
IM31	All details required about the dates for examination and application form design specified
IM32	All details required about the qualification and the job type specified
IM33	PEB officials given authority to change/ edit the advertisement
IM34	PEB officials given authority to publish the advertisement on various online sites
IM35	PEB officials given authority to take the print out of the advertisement for publishing it into the newspapers
<b>Application Form Design</b>	
IM36	Auto generation of application form based on the prospectus
IM37	Templates for application form kept ready to be used
IM38	Designated PEB official can use any template for the application form
IM39	Designated PEB officials given rights to make changes in the application form

Section / Required ID	Requirement Description
IM40	Auto trigger sent to the concerned authority in PEB for approving the application form

### 7.3.3 Exam Scheduling Module

Section / Required ID	Requirement Description
<b>Examination Centres Scheduling</b>	
ESM001	The System should have the capability to schedule the available centres to all the candidates appearing for the examination
ESM002	The System should have the capability to schedule the examination in all available centres for single shift or multiple shifts
ESM003	The System should have the capability to allocate centres as per the preferred cities opted by the candidate
ESM004	The System should have the capability to have minimum movements of candidates except Handicapped candidates and Women candidates
ESM005	The system should have capability to schedule examination centres based on their Latitude and Longitude and preferred locations of candidates
<b>Candidate Scheduling</b>	
ESM006	The System should have the capability to give preference to differently abled and women candidate in allocating exam city.
ESM007	The System should have the capability for City wise, paper wise and shift wise scheduling of candidates
ESM008	The System should have the capability to not to allow single candidate for more than one examination at the same time.
ESM009	The System should have the capability to achieve full capacity utilization of examination centres and ensure capacity of individual centres is not exceeded at any time throughout the examination session
ESM010	The System should have the capability to randomize all candidate data and will generate exam schedule for candidate
ESM011	The System should provide a mechanism for informing candidates regarding examination details rather than generating a Test Admit Card (TAC)
ESM012	The System should able to schedule the candidate based on their candidate PEB ID.
ESM013	The System should able to randomize candidate applications to avoid sequential allocation to sequential applications
ESM014	The System should map all application fields that need to be used for scheduling Exam such as Name, Father's Name, Date of Birth, and Gender, category (i.e. UR, SC, ST, and OBC etc.).
ESM015	The System should able to fetch the information from the candidate profiling module
ESM016	The System should have the capability to allocate exam centres to all handicapped candidates in their preferred city.
ESM017	The System should have the capability to allocate handicapped candidate, if a handicapped candidate is appearing in a multi shift exam same centre would be allocated to the candidate for other paper
ESM018	The system should have the capability to check all female candidates with their first city reference and allocate the exam centres to female candidate in their preferred city.
ESM019	The System should have the capability to allocate female candidates, if seats are not vacant for female candidate in their first preferred city than female candidates can also be moved on next preferred city.
ESM020	The System should have the capability to allocate male candidates with their first city preference or if slots are not available in firsts preferred city than candidate will move to another city



Section / Required ID	Requirement Description
ESM021	The System should have the capability to create a master file where shift and its details need to be configured.
ESM022	The System should provide option to schedule the exceptional candidates (legal, court cases candidates) manually
ESM023	The System should be able to apply business Intelligence for scheduling the candidates across the available centres
ESM024	The System should be able to use geo-analytics
ESM025	The System shall have the capability to encrypt and mask the candidate data during scheduling
<b>Invigilator Scheduling</b>	
ESM026	The System should have the capability to schedule invigilators from invigilator database to available centres
ESM027	The System should have the capability to schedule invigilators based on their preferences and geo locations automatically
ESM028	The System should have the capability to allocate multiple invigilators to the single examination centres.
ESM029	The System should have the capability to randomize the invigilators scheduling
ESM030	The System should have the capability to allocate alternate invigilator from invigilator database, in the absence of assigned invigilator

#### 7.3.4 Exam Conduction Module

Section / Required ID	Requirement Description
<b>Candidate Authentication</b>	
EC01	Candidate authentication at the entrance gate by their PEB ID or facial recognition system
EC02	Candidate validation if he is to appear in PEB exam in that centre in that shift
EC03	Alternative mechanism of Aadhar authentication in cases when facial recognition system does not work
<b>Invigilator &amp; Observer Authentication</b>	
EC04	Invigilator and Observers Authentication through Aadhar
<b>Candidate Examination Window</b>	
EC05	Once the Candidate reaches the system, he/ she is validated through facial recognition
EC06	Alternative mechanism of Aadhar authentication is cases when facial recognition system does not work

#### 7.3.5 Result Generation Module

Section / Required ID	Requirement Description
<b>Pulling of Results</b>	
RG01	Web service for automatic result pulling form exam engine vendor in masked form
RG02	Only result, student ID, post preference and other reservation related fields visible to PEB designated officials
RG03	Automatic mail sending after result pulling to PEB designated officials
RG04	Result data also saved in block chain
<b>Invigilator &amp; Observer Authentication</b>	
RG05	Result validated from block chain for merit list generation
RG06	Usage of artificial intelligence for merit list generation considering departments' seat matrices
RG07	Following points to be monitored for result generation related to reservation rules:

Section / Required ID	Requirement Description
	I. For UR category ii. For SC and ST category iii. For handicapped candidates iv. Women Candidates
RG08	Monitor age rules for result generation
RG09	Candidate preference data to be considered
RG10	Qualifying marks and internee merit to be considered
RG11	Final merit list and waiting list generated for all departments for all posts participating that examination
RG12	Result review by designated PEB official. Student identity kept hidden
<b>Department Login</b>	
RG13	Result data pushed to department's portal
RG14	Department SPOC login to view the merit list
RG15	In case of multiple stage examination, the first stage result pushed to department's portal
RG16	Set template for the department for entering (Y/ N) in case of final selection/ rejection of the candidate
RG17	Set template to the departments in case of multiple stage examination having physical examination for entering the results of physical round

### 7.3.6 Grievance Redressal & Helpdesk Module

Section / Required ID	Requirement Description
<b>Online Grievance Redressal</b>	
GRHM001	The system shall be designed to enable detailed and flexible handling of the system administration, maintenance supervision and performance measurements.
GRHM002	It shall be possible to store & retrieve a log of all commands and responses, along with identification of the user in each case
GRHM003	A user-friendly GUI (Graphical User Interface) based utility shall be provided for easy administration of the system.
GRHM004	The System must support online updating changes/modifications in application. It should be dynamically loaded/ assigned without switching off or disturbing the service
GRHM005	The system should have flexible & comprehensive reporting mechanism
GRHM006	Searching & extraction of information based on any criteria can be located and extracted using pre-defined or fresh queries.
GRHM007	Customizable reporting. Exporting of reports in various standard formats such as Excel, Daftest should be possible
GRHM008	The system should be able to provide a critical security against unauthorized access. All functions and data files should be protected.
GRHM009	The administrator should be able to control access by assigning security privileges to agents/users.
GRHM010	The security codes should grant or deny access according to assigned security levels
GRHM011	Before entering into system, each user/agent should enter a valid user ID/biometric/ proximity card and password. Once validated, the user/agent should be granted access to only those functions permitted within the prescribed security level
GRHM012	The systems shall provide for fool proof password management system clearly defining the users/agents and their functions & access rights such as super user, departmental staffs, project manager, operator, technical staff etc.
GRHM013	The system should support the setting of an automatic threshold (number of attempts within a specific time) for access to system management ports. If this

Section / Required ID	Requirement Description
	threshold is exceeded the system must automatically disable the login.
GRHM014	The system should keep all the Audit log of user/agent actions and should present reports of the changes made by individual users.
GRHM015	Login schemes of agent and users (type of user and privileges) will be finalized with the approval of DPGR. All logins & logouts should be monitored & reported. Agents should be able to log on from any desk within the back office centre.
GRHM016	The System should be able to integrate with CM helpline database for seamless redressal of grievances raised through CM helpline
GRHM017	The application should support a common dashboard where officers can be login and check the status of the grievances which are addressed within their jurisdiction
GRHM018	The Consolidated Role Based Dashboard should be developed and should also be integrated with the dashboard of the CM Helpline
<b>Helpdesk Solution</b>	
GRHM019	End User ability to report an issue via – <ul style="list-style-type: none"> <li>o Telephone with agent</li> <li>o Web portal</li> <li>o Mobile app</li> <li>o email</li> </ul>
GRHM020	Provides a role based security scheme for the users and admins
GRHM021	Ability to configure outbound messaging to end user(s) via <ul style="list-style-type: none"> <li>o email and/or</li> <li>o SMS</li> </ul>
GRHM022	Ability to apply PEC brand to user facing screens
GRHM023	Ticketing – each issue logged with a unique sequential ID for quick retrieval and reporting
GRHM024	Configurable ticket template to capture specific information
GRHM025	Configurable ticket priority schemes (based on product and/or users)
GRHM026	Ability to create advance dated tickets for forward scheduling events/services
GRHM027	No user deletion of tickets
GRHM028	Ability for agent and end user to open, cancel, and close tickets
GRHM029	Ability for agents to re-open previously closed tickets
GRHM030	Configurable workflows and workgroups for ticket handling
GRHM031	Ability to recognize and offer grouping of like events/issues to correctly size the problem
GRHM032	Ability to capture user system screenshots within the ticket
GRHM033	Contains and utilizes a learning knowledge base
GRHM034	FAQs available for end users
GRHM035	Ability to interface/integrate with other systems (telephone, Project, ERP development, Help Star)
GRHM036	Utilize Active Directory for single sign on functionality
GRHM037	Configurable Service Level Alerts
GRHM038	Interacts well with Agile project methodology
GRHM039	No limit to ticket attachments
GRHM040	Ability to manage queue views for resource back-ups
GRHM041	Onboarding and Offboarding workflows
GRHM042	Provide avenues for pre-configured and custom reporting
GRHM043	Configurable troubleshooting scripting for agents
GRHM044	Asset Management
GRHM045	Product Life Cycle Management
GRHM046	Ability to route tickets based on managed resource skills and/or authorizations.
GRHM047	Widget Support – EU ability to search knowledge base, Live Chat, Contact Form
GRHM048	Supports 'gamification'
GRHM049	Installation/Implementation
GRHM050	User/Administration training
GRHM051	Ability to remote connect (within the application) to end user for troubleshooting

### 7.3.7 Analytical Dashboards

Section / Required ID	Requirement Description
<b>Candidate related Dashboards</b>	
<b>Candidate's View</b>	
AD01	Dashboards based on their previous PEB exam's performance Suggestions about the types of jobs best suited for them based on their profile using artificial intelligence
<b>PEB's View</b>	
AD02	Total candidates in a year for a specific post
AD03	Total candidates in a year from a geography
AD04	Total candidates from General/ Reserved categories
AD05	Total candidates of a specific qualification
AD06	Probability of number of candidates registering in the upcoming year
<b>Department related Dashboards</b>	
<b>Department's View</b>	
AD07	Total posts of one kind submitted by the department
AD08	Total hiring done from PEB's platform in a year/ past year
AD09	Total indents pending at various levels
<b>PEB's View</b>	
AD10	Total department participating in an examination
AD11	Past years analysis for the number of posts asked by various departments
<b>Vendor related Dashboards</b>	
<b>Vendor's View</b>	
AD12	Vendor score
AD13	Vendor payment analysis
AD14	Past years vendor performance
<b>PEB's View</b>	
AD15	Overall vendors score
AD16	Overall payment details for all vendors
AD17	Vendor performance monitoring dashboard
<b>Examination related Dashboards</b>	
<b>PEB's View</b>	
AD18	Difficulty wise question analysis
AD19	Chances of impersonation from one city
AD20	Chances of legal cases bases on past data
<b>Financial Dashboards</b>	
<b>PEB's View</b>	
AD21	Total expenditure on one examination
AD22	Total expenditure breakup
AD23	Vendor payment
AD24	Status of payments to observers/ invigilators

## 7.4 PEB's Web Portal Development

### 7.4.1 General Requirements

- 1) Design and development of the web portal according to the Guidelines for Indian Government Websites (GIGW)

- 2) The portal will provide information about PEB's examinations and web links to these. Content architecture of the portal shall be in accordance with GIGW
- 3) All information and services being published on portal must mandatory have metadata as specified in GIGW
- 4) The portal should primarily be available for display in both English & Hindi.
- 5) The portal should be available 24 hours a day, 7 days a week, and accessible from anywhere in the world via the internet. While the technology shall be available round the clock, functional support might be available only during the normal working day i.e. PEB's working hours.
- 6) The portal can be accessed via a variety of established channels, including individual users, through PCs, smartphones etc.
- 7) The portal shall also host all forms for various examinations accessible to students and departments.
- 8) A user should be able to fill the form electronically through internet and save/submit his/her application electronically. There should be an option to electronically sign the application via Aadhaar e-sign.
- 9) A user should be able to track the status of his/her application / request at any point in time.
- 10) Portal development shall include development of a complete application for electronic receipt of forms by the destination office, MIS, printing, status reporting, query service and payment handling.
- 11) Portal shall also contain video tutorials for helping internal/external stakeholders in navigating through the web portal & accessing/interacting with all applications
- 12) Operation and Maintenance of the Portal including bug-fixes and problems, should start from the date of signing the contract and extend till 5 years from the date of portal go-live
- 13) The bespoke software that is implemented should follow the guidelines set by STQC

#### **7.4.2 Content Management System**

- 1) The CMS should be capable of uploading pictures, videos, brochures, information dockets and other material for generating interest.
- 2) The web portal must be functional on web browsers including but not limited to Internet Explorer, Google Chrome, Mozilla Firefox, Opera etc. (on desktops, laptops, mobiles & other handheld devices) without being technology or platform dependent.
- 3) If during content page creation, the content creator wants to embed the same content in third party website/portal, the proposed CMS should support this functionality
- 4) The CMS must have capability to cache the whole page to meet high traffic requirements.

### **7.4.3 Mobility Requirements**

PEB wants to make key business processes available to its stakeholders via a one stop mobile app for smartphones and tablets. The mobile application should be supported on Android and iOS devices.

- 1) Functional Requirements
  - i) New user (for e.g. departments, candidates, vendors etc.) registration (includes payment gateway integration)
  - ii) Password reset (includes approval and payment gateway integration)
  - iii) Application status check across various business processes.
  - iv) Push notifications (broadcast messages to stakeholders)
  - v) The user should be able to capture & attach attachments from device to the application record including photos.
  - vi) User can be asked for e-signature or Aadhar linked digital signatures on forms within the mobile application.
  - vii) User should be able to create grievances via the mobile application and should be able to check status of the request.
- 2) Technical Requirements
  - i) The SI should make use of API integration services to connect the mobile application to backend systems.
  - ii) The mobile application should authorize and authenticate the user via Single Sign On and two- factor authentication.
- 3) General Requirements
  - i) The SI should provide support and maintenance of the solution deployed at PEB for the full period of the contract.

### **7.4.4 Centralized Application (Web Portal)**

The Centralized Application to serve as the backend application for all the stakeholders to receive and process the information / applications received from the front end. The centralized application shall provide the following functionality:-

- 1) Centralized Data Repository
  - i) The submitted data along with the required attachments are stored in designated specific data stores.
  - ii) The internal stakeholders at PEB can access the central application by providing their access credentials.

- iii) The compartmentalized central database will provide for the required role based access control mechanisms to ensure that departmental data remains secure
  - iv) The platform should provide capability of creating clones / multiple copies of already configured application and allow making changes to the copied version to achieve multiple variants of the applications without redevelopment from scratch.
- 2) User Authentication & Role based access control
- i) The portal should have role based authentication for accessing various functionalities of different modules with encrypted passwords. Access Rights can be given to Individual Users or Groups.
  - ii) The portal should have the flexibility to define distinct role and designation for the users.
  - iii) The portal should have the capability for providing user rights to various forms to create new record, view existing record or edit existing record.
  - iv) An audit trail of changes to data in the software should be maintained to identify the users responsible for the modification. There should be a facility to create reports on audit logs
  - v) The portal should be capable of adding more fields to the data input screens for capturing additional business specific information.
  - vi) A user will be able to fill the form electronically through internet services and submit his/her queries electronically. The user of the system will be able to track the status of application / inquiry at any point of time.
  - vii) Provision for PEB approvers/reviewers to sign system generated letters issued to candidates, departments and other stakeholders using Aadhaar based e-sign mechanism.
- 3) Workflow Services
- i) The application should provide configurable assignment engine which should be configurable at administrative level, without any need of core IT skills.
  - ii) The application should support visual workflow definition for business process automation instead of writing script / code
  - iii) The system should have a robust rule engine through which it should be possible to configure or modify complex rules in a short period of time, without any need of coding or changes to code. The rule definitions should be done using pseudo-english and using a user-friendly interface instead of XML.
  - iv) Rules repository should reside centrally and should be accessible using web services and APIs by any part of application, e.g. the Web Portal, mobile apps etc. One should



be able to test the rules on directly generated user interface and if needed user should be able to download the outcome in a pdf.

- v) SI shall be responsible for updating any changes in the workflow based on PEB's notifications.
  - vi) On submission of the form appropriate message should be generated. (Reason for rejection in case of failure and acknowledgement of form submission with unique acknowledgement number in case of successful submission)
- 4) Other requirements
- i) All applications should be homogeneous with respect to keyboard use, screen layout and menu operations with Graphic User Interface (GUI) support
  - ii) The system should have following functionalities: SMS gateway integration, email integration, mobile device compatibility (Responsive & Adaptive CMS), dashboards for Senior Management and Regular MIS Reports.
  - iii) The portal should have capability to download information in specified format.
  - iv) The portal should have flexibility to add the links for other websites/portals.
  - v) Application should provide capability of tracking application usage by users
  - vi) The application should provide analytical reporting capabilities for PEB's key users
  - vii) The application should provide 360 degree view & dashboard for viewing key data at a glance

#### **7.4.5 MIS Reporting**

- 1) The MIS reporting system should provide reports and slicing and dicing of information related to candidates, departments, test centres, examinations etc.
- 2) It should provide quick graphical outputs based on the ad hoc queries raised.
- 3) Reporting of details related to the applications received and processed should be generated from the Central Application.
- 4) Scheduling of important reports should be possible.
- 5) System should have feature of user initiated ad hoc (on demand) reports
- 6) System should allow the internal users to enter query parameters, which are then used to select and retrieve only the data that meet the specified criteria
- 7) System should have provision to print and export the report generated in the pre-defined file formats (e.g. spreadsheets, word processing, etc. as per desktop office solution)
- 8) System should provide 360 degree dashboard for key data points related to all stakeholders.



#### 7.4.6 Application Architecture

Requirement ID	Nature of Requirement	Application Architecture Requirements Description
APP.REQ.01	Application Architecture Requirement	System shall be suite of independently deployable, small, modular services in which each service runs a unique process and communicates through a well-defined, lightweight mechanism (REST API) to serve a business goal.
APP.REQ.02	Application Architecture Requirement	System shall provide interfaces and service to integrate harmoniously with external entities like UIDAI, Document Management System etc. implemented at PEB.
APP.REQ.03	Application Architecture Requirement	System shall be capable of integrating with all communication channels.
APP.REQ.04	Application Architecture Requirement	System shall provide a browser based user interface supported by standard web browsers and shall not require installation of any specific client side software
APP.REQ.05	Application Architecture Requirement	In order to ensure good application performance and efficient usage of network bandwidth, the system shall utilize client side scripting technologies effectively. Client side scripting will reduce the transactions with the main server and thus reduce the bandwidth requirements.
APP.REQ.06	Application Architecture Requirement	The Technology platform should support Interoperability & based on Open Standards. It should be able to inter-operate with other heterogeneous platforms.
APP.REQ.07	Application Architecture Requirement	System shall be developed using industry-recognized standard design methodologies
APP.REQ.08	Application Architecture Requirement	System shall be designed so that business rules control access to data. Data is created and used by business processes. In computer applications, data must be created, used by, and managed by the application component that automates the business process.
APP.REQ.09	Application Architecture Requirement	Centralized data should be used wherever possible to assure data accuracy and simplify data management.
APP.REQ.10	Application Architecture Requirement	System shall adopt coding standards, in all languages, on all platforms. Coding standards make debugging and maintenance easier.

Requirement ID	Nature of Requirement	Application Architecture Requirements Description
APP.REQ.11	Application Architecture Requirement	The system must be capable of supporting a minimum of <ul style="list-style-type: none"> <li>• 200 concurrent internal users</li> <li>• 1500 concurrent external users at any time</li> </ul>
APP.REQ.12	Application Architecture Requirement	The system must be capable of supporting a multi-locations and approximately 500 users projected for next 5 years on Intranet. The web users will be around 15 lacs in next 5 years. After implementation of the project, hardware & software requirements for future expansion & scalability will be carried out by PEB after due assessment.
APP.REQ.13	Application Architecture Requirement	The application should provide feature of validating the new data with previous years' data from 2010 onwards.
APP.REQ.14	Application Architecture Requirement	The system should prompt the user before idle session timeout is triggered. The user should be able to renew the same session without getting logged out.
APP.REQ.15	Application Architecture Requirement	The system should have feature of implicit auto save and also periodic manual save feature.
APP.REQ.16	Application Architecture Requirement	The system should prompt the user to authorize the data submitted into the system via his digital signature linked with his/her Aadhaar number.
APP.REQ.17	Application Architecture Requirement	The new system should have offline bulk data import feature and should also provide state of art user interface. Data Validations should also work in the offline mode eg. Bulk Update or Insert of Candidate information.
APP.REQ.18	Application Architecture Requirement	Provision to send a form as a link in email to end users/stakeholders for collecting the data
APP.REQ.19	Application Architecture Requirement	The System shall support various image files and PDF formats to upload/removed scanned documents along/attached with the online form. An indicative list of supporting image files could be JPG, GIF, BMP, PNG etc.

#### 7.4.7 Data Architecture

Requirement ID	Nature of Requirement	Data Architecture Requirements Description
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Requirement ID	Nature of Requirement	Data Architecture Requirements Description
DAT.REQ.01	Data Architecture Requirements	System shall be able to archive transactional database records to prevent long term speed concerns.
DAT.REQ.02	Data Architecture Requirements	A separate secured database backup, which mirrors the operational database, shall be created to ensure data security in case of any data corruption.
DAT.REQ.03	Data Architecture Requirements	System shall feature functionality for efficient retrieval of archived data. The duration of archival and purging shall be specified by PEB.
DAT.REQ.04	Data Architecture Requirements	System shall design business rules for controlled access to data.
DAT.REQ.05	Data Architecture Requirements	All data shall be maintained in a structured format in a Relational Database Management Systems (RDBMS) that clearly establishes the business entities and their linkages and dependencies with the rest. For Data Security, Sensitive & Confidential Data should be Securely Encrypted with Hierarchical Access Authority & Role Based Access Control (RBAC). Additionally, the selected SI will comply with all Privacy Guidelines issued by Govt. of India from time to time.
DAT.REQ.06	Data Architecture Requirements	The data exchange standard shall adopt a mutually agreeable language and protocol for data exchange between the information systems of the participating entities
DAT.REQ.07	Data Architecture Requirements	The data exchange formats shall comprehensively address all possible transactions and capture all transactional related information items.
DAT.REQ.08	Data Architecture Requirements	Data exchange formats shall in human-readable format while addressing the constraints of machine interface required
DAT.REQ.09	Data Architecture Requirements	Data exchange formats shall address the requirements of error check, data validation and audit related requirements.  Vision of PEB is having an integrated automated system. By adopting proper data validation mechanism, manual efforts can be minimized.
DAT.REQ.10	Data Architecture Requirements	The system should support Interoperability & based on Open Standards

### 7.4.8 Security Architecture

Requirement ID	Nature of Requirement	Security Architecture Requirement Description
Application based security		
SEC.REQ.01	Security Architecture Requirement	The system shall maintain accurate date and time.
SEC.REQ.02	Security Architecture Requirement	System shall provide different and unique login IDs for all the users of the system and track all activities of all the logins and maintain audit trails of any changes made to the extent PEB deems necessary.
SEC.REQ.03	Security Architecture Requirement	The system will be able to grant specific access rights to each login or group of logins, as per the business requirement and policy of the PEB. The application software shall be flexible enough to grant access to the users through a web enabled GUI.
SEC.REQ.04	Security Architecture Requirement	The application should have a centralized security management foundation that would enable delivery of application and data to internal and external users in a secure manner.
SEC.REQ.05	Security Architecture Requirement	The application should avoid sending usernames and passwords unencrypted over the network
SEC.REQ.06	Security Architecture Requirement	Adopt 2-factor authentication using captcha / OTP / Aadhaar e-sign and login id and password for external users.
End-point security		
SEC.REQ.07	Security Architecture Requirement	<p>The system shall identify and authenticate the user before providing him/her the access to IT systems.</p> <p>Identification is the process of distinguishing one user from all others. Identification techniques provide a means of gaining entry to the PEB resources, such as workstations, networks, and applications. Identification is closely linked to authentication. The most commonly used form of identification is the user ID. Authentication is the process of verifying the identity of a user. Authentication answers the question: "Are you who you say you are?" Typically the method used to authenticate a user is using log-in credentials. Mechanisms like use of SSL, 2 factor authentication, digital certificates, challenge and responses, shall be evaluated.</p>
SEC.REQ.08	Security Architecture Requirement	<p>The system shall provide a secure access to PEB employees to view his/her information</p> <p>Online access shall be secured addressing the aspects</p>

Requirement ID	Nature of Requirement	Security Architecture Requirement Description
		of confidentiality, integrity and availability. Mechanisms like use of SSL 2 factor authentication, digital certificates, challenge and responses, etc shall be evaluated
SEC.REQ.09	Security Architecture Requirement	User credentials shall be stored in an encrypted format
SEC.REQ.10	Security Architecture Requirement	User credentials for external and internal users shall be stored in separate repositories
SEC.REQ.11	Security Architecture Requirement	Ensure virus prevention with an automated update service on all critical systems for centrally managing the virus prevention
SEC.REQ.12	Security Architecture Requirement	Perform risk assessment to identify the most important computers to protect. Computers that provide critical IT functions such as email, administrative systems
SEC.REQ.13	Security Architecture Requirement	Using a centralized system logging service to look at patterns of unusual activity
SEC.REQ.14	Security Architecture Requirement	Using network scanning utility to create a profile for each computer identified in the previous step and <ol style="list-style-type: none"> <li>1. Disabling the network services that are not needed</li> <li>2. Running a host-based firewall to block unwanted network traffic</li> </ol>
SEC.REQ.15	Security Architecture Requirement	Using a central authentication service instead of host based password files
SEC.REQ.16	Security Architecture Requirement	Using host integrity monitoring checks to protect the integrity of critical files and programs
Information security		
SEC.REQ.17	Security Architecture Requirement	Maintaining an inventory of all software assets
SEC.REQ.18	Security Architecture Requirement	Information in the system to be classified as Public and Confidential as per the IT Act 2000 & Aadhaar Act 2016
SEC.REQ.19	Security Architecture Requirement	Access to restricted part of the application will be provided only after approval from concerned head such as Director, PEB

#### 7.4.9 Other Technical Requirements

Requirement ID	Nature of Requirement	Other Architecture Requirement Description
OTH.REQ.01	Other Technical Requirements	All the licenses proposed shall be preferably perpetual software licenses along with maintenance, upgrades and updates for the duration of the contract. The software licenses shall not be restricted based on location/ hardware and PEB shall have the flexibility to use the software licenses for other requirements if required.
OTH.REQ.02	Other Technical Requirements	24 x 7 comprehensive support arrangement for a period of 5 years with all the OEM for respective components shall be provided. It includes the maintenance arrangement of software components.
OTH.REQ.03	Other Technical Requirements	No component or sub-component that is likely to be declared end-of-sale within 24 months of award of contract shall be suggested
OTH.REQ.04	Other Technical Requirements	No component or sub-component that is likely to be declared end-of-support within the duration of contract shall be suggested
OTH.REQ.05	Other Technical Requirements	The latest technology needs to be considered in proposing ICT infrastructure including but not limited to: virtualization, network convergence to achieve the optimum balance between cost and performance.

#### 7.4.10 Information Security Infrastructure

- 1) SI should design the security infrastructure and accessories as required for the proposed solutions that would be deployed at PEB
- 2) The following provides guidelines principles to assist SI to design the security requirements:
  - a) The external users will be accessing the e-Services and related application features. The traffic of external users will be routed through security devices such as Firewalls and IPS. The users will be authenticated through log-in credentials and digital certificates, if available,
  - b) PEB users on Intranet will be routed to the core business applications through Application Proxy Firewall and authenticated using their log-in credentials
- 3) SI should include all the components that are required to make the proposed solution complete
- 4) Procurement of digital certificates will be done by PEB, as & when required

- 5) SI will be responsible for drafting the information security policies & procedures for PEB & will adhere to the same during the term of the contract

#### **7.4.11 SMS & Mail Service**

- 1) PEB would send intimation to the Candidate / User Department through SMS and email to the registered mobile number and email id
- 2) Illustratively following intimations would be sent through SMS as well as e-Mail:
  - a) Registration / Amendment / Cancellation confirmation
  - b) Confirmation of any payment made
  - c) Any news / update
- 3) Candidate / User Department should also be able to retrieve the information from email and/or SMS Gateway.
- 4) Log of all the SMS and emails sent to the Candidate / User Department should be maintained by the system. Also, the system should be able to track the SMS / e-mail delivery, read, opened bounce back status. The system should be able to send the right format of messages according to the target devices e.g smartphones, feature phone etc.
- 5) SI should provide capabilities to send the SMS to the SMS Gateway
- 6) If APIs are being used, it should be tested and secured against vulnerabilities and security flaws. The APIs should be compliant with OWASP guidelines
- 7) SI should provide secured Bulk Email / SMS service. More than one lakh emails / sms are expected to be sent per month on an average. Emails can also have attachment. Attachment size on an average is 1 MB, not exceeding 5 MB.
- 8) Integration required for Bulk Email service / SMS service should be done by SI. SI is also responsible for supporting the day to day Bulk email / SMS sending activities.
- 9) Payments related to the Bulk Email service / Bulk SMS service will be borne by PEB.

#### **7.4.12 Payment Gateway**

- 1) SI is expected to enable Payment Gateway including a secure site page using industry-standard encryption technologies like Secure Socket Layers (SSL) to handle the backend communications and transactions, contacting the bank and reporting back on the results
- 2) Payment gateway would enable payment receipts for various payments like registration fees, application fees etc. The payment gateway would enable the collection these receipts and credit the same to PEB's bank account
- 3) All such receipts shall be credited to PEB's account not later than 2 days. The details of PEB's account shall be shared with the successful SI at the time of integration

- 4) Payment gateway should also provide facility to refund the payments to the Candidate / User Department's bank account as per PEB's instructions
- 5) Payment gateway provider should be able to provide PEB an MIS to facilitate reconciliation. A user friendly console has to be shared. The MIS should clearly state:
  - a) Name of Candidate / User Department from where money is receive
  - b) Money received towards (registration fees, application fees etc)
  - c) Amount received and date
  - d) Other information as communicated by PEB
- 6) All necessary costs for integrating & operating the payment gateway would be borne by PEB

#### **7.4.13 Handholding Post Implementation**

SI is expected to assist in conducting the operational activities and provide hand-holding resources for PEB personnel at PEB's Head Office for a period of 5 years after acceptance of system. Some of the indicative tasks identified are given below:

- 1) Sensitization towards the new system, the initiative underway, roadmap for the project, the impact and benefits envisaged etc.
- 2) This training is suggested for all functionaries of PEB who have a major role to play. This training would cover:
  - a) User training for the newly developed system for the key users in PEB Head office
  - b) User training for redesigned processes, if any
  - c) Hands on training on usage of different modules/ functions of the system
- 2) Perform operational tasks such as update of information, reporting, generating MIS, functional and IT related issue resolution, day to day query resolution by liaison with vendors etc.
- 3) Overall guidance and continuous training on use of the application including software and hardware such as handheld devices, facial recognition systems, etc
- 4) SI should provide handholding personnel at the office location as described below. However, SI should note that the resource requirement also depends on PEB's need and is thus not binding on PEB. For the purpose of bidding, the SI shall quote for all the required resources. Purchaser may later request for a reduction and increase in the number of resources based on its requirement based on the rate provided by the SI and the contract gets revised accordingly.

	<b>Head Office</b>
Number of offices	1
Number of handholding staff required (including	3



helpdesk personnel)	
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#### 7.4.14 Data Migration

Based on the proposed approach, data needs to be migrated from the existing system. The following procedure can be used for the same:

- 1) Required reports from the legacy systems need to be identified for finalizing the data sources which are required to be migrated. Similarly, from the new application, corresponding reports need to be generated and accordingly mirror tables are to be prepared.
- 2) Based on the identified data sources and the mirror table, the data mapping between source and target needs to be defined.
- 3) SI is expected to follow standard data migration principles such as data assessment, data cleansing, data enrichment, Test - Extract and Load, Final – Extract and Load and finally migration validation in order to migrate the data from the existing application database to the newer platform / application.
- 4) The source data needs to be cleansed and enriched by clean-up business rules and data script needs to be prepared for extracting data from the legacy system and uploading the same into the new system.
- 5) Extract, Transform, and Load ('ETL') tools for more robust transformation capabilities or migration utilities offered by the application vendor to load the new system's target schemas also can be used.
- 6) Testing of the data extraction process is an important aspect and shall be planned thoroughly. Call over reports, which are acceptance test criteria, need to be prepared for checking the integrity of the migrated data.
- 7) SI would be responsible for ensuring the accuracy and completeness of the migrated data and PEB will reserve the right to verify the accuracy and completeness of the migrated data / have it verified by its nominated agencies.
- 8) Migration of all data should be completed by the time the system is ready for 'Go-Live'

#### 7.4.15 Helpdesk

A helpdesk is envisaged to be provided for the resolution of technical & operational queries by internal and/or external users. Typical helpdesk activities shall include:

- 1) Deployment of sufficient manpower (3 personnel) to attend the helpdesk requests for extending technical support to end users
- 2) The helpdesk team should consist of at least 4 personnel & should be based at PEB HQ. SI should provide additional manpower, if PEB requires. The SI should provide the required additional helpdesk manpower as per the agreed rates.

- 3) Implementation & deployment of web-based tool for multi-channel helpdesk
- 4) Operational window for helpdesk – 7 days X 12 hours starting at 8 AM
- 5) Provide Help Desk facility for agreed SLAs for reporting technical incidents / issues / problems with the system.
- 6) Helpdesk facility shall provide internal / external users an option to raise tickets for incident reporting
- 7) Helpdesk facility shall also be provided through a dedicated phone number and the required infrastructure for the same will be provided by PEB.
- 8) The Help desk shall log user calls / tickets related to system and assign a call / incident ID number. Severity shall be assigned to each call as per the SLAs.
  - a) Track each call / ticket to resolution.
  - b) Escalate the calls / tickets, to the appropriate levels, if necessary as per the escalation matrix agreed upon and developed by SI and PEB.
  - c) Coordinate with respective OEM or department for closure of calls / tickets.
  - d) Analyze the incident / call statistics and provide monthly reports including but not limited to:
    - i) Type of incidents / calls logged
    - ii) Incidents / calls resolved
    - iii) Incidents / calls open
- 9) Update the frequently asked questions on PEB website to assist end users in resolving basic issues themselves

#### **7.4.16 Website Update & Maintenance**

- 1) The SI shall be responsible of maintaining the current PEB website which handles both information and transactional services of the department. Currently the website is using ASP and MSSQL server and is hosted on NIC cloud.
- 2) The website will have multi-lingual support (Presently in English and Hindi but in future in other Indian Languages). Efforts required for making the website available in languages, other than Hindi or English, would be considered separately and can be estimated in future.
- 3) Language translation of website content, will be the responsibility of PEB.
- 4) The website shall host electronics forms of department services provided by PEB stakeholders.
- 5) As part of website Support and Maintenance, the SI should be responsible for making minor changes/updates to the website, as and when requested by PEB.

#### **7.4.17 Third Party Interfacing**

Interfacing with other e-Governance initiatives in the Center and State is essential to optimize the overall ICT system across PEB.

- 1) The system will integrate with following external interfaces to provide effective service to the citizens
  - a) Unique Identification Authority of India (UIDAI)
  - b) Document Management System
  - c) Content Management System
- 2) Integration with external interfaces should be in encrypted form. Only decrypted and super user should have access to highly confidential information.
- 3) PEB will facilitate the SI in accessing the above external interfaces
- 4) All transaction charges (whether one-time or recurring) payable to owner entity/representative while interfacing with external interfaces would be borne by PEB

#### **7.4.18 Project Planning & Monitoring**

- 1) Finalize the Project Charter in order to determine and agree on the project expectations, ground rules, work plan, communication matrix, timelines, Quality Plan, Configuration Management Plan etc.
- 2) Project Quality Plan should document specific process elements and the quality actions that the project intends to implement. This should include the derivation of quality goals, standards followed, schedule of quality assurance activities in the project, defect control, correction and preventive methodology, handling process deviations.
- 3) Configuration Management Plan should contain procedures to be implemented for managing the configuration of the software solution to be produced by the project. In this plan, SI should identify configuration items, responsibilities of configuration controller, access restrictions, directory structure needed for configuration management, procedure for change control, method of tracking the status of configuration items, backup procedure, configuration audits, release management, archival procedure, procedure for version / revision numbering.
- 4) SI's Project Manager should prepare a detailed project plan (as part of the Project Charter) clearly specifying the tasks, the dependency among the tasks, the duration to perform the tasks, the resources allocated to perform the tasks, the scheduled start and finish dates for the task. This project plan should also clearly mention the various project milestones and project deliverable schedules. The Project Manager should also prepare a detailed register of project related risks with details such as Probability of Occurrence of the Risk Factor, Severity of the Risk Factor, Risk Rating, Risk mitigation plan, etc.

- 5) The detailed project plan should be internally reviewed for completeness and correctness by SI and subsequently delivered to PEB for its review and acceptance. The mutually agreed Project Plan will form the basis for regular project monitoring.
- 6) SI should revise the project plan to incorporate changes due to requirement changes, delay in approvals, etc., if any, and submit the revised project plan to PEB
- 7) SI should hold fortnightly review meetings with PEB providing detailed report on the progress of the project (Project Progress Report) clearly highlighting the activities completed in the reporting period, activities planned for the next reporting period, deviations from the planned dates, issues / concerns affecting the project progress, impact on the overall project timelines, project related risks with their mitigation plans.
- 8) SI should monitor the quality of the solution being developed in line with the project quality plan. SI's Project Manager should periodically review the performance of the project against defined quality goals and take necessary actions for any deviations.
- 9) SI should ensure proper configuration management functions are being performed as per the configuration management plan. SI's Project Manager should review the activities periodically.
- 10) SI's independent quality assurance team should conduct regular reviews / audits of the project and ensure that the project adheres to the project plan documents.

#### **7.4.19 Requirement Validation**

- 1) SI should understand the business processes and other related documents and seek clarifications from PEB, if any. SI should then take a hand over of these documents from PEB.
- 2) If found necessary to modify the designed processes and other documents for successful implementation, the same should be discussed and the relevant documents should be modified as and when required during the project implementation

#### **7.4.20 Software Development & Testing**

- 1) SI should carry out development and customization of all the proposed solutions from its own premises using its own infrastructure including but not limited to servers, storage, networking, software licenses, automated testing tools etc.
- 2) SI should implement quality standards like CMMi Level 3 / CMMi Level 5 for the entire life cycle of the project. The quality process should include adequate processes for coding, change management, defect tracking, testing, review and other software development life-cycle processes.
- 3) SI should ensure that the solutions proposed be integrated based on open standards, ensure loose coupling and interoperability, preferably supporting SOA and Web Services principles.

- 4) As part of SDLC, SI should set up only the Staging Environment at the Purchaser's location.
- 5) SI should carry out the software development / customization using a robust Application Development Framework / tool with the following features:
  - a) Should offer consistent and end-to-end visual development experience.
  - b) Should provide wizards and tools to simplify development, enable development & maintenance easier and faster and promote code reuse.
  - c) Should have features of drag and drop ease of use to enhance productivity of the development team and thereby reduce the development life cycle time.
  - d) Should ensure overall quality of the application being developed & maintained.
  - e) Should ensure consistent coding practices. Preferably have an auditing feature to ensure adherence to rules and metrics that define programming standards. (Promote readable and maintainable code)
  - f) Should be compatible with the target production environment.
  - g) Should support rapid application development features such as Visual editor for HTML, XML, JSP, ASP, etc. pages to design application' web pages interactively
  - h) Help developers see all of their application sources in a uniform package organization and simplify the view of components to improve usability for large application projects
  - i) Should integrate with popular source control solutions such as Visual SourceSafe, PVCS, etc.
  - j) Should support Web 2.0, SOA, Web Services
- 6) SI should independently identify the development methodology along with specifying the applications that would be based on business process management ('BPM') platform and the applications that would be based on the traditional software development methodologies.
- 7) All deliverables whether draft or final should be delivered after due quality verification. In case any of the deliverables is found to be deficient in its contents, PEB should have the right to summarily reject the deliverable and ask for the second draft of the same deliverable and the second draft document should be treated as a fresh delivery for approval.
- 8) Software Requirement Analysis and Specification
  - a) Software Requirement Analysis and specification is a key stage in the project and recognizing its pivotal role in the subsequent phases, sufficient time will be provided to the SI to capture the requirements accurately.
  - b) SI should understand the processes and other related documents and seek clarifications from PEB, if any. SI should then take a hand over of these documents from PEB.

- c) If found necessary to modify the designed processes and other documents for successful implementation, the same should be discussed and the relevant documents should be modified as and when required during the project implementation.
  - d) SI shall interact with PEB project team to gather requirements. It is expected that SI gathers requirements through structured questionnaires, focused interviews with user groups.
  - e) On gathering the requirements, SI shall analyze these requirements to ensure the requirements are complete, accurate, consistent and unambiguous.
  - f) After the analysis, SI shall prepare software requirement specification (SRS) document. SRS shall contain the objectives and scope of the system, the various levels of requirements. Unresolved issues shall also be included in this document. User Role wise mapping to the various business functions with details regarding their access rights (insert / update / delete / view etc.) shall also be included in this document. Acceptance Criteria shall also be included explicitly promoting clear understanding with the end user about what the end user considers acceptable.
  - g) SI shall, as part of development of SRS, develop a system prototype to capture and demonstrate the end user requirements in the form of screens and outputs. The prototype shall be enhanced continuously during the development of SRS and SDD specifications. The same shall be hosted on internal network to be accessible by PEB's users from various locations. It shall be ensured that the required environment to develop and host the prototype is procured early in the project.
  - h) The prototype shall have the user access management configured for a 'control group' of users of PEB wide during the time of SRS and prototype enhancement.
  - i) The Prototype shall also act as tool for preliminary orientation of the end users in familiarizing with the system that is being implemented. This is also to aid user training and change management.
  - j) The SRS document shall be reviewed and approved by PEB
- 9) Software Design Specifications
- a) In this phase, SI should develop a logical view of the solution to meet the user requirements. This logical view should consist - the functional architecture of the application and the changes / new database design. SI should also define standards for coding, documentation, user interfaces, etc., if the same is not already defined.
  - b) SI should document the high level design as System Design Document (SDD) consisting of project standards, the functional design and the database design.
  - c) The SDD document should be reviewed and approved by PEB.

10) Build Stage

- a) SI should break down the high level design into modules and programs. For every program, a unit test plan should be created. SI should also identify common routines, programs, utilities and tools for productivity improvement.
- b) In this phase, high level design document is the main input whereas the program specifications and unit test plans are the key outputs.
- c) If data has to be migrated from some existing applications, then SI should identify data migration programs that need to be developed and tested. Without them, programs for the current application cannot be tested properly, so it is important that SI should develop and test them early.

#### 11) Coding and Unit Testing

- a) In this phase, the physical database design document, project standards, program specifications are the key inputs. The outputs for this phase include the test data, source code, executables and the unit test report.
- b) During code, programmer should translate the program specifications into the selected programming language to create source code and executables. SI should ensure that the code is independently reviewed.
- c) The programmer, who has developed the program, should undertake unit testing using the unit test plan prepared during detailed design phase. The defects found in this testing should be logged and the programmer should remove the identified defects.
- d) SI should maintain all the unit test logs and defect statistics and provide the same to PEB, if desired.

#### 12) Integration Planning & Testing

- a) The inputs for this phase consist of high level design documents and the unit tested programs. The outputs from this phase consist of integration test plan, and integration test report.
- b) SI should identify the critical modules to be integrated, identify order of integration and identify interfaces to be tested.
- c) Along with planning for system integration, SI should develop integration test cases and include these in integration test plan.
- d) SI should ensure that integration planning is done in parallel with the build phase.
- e) Once the build phase is completed, SI should undertake the actual integration activity as per the integration test plan. Subsequently, integration testing should be carried out as per the plan, log all defects found and should ensure these defects are rectified and re-tested.

- f) SI should maintain the integration test plan along with test results & defect statistics and provide the same to PEB, if desired so.

13) System Test Planning & Testing

- a) SI should plan out a series of different tests, each test having a different purpose, to verify that all system elements have been properly integrated and that the system performs all its functions and satisfies all its non-functional requirements.
- b) The inputs for this phase consist of the requirement specification document (SRS) and the initial system test plans whereas the outputs consist of system test plan and test results.
- c) As part of system test planning, SI should identify features that should be tested and features that need not be tested.
- d) On successful completion of the Integration testing, SI should carry out the actual system testing as per the system test plan.
- e) SI should ensure that system testing is carried out by an independent team within SI other than the development team. SI should setup a separate test environment with test database to carry out system testing
- f) As part of the system testing, SI should carry out Performance testing of the application to ensure that the application meets the performance requirements identified in the SRS.
- g) SI should maintain the system test plan and test results with defect statistics and provide the same to PEB

14) Performance and Load testing

- a) As part of performance and load testing, the SI will be required to stimulate the testing environment using the appropriate tools in its own environment
- b) Under controlled environment, by applying pressure/stress on a system, response and speed of the system needs to be evaluated to match the SLAs
- c) Entire functionality of the system needs to undergo load and performance testing before User Acceptance Testing and Go-Live
- d) SI shall deploy/use legally acquired appropriate testing tools to conduct performance and load testing
- e) SI should maintain the test plan and test results with defect statistics and provide the same to PEB.

15) User Acceptance Testing

- a) User Acceptance consists of formal testing conducted by the end user group according to the acceptance test plan and analysis of the test results to determine whether the system satisfies its acceptance criteria.



- b) SI should prepare a plan to coordinate the User Acceptance activity.
- c) The UAT will include complete functional testing.
- d) SI should prepare a software release note
- e) The primary responsibility for acceptance testing lies with the end user group and PEB would coordinate with SI to ensure necessary support is available to the end user group.
- f) End user group should document the test cases / scenarios to ensure that the defined acceptance criteria are validated during the acceptance testing.
- g) SI should provide the necessary infrastructure like servers, storage, network connectivity, database licenses, development and run-time licenses for solutions proposed, etc. for the UAT environment. SI should set up the test environment along with installation of the software and test data creation. SI should be responsible for ensuring appropriate OS, Database versions and patches are installed on the respective servers in this environment. Any problems encountered during the installation should be documented by SI and the installation manual should be updated accordingly.
- h) SI should provide support to document the User Acceptance Test Results along with Defects Statistics. SI should ensure that defects found are corrected and is retested by the end user group.
- i) On successful completion of User Acceptance Testing, SI should obtain a formal acceptance sign-off from PEB

#### 16) Implementation

- a) SI, in coordination with PEB, should prepare a detailed Implementation Plan that should include activities such as User Training, Data Migration / Population and Application Rollout. SI should also carry out activities to prepare documentations.

#### 17) Documentation

- a) SI should develop manuals such as User Manuals, Training Manuals, FAQ & Trouble Shooting Guide, etc. as agreed upon with PEB.
- b) SI should ensure that the documentation is in line with the defined documentation standards.
- c) SI should use tools for creation of Help documents, User manuals etc that minimize the documentation and change efforts.

### **7.4.21 Training & Change Management**

#### 1) Preparation of Training Plan

- a) SI would prepare the list of topics to be covered under various Training programs as part of training plan

- b) Get approval of PEB on the Final Training topics and plan and implement the approved training topics
- 2) Preparation of Training Material
- a) SI shall prepare the solution specific Training Manuals for each Application / Module and submit the same to PEB for review and approval. The Training Manuals etc. shall be provided in both English and Hindi.
  - b) SI shall prepare Online Training Module for the applications and handheld device. Online training modules should contain audio visual content to guide trainees in operating the web portal & should be available in English as well as Hindi. It should be accessible to all the users of department based on their requirement on the web portal.
  - c) SI is required to prepare Training material for participants of every type of Training which is to be delivered (mentioned below)
  - d) SI shall update the Training Manuals, procedures manual, deployment/Installation guides etc. to reflect the latest changes to the solutions implemented.
  - e) SI shall obtain approval of PEB on the Training content at least 1 week before delivery of the Training program.
  - f) Hard copy of Training material to be provided to the participants during the Training session while soft copy is to be uploaded in the PEB portal.
  - g) SI would be required to provide training videos / Computer Based Training ('CBT') material to PEB which can later on be used by PEB to train other trainees on its own.
- 3) Training Delivery
- a) SI shall ensure necessary environment setup, data creation to conduct end user training. PEB shall provide the necessary infrastructure such as training classrooms to conduct the end user training. The training environment shall be used for conducting the training sessions.
  - b) Training centre would be at PEB Head Office, Bhopal.
  - c) Based on the identified education and training needs, SI should provide efficient delivery mechanisms and trainers. SI should appoint trainers and organize training sessions on a timely basis and ensure that the attendance and performance evaluations are recorded.
- 4) Orientation Session for External Stakeholders
- a) SI would be required to plan for the orientation session for the external stakeholders to give them detailed description of the application and its advantages.
  - b) SI needs to plan for the orientation sessions in conjunction with the PEB personnel.
- 5) Report Generation

- a) Detailed report regarding each training session (for e.g. participants, attendance levels, date of training, location of training etc.) is to be maintained in the system. The same to be made accessible to the authorized officers within PEB.
- b) Exact Reporting formats will be decided and agreed upon by PEB with the selected SI.
- 6) Training Infrastructure
  - a) All Training Equipment and accessories needed for the delivery of Training (e.g. projector, white board, stationery etc.) and other IT infrastructure and networks etc as deemed necessary by the SI for delivery of training and achievement of the specified SLAs will be provisioned by PEB
- 7) Other Arrangements
  - a) SI will also be required to provision for any Travel / Boarding / Lodging arrangements for the Trainers, its own and supporting staff at no additional cost.
- 8) Periodical Workshops & Trainings
  - a) Every time the Application undergoes a significant change (addition of new module, new process etc.), the SI will be required to train all staff affected by the change. For all enhancements/ amendments made to the application (major / minor), the SI will be required to provide the updated /revised user manual and online help to all users affected by the change.
  - b) Such training will have to be conducted at least by the time such a change goes live.
  - c) Such training will have to be conducted at all relevant departmental locations.
  - d) Periodical workshops for revising the course content of the trained staff members would be useful.
- 9) Reinforcement Training
  - a) The SI is responsible for conducting training for additional staff recruited by PEB on the on-going basis.
- 10) Details of Training Program

Sr. No.	User Group	Type of training	Number of sessions
1.	<b>Executive Leadership</b> – Chairman, Director, Controller of Examinations, Joint Controllers and other team members	Executive awareness, change management workshops and seminars. Training should cover but not limited to: Preparing action plans and Project monitoring w.r.t. set milestones	At least 1 training session of 2 hours duration per month for a batch size of 20 during implementation period at PEB's Head Office.

Sr. No.	User Group	Type of training	Number of sessions
		Hands-on training to understand usage of all the features of the bespoke software solution	At least 1 session of 4 hours per week for a batch size of 20 post go-live. Purchaser can ask for additional training sessions in case of any major revamp to the solution
2.	<b>Departmental Employees</b> – all client departments of PEB	Sensitization towards the revamped solution, the initiative underway, roadmap for the project, the impact and benefits envisaged etc.	At least 5 sessions of 4 hours each for a batch size of 40 (within 3 months from date of signing of contract with the selected bidder) Total number of trainees: 200.
		Hands-on training to understand usage of all the features of the bespoke software solution	At least 5 sessions of 4 hours each for a batch size of 40 (within 3 months from date of signing of contract with the selected bidder) Total number of trainees: 200.

#### 7.4.22 Software Application Maintenance

- 1) The objective of application maintenance is to provide application maintenance and support services, including request based services (problem requests/defect fixes), enhancements, configuration management and post release support. As part of these services, SI should provide support for bug fixes, enhancements, operational support, and assistance to PEB.
- 2) SI should be required to undertake the Application maintenance and Support services.
- 3) SI should commit to provide all necessary resources and expertise to resolve any issues and carry out required changes, optimizations and modification so that complete system as a whole works according to the specified requirements and satisfaction of PEB.
- 4) SI should ensure that the entire solution as a whole is operational and run according to stipulated performance standards.
- 5) SI should ensure efficient knowledge transfer on a continuous basis so as to ensure that application knowledge is passed on to new members subsequently joining the team.
- 6) The following sections explain the scope of each activity SI is expected to perform under application maintenance and support services for the period of contract.
- 7) End User Support:

- a) The end user support would include all activities related to resolving the bugs / defects reported by application users. Every bug / defect should be logged. Every bug / defect should be categorized on the severity levels.
  - b) SI should identify the solution and take necessary approvals from PEB and release the patch for UAT after fixing the defects.
  - c) SI should document defects / bugs encountered as well as document the resolution of the same. SI should also update the Consolidated List of Common Errors and their Resolution document.
  - d) SI activities would be monitored as per SLAs defined under Section 5 of this tender
- 8) Application enhancement / New Development
- a) The application may require modifications or enhancements in the functionality. The enhancements or new development may also be required to fix some complex problem requests or defect fixes and upgrade the application performance.
  - b) SI should ensure that correct version of the application / program units are being considered to carry out application enhancements / new development.
  - c) SI should follow the configuration management plan for configuration management and version control using the version control software.
  - d) SI should support PEB in carrying out the UAT for the modifications / enhancements.
- 9) Configuration management and version control
- a) As the application undergoes enhancements and modifications due to problem requests, defect fixes and change requests, it becomes increasingly important to keep the source code under version control and the system under configuration management.
  - b) With the objective of keeping track of the version updates in the application, SI should adhere to the configuration management process defined in conjunction with PEB.
  - c) SI may be required to assist PEB personnel in ensuring that a copy of the production environment is backed up and stored in the repository before the new / modified components are copied to Production. SI may be required to assist PEB personnel in restoring the backed up application versions for testing purpose mainly addressing the restorability of the media.
- 10) Release management
- a) Release management procedure should be defined in conjunction with PEB to ensure smooth transition of the application changes from release environment to production environment.
  - b) As part of the release management SI should perform the following activities:

- c) SI should group the related change requests, assess their development progress and accordingly prepare a schedule for their release.
- d) SI should in consultation with PEB prepare a detailed release plan for every release. This plan should include the release number and date of release. It should also contain details about the change request to be released.

11) Maintenance of post implementation support environment

- a) SI should provide an environment with the necessary infrastructure like servers, storage, network connectivity, database licenses, development and run-time licenses for solutions proposed, etc. to support post implementation activities such as debugging of problems reported, enhancements/developments, subsequent user acceptance, etc. SI should be responsible for ensuring appropriate OS, Database versions and patches are installed on the respective servers in this environment.
- b) SI may be required to assist PEB personnel in ensuring proper backup of the environment.

12) MIS Reports

- a) The following is an indicative list of MIS reports. The selected SI should draw an exhaustive list of reports along with PEB. SI should submit the reports on a regular basis in a mutually decided format. SI should submit soft copy of each of the reports.
- b) Monthly reports
  - i) Feedback report from users for the services rendered
  - ii) Consolidated SLA / non-conformance report
  - iii) Log of preventive maintenance undertaken
  - iv) Log of break-fix maintenance undertaken
  - v) Bug / defect resolution reports including the analysis of bugs / defects resolved, pending, completion time, responsiveness, concern areas, etc.
  - vi) Change Request Logs with their resolution status

**7.4.23 AMC Administration**

- 1) SI should ensure availability of AMC support with all the OEMs. This AMC support period should commence from the deployment of software till the end of contract.

**7.4.24 Administration of Database, System & Network**

- 1) SI should provide an appropriate functional and technical training to PEB personnel in the areas of Administration of Database and System.

- 2) SI should assign onsite support to diagnose, troubleshoot and resolve issues with the equipment / components supplied. The engineer should possess capability for supporting the equipment and components proposed, but not limited to undertaking preventive and break-fix maintenance, troubleshooting, resolving problems, tuning, etc.
- 3) SI may be required to assist PEB personnel in performing periodic health check of the systems, troubleshooting problems, analysing and implementing rectification measures.
- 4) SI will be responsible for not only the new systems provided as part of this tender but also ensuring the upkeep of existing systems that might be reused and also incorporate necessary changes for new applications, if any, during the tenure of the contract. The SI should deploy Data-Centre Support team. The Support Coverage should be 12x7x365.
- 5) On an ongoing basis, SI is responsible for troubleshooting issues in the infrastructure, network and application of PEB to determine the areas where fixes are required and ensuring resolution of the same.
- 6) SI should be responsible for identification, diagnosis and resolution of problem areas pertaining to the central infrastructure and application and maintaining assured SLA levels.
- 7) SI may be required to assist PEB personnel in managing the user names, roles and passwords of all the relevant systems, including, but not limited to servers, applications, devices, etc. SI may be required to assist PEB personnel in the management of passwords for all relevant components and devices under their purview and implement a password change mechanism in accordance with the security policy of PEB. User account management includes and is not limited to:
  - a) Setting up new user account
  - b) Granting access and review
  - c) Removal of user accounts
  - d) Privilege management
  - e) Password management
  - f) Access to OS, databases and applications
  - g) Monitoring access and usage
  - h) Logging
  - i) Session time-out
- 8) SI should be responsible for the synchronization of system clocks and automatic lockout of the terminal after defined inactivity time.
- 9) SI should be responsible for maintenance of logs of user Internet activity, failed login attempts, etc.

- 10) SI may be required to assist PEB personnel for downloading of patches and updates for OS, Anti-virus, firewalls, IPS, IDS, RDBMS and other systems using a two-step procedure. In the first step, patches and updates should be downloaded to a standalone system. In the second step, the patches and updates should be updated to the relevant systems.
- 11) SI should provision dedicated team consisting of Solution Architect, Network Administrator and Database Administrator
- 12) System Administration
- a) System administration services for management of server environment to maintain performance at optimum levels.
  - b) Proper configuration of server parameters, operating systems administration and tuning. SI would be the single point of accountability for all hardware maintenance and support central infrastructure.
  - c) Operating system administration, including but not limited to management of users, processes, resource contention, preventive maintenance and management of upgrades including migration to higher versions and patches to ensure that the system is properly updated. SI is also responsible for re-installation in the event of system crash/failures.
  - d) Regular monitoring and maintenance of a log of the performance monitoring of servers including but not limited to monitoring CPU, disk space, memory utilization, I/O utilization, etc. SI should also ensure that the bottlenecks in the infrastructure are identified and fine tuning is done for optimal performance.
  - e) Regular analysis of events and logs generated in all the sub systems including but not limited to servers, operating systems, databases, applications, security devices, messaging, etc. SI should undertake actions in accordance with the results of the log analysis. The system administrators should also ensure that the logs are backed up and truncated at regular intervals.
  - f) Adopt a defined process for change and configuration management in the areas including, but not limited to, changes in parameter settings for application, servers, operating system, devices, etc.; applying patches, etc.
  - g) Managing the trouble tickets, diagnosis of the problems, reporting, managing escalation, and ensuring rectification of server problems as defined in SLA.

13) Database Administration

SI should train PEB personnel in the relevant areas and may be required to assist PEB personnel in performing the following tasks.

- a) Management of database environment to maintain performance at optimum levels.
- b) End-to-end management of database on an ongoing basis to ensure smooth functioning of the same.



- c) Tasks including, but not limited to, managing changes to database schema, disk space, storage, user roles.
- d) Conduct code and configuration reviews to provide inputs to PEB in order to improve the performance or resolve bottlenecks, if any.
- e) Performance monitoring and tuning of the databases on a regular basis including preventive maintenance of the database as required.
- f) Report backup status on a regular basis and ensure prompt problem resolution in case of failures in the backup processes.
- g) Use of DBA tools to perform database creation, maintenance, and database monitoring related tasks.

#### 14) Security Administration

SI should train PEB personnel in the relevant areas and may be required to assist PEB personnel in performing the following tasks.

- a) Management of security environment to maintain performance at optimum levels.
- b) Address ongoing needs of security management including, but not limited to, monitoring of various devices / tools such as firewall, intrusion detection, content filtering and blocking, virus protection, and vulnerability protection through implementation of proper patches and rules.
- c) Maintain an updated knowledge base of all the published security vulnerabilities and virus threats for related software and microcode, including, but not limited to, operating systems, application servers, web servers, databases, security solutions, messaging solutions, etc.
- d) Ensure that patches / workarounds for identified vulnerabilities should be patched / blocked immediately.
- e) Respond to security breaches or other security incidents and coordinate with respective OEM in case of a new threat is observed to ensure that workaround / patch is made available for the same.
- f) Maintenance and management of security devices including but not limited to, maintaining firewall services to restrict network protocols and traffic, detecting intrusions or unauthorized access to networks, systems, services, applications or data, protecting email gateways, firewalls, servers, desktops from viruses.
- g) Operating system hardening through appropriate configuration and patch updates on a regular basis.

#### 15) MIS Reports

- a) The following is an indicative list of MIS reports. The selected SI should draw an exhaustive list of reports along with PEB. SI should submit the reports on a regular basis in a mutually decided format.
- b) SI should submit 2 hard copies and 1 soft copy of each of the reports.
- c) Weekly reports
  - i) Log of backup and restoration undertaken.
  - ii) Summary of resource utilization of critical components
- d) Fortnightly reports
  - i) Project Progress Report with schedule slippage details.
  - ii) Overall performance reports including the analysis of queries completed, queries pending, queries escalated, completion time, responsiveness, concern areas, etc.
  - iii) Summary of measured end user application response time for selected application.
- e) Monthly reports
  - i) Summary of resource utilization of all components in the data centers.
  - ii) Log of preventive / break-fix maintenance undertaken.
  - iii) Summary of changes undertaken in all the data centers including major changes like configuration changes, release of patches, database reorganization, storage reorganization, etc. and minor changes like log truncation, volume expansion, user creation, user password reset, etc.
  - iv) Consolidated SLA / non-conformance report
- f) Quarterly Reports
  - i) Summary of incidents reported like Application down, Components down, overall downtime, security vulnerabilities detected, hacker attacks / security threats, peaking of utilization, etc.
  - ii) Feedback report from users for the services rendered.
- g) Incident Reporting (as and when it occurs)
  - i) Complete system down – with root cause analysis
  - ii) Peaking of resource utilization on any component
  - iii) Bottlenecks observed in the system and the possible solutions and workarounds.
- h) Security Incident Reporting (as and when it occurs)
  - i) Detection of security vulnerability detection with the available solutions / workarounds for fixing.

- ii) Hacker attacks, Virus attacks, unauthorized access, security threats, etc. – with root cause analysis and plan to fix the problems.

#### **7.4.25 Audit**

- 1) The SI should conduct audit of the central infrastructure through the OEM on a half-yearly basis. The OEMs should undertake audits of their respective infrastructure and certify that all necessary precautions have been undertaken. SI may conduct this audit himself, in which case, SI shall ensure that the audit conducted by him is certified by the respective OEM
- 2) The audit should ensure installation of proper versions of software including, but not limited to, Firmware, OS patches, any other layer of software, etc.
- 3) The SI should undertake audit to determine the state of the resources, including, but not limited to overused resources, underused resources, etc.
- 4) The audit report should make recommendations to the PEB through the audit report regarding issues including but not limited to upgrade of resources, reallocation of unused resources, etc.
- 5) The audit should also cover obsolescence of resources as per policy defined by PEB. The audit report should provide details of the resources that are due for obsolescence and provide a plan for upgrade / refresh of resources and plan for disposal of obsolete resources.
- 6) The SI should ensure compliance of policy implementation including but not limited to backup policy, archival policy, security policy, etc. with the policy provisioned PEB and with the best practices followed in the industry.
- 7) The audit should be certified by the respective OEM of the equipment assuring that the same is in proper condition. The audit report should be compiled and provided to PEB for consideration.
- 8) A half-yearly audit for the security practices, implementation of security policy and vulnerability assessment shall be conducted by a 3rd party appointed and paid for by the Purchaser. The report of the 3rd party auditors shall rate the security implementation in three grades viz. Satisfactory, Requires Improvement and Unsatisfactory. SI shall provide necessary support and co-operation for the same.
- 9) A Quarterly Asset Audit, at all the locations should be conducted to ensure the health of the system and verify the existence of assets. The report of findings should be submitted to PEB for consideration.
- 10) A half-yearly audit for user satisfaction may be conducted by a 3rd party appointed and paid for by the Purchaser. The report of the 3rd party auditors shall rate the user satisfaction in three grades viz. Satisfactory, Requires Improvement and Unsatisfactory. SI shall provide necessary support and co-operation for the same.

- 11) PEB may conduct audit of Service Level Agreement (SLA) at its discretion through a 3rd party auditor appointed by PEB. SI shall provide necessary support and co-operation for the same.

#### **7.4.26 Compliance with Industry Standards**

- 1) As per government guidelines, the choice of open source vs proprietary software is left to SI till the time it follows open standards
- 2) While developing an application in response to this RFP, the SI shall adhere to all applicable policies and standards published by Government of India, which includes:
  - a) Ministry of Electronics and Information Technology, Government of India as updated from time to time. The latest version of the standards may be found at <https://egovstandards.gov.in>
  - b) National Informatics Corporation The latest version of the standards may be found at <https://web.guidelines.gov.in/>
  - c) Guidelines for Indian Government Websites (GIGW), available at [http://darpq.gov.in/sites/default/files/Guidelines\\_for\\_Government\\_websites\\_0\\_0.pdf](http://darpq.gov.in/sites/default/files/Guidelines_for_Government_websites_0_0.pdf)
  - d) "Policy on Open Application Programming Interfaces (APIs) for Government of India" available at <http://www.egazette.nic.in/WriteReadData/2015/164238.pdf>

#### **7.4.27 Acceptance Testing and Certification**

- 1) The primary goal of Acceptance Testing and Certification is to ensure that the Project (including all the project components as discussed in the scope of work) meets requirements, standards, specifications and performance, by ensuring that the following are associated with clear, quantifiable metrics for accountability:
  - a) Functional requirements Localisation Compliance Review
  - b) Security Manageability
  - c) SLA Reporting System
  - d) Project Documentation (Design, development, configuration, training and administration manuals etc)
  - e) Data Quality Review
- 2) As part of Acceptance testing, performed through a third party agency, Purchaser shall review all aspects of project development and implementation covering software, hardware and networking including the processes relating to the design of solution architecture, design of systems and sub-systems, coding, testing, business process description, documentation, version control, change management, security, service oriented architecture, performance in

relation to defined requirements, interoperability, scalability, availability and compliance with all the technical and functional requirements of the RFP and the agreement.

- 3) The procedures and parameters for testing will be laid down by the Third Party Agency after approval from Purchaser; the solution deployed by the vendor has to satisfy third party acceptance testing upon which the system shall go-live, subject to Purchaser/Departmental approval.
- 4) The Department / Purchaser will establish appropriate processes for notifying the selected vendor of any shortcomings from defined requirements at the earliest instance after noticing the same to enable the selected vendor to take corrective action. All gaps identified shall be addressed by the vendor immediately prior to Go-live of the solution. It is the responsibility of the selected SI to take any corrective action required to remove all shortcomings, before the roll out of the project.
- 5) It is to be noted that the involvement of the third party for acceptance testing and certification, does not absolve the SI of his responsibilities to meet all SLAs as laid out in this RFP document.
- 6) Selected SI should ensure that the applications (including PEB website and PEB web portal) should comply with STQC and GIGW guidelines. PEB may appoint third party auditor for auditing the applications (including PEB website and PEB web portal) as per STQC and GIGW guidelines.
- 7) Selected SI shall obtain Safe to Host Certificate for the web portal from STQC/ Cert-IN empanelled agency identified by PEB
- 8) Selected SI shall obtain GIGW Compliance Certificate for the web portal from STQC/ Cert-IN empanelled agency identified by PEB
- 9) All costs related to obtaining Safe to Host Certificate & GIGW Compliance Certificate for the web portal from STQC/ Cert-IN empanelled agency would be borne by PEB
- 10) It is to be noted that:
  - a) Purchaser may get the solution audited through a Third Party before Go-Live and periodically after Go-Live in order to ensure the success of the project. Such third-party agency for carrying out the acceptance testing and certification of the entire solution will be nominated by the Department.
  - b) Following discusses the acceptance criteria to be adopted for the project as mentioned above. The list below is indicative and the activities will include but not be limited to the following:
    - i) Functional Requirements Review: The solution developed/customized by selected SI shall be reviewed and verified by the agency against the Functional Requirements signed-off between the Purchaser and the selected SI. All gaps, identified shall be

addressed by the vendor immediately prior to Go-live of the solution. One of the key inputs for this testing shall be the traceability matrix to be developed by the vendor for the solution. Apart from Traceability Matrix, agency may develop its own testing plans for validation of compliance of system against the defined requirements. The acceptance testing w.r.t. the functional requirements shall be performed by independent third party agency (external audit) as well as the select internal department users (User Acceptance Testing) and system has to satisfy both third party acceptance testing and internal user acceptance testing, upon which the system shall go-live. For conducting the User Acceptance Testing, Purchaser/ The Department shall identify the employees from respective divisions, who shall be responsible for day-to-day operations of the functions automated through the project. The system, during the functional requirements review, shall necessarily satisfy the user acceptance testing process.

- ii) Localisation Compliance Review: A third party supports shall perform the Localisation Compliance Review to verify the Application Multilingual Architecture Design with Input/Saved/Output Data as per Localisation guidelines, i.e UNICODE 6.0 standard
- iii) Infrastructure Compliance Review: Third party agency shall perform the Infrastructure Compliance Review to verify the conformity of the Infrastructure (both IT, non IT as well as Network infrastructure) proposed by the selected SI against the requirements and specifications provided in the RFP and/or as proposed in the proposal submitted by the selected SI. Compliance review shall not absolve the vendor from ensuring that proposed infrastructure meets the SLA requirements. Any additional hardware proposed by the SI should be as specified in RFP or better without any cost escalation subject to following restrictions:
  - (1) OEM cannot be replaced;
  - (2) Product should meet all functionalities listed in the RFP.
  - (3) OEM must provide a representation that the new product is a newer version of the proposed product.
  - (4) If COTS is used then its version should be as specified or newer version.
- iv) Security Review: The software developed/customized shall be audited by the agency from a security and controls perspective. Such audit shall also include the IT infrastructure and network deployed for the project. Following are the broad activities to be performed by the Agency as part of Security Review. The security review shall subject the solution to the following activities.
- v) Audit of Network, Server and Application security mechanisms: Assessment of authentication mechanism provided in the application /components/modules

Assessment of data encryption mechanisms implemented for the solution. Assessment of data access privileges, retention periods and archival mechanisms Server and Application security features incorporated etc. Application Security mechanisms should be accessed in compliance with the IT Act 2000,2008 Amendment and IT rules 2011, such that it maintains data/information Integrity, Confidentiality, Non-repudiation. Audit of Security mechanisms so that they are in compliance with the latest Guidelines by Controller of Certifying authority (CCA),IT Act, ISO 27001.Gap assessment of certain controls like say ISO 27001 and section 43, 47, 66, 69, 79, 84 and 87 of IT ACT amendment 2008 and decide how the sensitive data from a data centric stand point is to be protected.

- vi) Performance: Performance is another key requirement for the project and the agency shall review the performance of the deployed solution against certain key parameters defined in SLA. Such parameters include request-response time, work-flow processing time, concurrent sessions supported by the system etc, Disaster Recovery drill etc. The performance review also includes verification of scalability provisioned in the solution for catering to the project requirements.
- vii) Availability: The solution should be designed to remove all single point failures. Appropriate redundancy shall be built into all the critical components to provide the ability to recover from failures. The agency shall perform various tests including network, server, security, DC/DR fail-over tests to verify the availability of the services in case of component/location failures. The agency shall also verify the availability of the project services to all the users in the defined locations.
- viii) Manageability Review: The agency shall verify the manageability of the solution and its supporting infrastructure deployed using the Enterprise Management System (EMS) proposed by the selected SI. The manageability requirements include requirements such as remote monitoring, administration, configuration, inventory management, fault identification etc.
- ix) SLA Reporting System: The selected SI shall design, implement/customize the Enterprise Management System (EMS) and shall develop any additional tools required to monitor the performance indicators listed as per the SLAs mentioned the RFP. The Acceptance Testing and Certification agency shall verify the accuracy and completeness of the information captured by the SLA monitoring system implemented by the vendor and shall certify the same. The EMS deployed for the project, based on SLAs, shall be configured by the selected SI to calculate the payment to be paid by the department after deducting the necessary penalties. The Bidder would ensure that the SLA monitoring tool is available to the Purchaser before Go-Live.

- x) Project Documentation: The Agency shall review the project documents developed by the selected SI including requirements, design, source code, installation, training and administration manuals, version control etc. Any issues/gaps identified by the Agency, in any of the above areas, shall be addressed to the complete satisfaction of the Department.
- xi) Data Quality: The Agency shall perform the Data Quality Assessment for the Data digitized by selected SI and the data migrated by the vendor to the new system. The errors/gaps identified during the Data Quality Assessment shall be addressed by the vendor before moving the data into production environment, which is a key milestone for Go-live of the solution.

## **7.5 Cloud Requirements**

Bidder should ensure that the following points are adhered by the Cloud Service Provider (CSP) selected by the Bidder for providing cloud services to the Purchaser:

- 1) CSP should be empanelled under MeitY's "Provisional Empanelment of Cloud Service Offerings of Cloud Service providers (CSPs)"
- 2) Should meet any security requirements published (or to be published) by MeitY or any standards body setup / recognized by Government of India from time to time and notified to the CSP by MeitY as a mandatory standard
- 3) Meet the ever-evolving security requirements as specified by CERT-IN (<http://www.cert-in.org.in/>)
- 4) CSP's data centre facilities considered for cloud services should be located within India
- 5) The Data Centre should conform to at least Tier III standard (preferably certified under TIA 942 or Uptime Institute certifications by a 3rd party) and implement tool-based processes based on ITIL standards
- 6) The primary DC and the disaster recovery site should be in different seismic zones within India
- 7) The Data Center should be certified for the latest version of ISO 27001:2013 and provide service assurance and effectiveness of Management

### **7.5.1 Cloud service requirements**

- 1) The cloud services should provide scalable, redundant, dynamic compute and storage
- 2) Service shall provide users with the ability to procure and use compute and storage capabilities remotely over the SSL with two factor authentication.
- 3) Perform an Image backup of Customer VM Image information or support the ability to take an existing running instance or a copy of an instance and import / export the instance into a MeitY approved image format.



- 4) Configuration and Management of the Virtual Machine shall be enabled via a web browser over the SSL VPN clients only as against the public internet
- 5) CSP shall ensure that VMs receive OS patching, health checking, Systematic Attack Detection and backup functions.
- 6) Monitor VM up/down status and resource utilization such as RAM, CPU, Disk, IOPS and network
- 7) The Purchaser retains ownership of all virtual machines, templates, clones, and scripts/applications created for the organization's application
- 8) The Purchaser retains the right to request full copies of these virtual machines at any time.
- 9) The Purchaser retains ownership of loaded business solutions / bespoke software installed on the VMs
- 10) Support a secure administration interface - such as SSL/TLS or SSH - for the purchasing organization's designated personnel to remotely administer their virtual instance
- 11) Provide the capability to dynamically allocate virtual machines based on load, with no service interruption
- 12) Provide the capability to copy or clone virtual machines for archiving, troubleshooting, and testing
- 13) The CSP should provide tools and mechanism to the Purchaser or its appointed agency for defining their backup requirements & policy.
- 14) The CSP should provide tools and mechanism to the Purchaser or its appointed agency for configuring, scheduling, performing and managing back-ups and restore activities (when required) of all the data including but not limited to files, folders, images, system state, databases and enterprise applications in an encrypted manner as per the defined policy.
- 15) Transfer data back in-house either on demand or in case of contract or order termination for any reason
- 16) CSP shall not delete any data at the end of the agreement (for a maximum of 45 days beyond the expiry of the Agreement) without the express approval of the purchaser.
- 17) Provide capability to perform live migrations (ability to move running VM's) from one host to another.
- 18) Provide support to all Application Programming Interfaces (APIs) including REST API that CSP develops/provides.
- 19) CSP should offer fine-grained access controls including role based access control, use of SSL certificates, or authentication with a multi-factor authentication.

- 20) Cloud service should support auditing with features such as what request was made, the source IP address from which the request was made, who made the request, when it was made, and so on.
- 21) Purchaser should be permitted to bring and upload additional properly licensed non-operating system software for operation in cloud as required for the Purchaser's solution for use within the Services by installing it directly on a VM.
- 22) RAM or CPU of virtual machine should scale automatically whenever there is spike in load to deliver application availability even during spike in load
- 23) Provide facility to configure virtual machine of required vCPU, RAM and Disk.
- 24) Provide facility to use different types of disk like SAS, SSD based on type of application.
- 25) CSP is responsible for Disaster Recovery Services to ensure continuity of operations in the event of failure of primary data centre of the purchasing organization and meet the RPO and RTO requirements. The CSP should offer dashboard to monitor RPO and RTO of cloud infrastructure and systems.
- 26) The Bidder (in consultation with CSP) shall clearly define the procedure for announcing DR based on the proposed DR solution. The Bidder / CSP shall also clearly specify the situations in which disaster shall be announced along with the implications of disaster and the time frame required for migrating to DR. The Bidder / CSP shall plan all the activities to be carried out during the Disaster Drill and issue a notice to the purchaser at least two weeks before such drill.
- 27) The Bidder / CSP should offer switchover and switchback of individual applications instead of entire system.
- 28) Any lag and/or loss in data replication should be reflected in terms of the business requirements in terms of the defined RTO and RPO impact.
- 29) Support replication of data between primary and DR cloud environment
- 30) Allow replication of data between cloud and on premise sites
- 31) When the Purchaser or Bidder / CSP (with prior approval of the Purchaser) scales down the infrastructure services, Bidder / CSP is responsible for deleting or otherwise securing purchaser's content/data prior to VM deletion and in case deleted, shall ensure that the data cannot be forensically recovered.

#### **7.5.2 Cloud operational requirements**

- 1) Manage the network, storage, server and virtualization layers, to include performance of internal technology refresh cycles applicable to meet the SLAs

- 2) Provide a secure, dual factor method of remote access which allows the Purchaser's designated personnel (privileged users) the ability to perform duties on the hosted infrastructure
- 3) Upgrade and periodically replace hardware without financial impact to the Purchaser. All the data within it shall be immediately deleted/destroyed and certify the VM and data destruction to the purchaser as per stipulations and shall ensure that the data cannot be forensically recovered.
- 4) Bidder / CSP to perform patch management appropriate to the scope of their control including:
  - a) Alerts on the upcoming patches via email and management portal, and ability to defer or reject patches before they are applied in the next patch cycle
  - b) Patch approved VMs on the next available patch management change window
  - c) Application of automated OS security patches, unless deferred or rejected by Purchaser or designated agency
  - d) Send regular approval reminders to Purchaser or authorized agency designated email address five (5) days prior to patch cut-off dates
- 5) Bidder / CSP should undertake OS level vulnerability management – all OS images created within the cloud platform are regularly patched with the latest security updates
- 6) Provide the artefacts, security policies and procedures demonstrating its compliance with the Security Assessment and Authorization requirements as described in Security Requirements in this RFP.
- 7) Monitor availability of the servers, CSP-supplied operating system & system software, and CSP's network
- 8) Bidder / CSP is fully responsible for tech refreshes, patch management and other operations of infrastructure with regards to the cloud environment (DC and DR).
- 9) Investigate outages, perform appropriate corrective action to restore the hardware, operating system, and related tools
- 10) CSP should manage CSP provisioned infrastructure including VMs as per the ITIL or equivalent industry standards.
- 11) Comply with technology refresh requirements as mandated by CERT-IN and MeitY
- 12) Software within the CSP's scope will never be more than two versions behind unless deferred or rejected by MeitY / Purchaser / Purchaser's authorized agency

### **7.5.3 Cloud management reporting requirements**

- 1) Provide service level management reports (as per the service levels agreed in the Service Level Agreement between the Purchaser and the CSP)
- 2) Description of major outages (including description of root-cause and fix) resulting in greater than 1-hour of unscheduled downtime within a month
- 3) Helpdesk tickets reports submitted
- 4) Monthly and quarterly utilization reports (peak and average volumetric details)

- 5) CSP should provide a portal for the Purchaser (administration role) which should provide data related to:
  - a) Utilization reports (with threshold limits defined by the user)
  - b) SLA reports
  - c) Cloud service usage
  - d) Helpdesk and tickets
  - e) User profile management
- 6) Bidder should set the baseline threshold limits for cloud infra utilization.
- 7) In the event of cloud infra utilization breaching the baseline threshold limits, the CSP is required to notify the purchaser and Bidder with adequate justifications for increasing baseline capacity
- 8) Bidder to ensure scalability of the DC & DR cloud environment considering the future growth for next 5 years.

## 7.6 Milestones

Sr. No.	Milestone	Expected Time	Deliverables / Solutions
1.	Submission of detailed Project Management Plan, Exit Management Plan along with establishment of live project management dashboard	T + 3 weeks	Project Charter
2.	System Requirement Specifications ('SRS'), Information Security Policies & Procedures	T + 5 weeks	System Requirement Specifications document, Information Security Policy document
3.	Development of the system	T + 32 weeks	<ul style="list-style-type: none"> <li>• Digitized and migrated Database</li> <li>• Full customization of the application software</li> <li>• Rollout for UAT</li> <li>• Application Software and other requirements such as source code, library files, DLL's, setup programs, documentation, etc.</li> </ul>
4.	User Acceptance Testing	T + 34 weeks	<ul style="list-style-type: none"> <li>• Unit and Integration Testing Plan and Procedure</li> <li>• UAT Test cases</li> <li>• Testing report with fail / pass results and plan to fix the defects</li> </ul>

Sr. No.	Milestone	Expected Time	Deliverables / Solutions
			<ul style="list-style-type: none"> <li>Testing on data center</li> </ul>
5.	Solution go-live	T + 36 weeks	Certification by PEB or competent third party auditor nominated by PEB
6.	Completion of Training	T + 32 weeks	Training to PEB personnel, manuals, material and training completion report
7.	Completion of Data Migration	T + 32 weeks	Certification by PEB or competent third party auditor nominated by PEB
8.	Stabilization of Integrated system operations for 90 days	T + 48 weeks	Certification by PEB or competent third party auditor nominated by PEB
9.	Operation & Maintenance Support  (for 5 years of contract after "Go-Live")	For the contract period	For each year of support and maintenance phase: <ul style="list-style-type: none"> <li>Monthly log of service calls and problem resolution reports for Helpdesk</li> <li>Quarterly Performance Monitoring Reports for the system</li> <li>Updated system design documents, specifications for every change request</li> <li>Latest source code, application deployment files, configuration files for entire solution</li> <li>Updated user manuals, administration manuals, training manuals etc</li> <li>Software change logs</li> </ul>

Where T = Effective date of Contract

## 8 Compliance with eGov Standards

### 8.1 Single-Sign On

The application should enable single-sign-on so that any user once authenticated and authorized by system is not required to be re-authorized for completing any of the services in the same session. For employees of PEB, the browser based application accessed on the intranet, through single-sign-on mechanism, will provide access to all the services of PEB concerned (based on

their roles and responsibilities), Help module, basic and advanced reporting etc. Similarly, for external users, based on their profile and registration, the system shall enable single sign on facility to apply for various services, make payments, submit queries / complaints and check status of their applications.

## **8.2 Support for PKI based Authentication and Authorization**

The solution shall support PKI based Authentication and Authorization, in accordance with IT Act 2000, using the Digital Certificates issued by the Certifying Authorities (CA) such as MTNL or NIC. In particular, 3 factor authentications (login id & password, biometric and digital signature) shall be implemented by the selected SI for officials/employees involved in processing citizen services as per the Functional requirement specification of the services specified in Section 7.3.

## **8.3 Interoperability Standards**

Keeping in view the evolving needs of interoperability, especially the possibility that the solution shall become the focal point of delivery of services, and may also involve cross functionality with the e- Government projects of other departments / businesses in future, the solution should be built on Open Standards. Some of the states already have other applications deployed and running for delivering services to citizens. The SI shall ensure that the application developed is easily integrated with the existing applications. Every care shall be taken to ensure that the code does not build a dependency on any proprietary software, particularly, through the use of proprietary 'stored procedures' belonging to a specific database product.

## **8.4 Scalability**

One of the fundamental requirements of the proposed application is its scalability. The architecture should be proven to be scalable (cater to increasing load of internal and external users and their transactions) and capable of delivering high performance for at least five years from the date of deployment. In this context, it is required that the application and deployment architecture should provide for Scale-Up and Scale out on the Application and Web Servers, Database Servers and all other solution components. For pilot states, the scalability is very important and this aspect should be thoroughly tested before state wide roll out.

## **8.5 Security**

The systems implemented for project should be highly secure, considering that it is intended to handle sensitive data relating to the citizens of the state. The overarching security considerations are described below.

- 1) The security services used to protect the solution shall include: Identification, Authentication, Access Control, Administration and Audit and support for industry standard protocols.
- 2) The solution shall support advanced user authentication mechanisms including digital certificates and biometric authentication.

- 3) Security design should provide for a well-designed identity management system, security of physical and digital assets, data and network security, backup and recovery and disaster recovery system.
- 4) The solution should provide for maintaining an audit trail of all the transactions and should also ensure the non-repudiation of audit trail without impacting the overall performance of the system.
- 5) The overarching requirement is the need to comply with ISO 27001 standards of security.
- 6) The application design and development should comply with Open Web Application Security Project [OWASP] top 10 principles.

### 8.6 High Level Design (HLD)

Once the SRS are approved, the SI shall complete the High Level Designing and all HLD documents of all the functionalities, integration with existing application and external application. The SI shall prepare the HLD and have it reviewed and approved by PEB.

### 8.7 Detailed (Low Level) Design (LLD)

The LLD shall interpret the approved HLD to help application development and shall include detailed service descriptions and specifications, application logic (including “pseudo code”) and UI design (screen design and navigation). The preparation of test cases will also be completed during this stage. The SI shall have the design documents reviewed and approved by the Purchaser.

## 9 Key Personnel

### 9.1 Positions identified for Key personnel

S. No.	Profile	Experience	Documents Required
1	Project Manager	<ul style="list-style-type: none"> <li>• BE / BTech / MCA / MTech with at least 12 years of experience</li> <li>• Experience of handling at least 3 projects involving cloud implementation with Central Government / State Governments or PSUs</li> <li>• Prince2 or PMP or PMI certified</li> </ul>	CV as per Appendix I: Form 9 (CV of Key Personnel) and certified by Authorized signatory of Bidder
2	Project Lead*	<ul style="list-style-type: none"> <li>• BE / BTech / MCA / MTech with at least 8 years of experience</li> <li>• Experience of handling at least 2 projects involving cloud implementation</li> </ul>	CV as per Appendix I: Form 9 (CV of Key Personnel) and certified by Authorized signatory of Bidder
3	Technical Architect*	<ul style="list-style-type: none"> <li>• BE / BTech / MCA / MTech with at least 5 years of experience</li> <li>• Experience of handling at least 2</li> </ul>	CV as per Appendix I: Form 9 (CV of Key Personnel) and certified by Authorized

S. No.	Profile	Experience	Documents Required
		projects involving cloud implementation and artificial intelligence / machine learning	signatory of Bidder
5	Business Analyst*	<ul style="list-style-type: none"> <li>• BE / BTech / MCA / MTech with at least 5 years of experience</li> <li>• Experience of handling at least 3 projects involving IT automation</li> </ul>	CV as per Appendix I: Form 9 (CV of Key Personnel) and certified by Authorized signatory of Bidder

\*required onsite at PEB's Head Office till Go-Live

## 9.2 Initial Composition; Full Time Obligation; Continuity of Personnel

- 1) SI shall ensure that each member of the Key Personnel devotes substantial working time to perform the services to which that person has been assigned as per the proposal.
- 2) SI shall use commercially reasonable efforts to ensure it retains the services of its Key Personnel, including provisioning of competitive compensation, benefits and other conditions to its Key Personnel so as to incentivize them to remain in SI's employment.
- 3) SI shall not make any changes to the composition of the Key Personnel and not require or request any member of the Key Personnel to cease or reduce his or her involvement in the provision of the Services during the Term (or agree to any request other than from Purchaser that would have the same effect):
  - a) unless that person resigns, is terminated for cause, dies, is long-term disabled, is on permitted mandatory leave under Applicable Law or retires; or
  - b) without Purchaser's prior written consent.
- 4) SI shall promptly notify Purchaser of its intention to re-hire any member of the Key Personnel who had resigned from SI in the previous 12-month period. Purchaser shall have the right to request that any member of the Key Personnel who resigns and is re-hired by SI within 12 months of the resignation date be re-assigned to the provision of the Services.

## 9.3 Evaluations

- 1) SI shall carry out an evaluation of the performance of each member of the Key Personnel in connection with the Services at least once in each Contract Year. SI shall provide reasonable written notice to Purchaser of the date of each evaluation of each member of the Key Personnel and Purchaser shall be entitled to provide SI with input for each such evaluation.
- 2) SI shall promptly provide the results of each evaluation to Purchaser, subject to Applicable Law.



#### **9.4 Replacement**

- 1) In case the resource has resigned then the SI has to inform within one week of such resignation.
- 2) SI shall promptly initiate a search for a replacement and use commercially reasonable efforts (including the expenditure of reasonable sums, such as to engage the services of a recruiting firm) to ensure that the role of any member of the Key Personnel is not vacant for any longer than 10 working days, subject to reasonable extensions requested by SI of Purchaser
- 3) Before assigning any replacement member of the Key Personnel to the provision of the Services, SI shall provide Purchaser with:
  - a) a resume, curriculum vitae and any other information about the candidate that is reasonably requested by Purchaser; and
  - b) an opportunity to interview the candidate
- 4) The SI has to provide replacement resource who conforms to the same requirements as the resource proposed originally (on the same evaluation parameters defined in this RFP document). Once this is confirmed, the Purchaser shall conduct an interview of the candidate and notify SI within ten days after its interview (or if Purchaser does not request an interview within ten working days after SI has provided the information, then it would be deemed as accepted).
- 5) If Purchaser does object to the appointment, SI shall not assign the individual to that position and shall seek an alternative candidate in accordance with this Section.

#### **9.5 High Attrition**

- 1) If in the first 6 month period from the Contract Effective Date or in any rolling 12 months period during the Term, 20 percent or more of the members of the Key Personnel cease or reduce their involvement in the Services for any reason other than with Purchaser's prior written consent, SI shall:
  - a) provide Purchaser with a reasonably detailed explanation as to the reasons for such change, including, where applicable and permitted, notes from any exit interviews conducted by SI with any departing member of the Key Personnel; and
  - b) if such change to Key Personnel has or is likely to have any material adverse impact on the provision of the Services or any substantial part thereof, undertake, at its own costs, such remediation acts as are reasonably necessary in order to improve the retention of the Key Personnel including making reasonable changes to the human resources policies and procedures applicable to the Key Personnel (including those related to compensation, benefits and other conditions so that they are competitive with the market) as may be necessary to ensure that such policies and procedures comply with Good Industry Practice.

## 10 Payment Schedule

### 10.1 Cost Components

Sr. No.	Cost component	
1.	Application Customization / Development + Development of Information Security Policies & Procedures + Any other service to be provided	Component 1
2.	Handholding Staff Cost	Component 2
3.	Helpdesk Services Cost	Component 3
4.	Operations and Maintenance Costs (for 5 years of contract after "Go-Live")	Component 4
5.	Training Cost	Component 5
6.	Data Migration Cost	Component 6

### 10.2 Fee Disbursement

Sr. No.	Milestone	Fee Payable
<b>Milestone based payment</b>		
1.	Acceptance of detailed Project management Plan, Information Security Policies & Procedures, Exit management Plan, establishment of live project management dashboard and acceptance of SRS	M1 = 4% of (Component 1 + Component 2 + Component 3)
2.	UAT	M2 = 12% of (Component 1 + Component 2 + Component 3)
3.	Certification of Implementation	M3 = 12% of (Component 1 + Component 2 + Component 3)
4.	Go-Live	M4 = 12% of (Component 1 + Component 2 + Component 3)
5.	Quarterly payment for 5 years post go-live for operations & maintenance of web portal (Payments would be made after completion of the quarter after deduction of any applicable penalties based on the submission of invoice and SLA compliance report.)	M5 = 3% of (Component 1 + Component 2 + Component 3) + 5% of Component 5
6.	Completion of Data Migration	M8 = 100% x Component 6

## 11 Fraud and Corrupt Practices

- 1) The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary contained in this RFP, the Purchaser shall reject a Proposal without being liable in any manner whatsoever to the Bidder, if it determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "Prohibited Practices") in the

Selection Process. In such an event, the Purchaser shall, without prejudice to its any other rights or remedies, forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre-estimated compensation and damages payable to the Authority for, inter alia, time, cost and effort of the Authority, in regard to the RFP, including consideration and evaluation of such Bidder's Proposal.

- 2) Without prejudice to the rights of the Purchaser under Clause above and the rights and remedies which the Purchaser may have under the LOI or the Agreement, if an Bidder or Systems Implementation Agency, as the case may be, is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Selection Process, or after the issue of the LOI or the execution of the Agreement, such Bidder or Systems Implementation Agency shall not be eligible to participate in any tender or RFP issued by the Purchaser during a period of 2 (two) years from the date such Bidder or Systems Implementation Agency, as the case may be, is found by the Purchaser to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.
- 3) For the purposes of this Section, the following terms shall have the meaning hereinafter respectively assigned to them:
  - a) "corrupt practice" means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Purchaser who is or has been associated in any manner, directly or indirectly with the Selection Process or the LOI or has dealt with matters concerning the Agreement or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of the Purchaser, shall be deemed to constitute influencing the actions of a person connected with the Selection Process); or (ii) save as provided herein, engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical consultant/ adviser of the Purchaser in relation to any matter concerning the Project;
  - b) "fraudulent practice" means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process;
  - c) "coercive practice" means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person's participation or action in the Selection Process;

- d) “undesirable practice” means (i) establishing contact with any person connected with or employed or engaged by Purchaser with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or (ii) having a Conflict of Interest; and
- e) “restrictive practice” means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Selection Process.

## **12 Conflict of Interest**

- 1) A Bidder shall not have a conflict of interest that may affect the Selection Process or the Solution delivery (the “Conflict of Interest”). Any Bidder found to have a Conflict of Interest shall be disqualified. In the event of disqualification, the Purchaser shall forfeit and appropriate the EMD, if available, as mutually agreed genuine pre-estimated compensation and damages payable to the Purchaser for, inter alia, the time, cost and effort of the Purchaser including consideration of such Bidder’s Proposal, without prejudice to any other right or remedy that may be available to the Purchaser hereunder or otherwise.
- 2) The Purchaser requires that the Implementation Agency provides solutions which at all times hold the Purchaser’s interest paramount, avoid conflicts with other assignments or its own interests, and act without any consideration for future work. The Systems Implementation Agency shall not accept or engage in any assignment that would be in conflict with its prior or current obligations to other clients, or that may place it in a position of not being able to carry out the assignment in the best interests of the Purchaser.
- 3) Without limiting the generality of the above, an Bidder shall be deemed to have a Conflict of Interest affecting the Selection Process, if:
- 4) the Bidder, or Associates (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of an Bidder, its Member or Associate (or any shareholder thereof having a shareholding of more than 5 per cent of the paid up and subscribed share capital of such Bidder, Member or Associate, as the case may be) in the other Bidder, or Associate is less than 5% (five per cent) of the subscribed and paid up equity share capital thereof. For the purposes of this Clause, indirect shareholding held through one or more intermediate persons shall be computed as follows:
  - a) where any intermediary controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the “Subject Person”) shall be taken into account for computing the shareholding of such controlling person in the Subject Person; where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on

- b) a proportionate basis; provided, however, that no such shareholding shall be reckoned under this Sub-clause if the shareholding of such person in the intermediary is less than 26% (twenty-six per cent) of the subscribed and paid up equity shareholding of such intermediary; or
  - c) a constituent of such Bidder is also a constituent of another Bidder; or
  - d) such Bidder or its Associate receives or has received any direct or indirect subsidy or grant from any other Bidder or its Associate; or
  - e) such Bidder has the same legal representative for purposes of this Application as any other Bidder; or
  - f) such Bidder has a relationship with another Bidder, directly or through common third parties, that puts them in a position to have access to each other's information about, or to influence the Application of either or each of the other Bidder; or
  - g) there is a conflict among this and other Systems Implementation/Turnkey solution assignments of the Bidder (including its personnel and other members, if any) and any subsidiaries or entities controlled by such Bidder or having common controlling shareholders. The duties of the Systems Implementation Agency will depend on the circumstances of each case. While providing software implementation and related solutions to the Purchaser for this particular assignment, the Systems Implementation Agency shall not take up any assignment that by its nature will result in conflict with the present assignment; or
- 5) A firm hired to provide System Integration/Turnkey solutions for the implementation of a project, and its Members or Associates, will be disqualified from subsequently providing goods or works or services related to the same project;
- 6) A Bidder eventually appointed to implement software solutions for this Project, its Associates, affiliates and the Financial Expert, shall be disqualified from subsequently providing goods or works or services related to the construction and operation of the same Project and any breach of this obligation shall be construed as Conflict of Interest; provided that the restriction herein shall not apply after a period of 12 months from the completion of this assignment; provided further that this restriction shall not apply to software solutions delivered to the Purchaser in continuation of this systems implementation or to any subsequent systems implementation executed for the Purchaser in accordance with the rules of the Purchaser.

### **13 Appendix I: Pre-Qualification & Technical Bid Templates**

The Bidders are expected to respond to the RFP using the forms given in this section and all documents supporting Pre-Qualification / Technical Evaluation Criteria.

Pre-Qualification Bid & Technical Proposal shall comprise of following forms:

#### **Forms to be used in Pre-Qualification Proposal**

Form 1: Compliance Sheet for Pre-qualification Proposal

Form 2: Particulars of the Bidder

#### **Forms to be used in Technical Proposal**

Form 3: Compliance Sheet for Technical Proposal

Form 4: Letter of Proposal

Form 5: Project Citation Format

Form 6: Proposed Solution

Form 7: Proposed Work Plan

Form 8: Team Composition

Form 9: Curriculum Vitae (CV) of Key Personnel

Form 10: Deployment of Personnel

Form 11: Deviations

Form 12: Manufacturers Authorisation Form

**Form 1: Compliance Sheet for Pre-qualification Proposal**

Sr. No.	Pre-qualification Criteria	Documentary Evidence Required	Provided (Yes/No)	Reference Page No.
1	Legal Entity	Copy Certificate of Incorporation issued by Registrar of Companies		
2	Annual Turnover	1. Three years audited financial statements AND 2. Auditor's certificate (i.e. 2016-2017, 2015-16, 2014-15)		
3	Net Worth			
4	Technical Capability	Experience details with documentary evidence for scope of work and contract value, along with client contact details, in the form of Work order / Purchase order / Completion certificate from client		
5	Blacklisted Entity / Debarment	Declaration by authorised signatory of the Bidder		
6	Conflict of Interest	Declaration by authorised signatory of the Bidder		
7	Authorized Signatory	Board Resolution / Authorization Letter		
8	CMMI Certification	Copy of the Certificate(s) signed and stamped by the authorised signatory of the Bidder		
9	Manpower Strength	Certificate from HR Head		
10	Earnest Money Deposit	Submission proof		
11	Tender Fee	Submission proof		

## Form 2: Particulars of the Bidder

S. No.	Bidder Details	Response
1	Name and address of the bidding Company	
2	Incorporation status of the firm (public limited / private limited, etc.)	
3	Year of Establishment	
4	Date of registration	
5	ROC Reference No.	
6	Details of company registration	
7	Details of registration with appropriate authorities for service tax / GST	
8	Name, Address, email, Phone nos. and Mobile Number of Contact Person	



**Form 3: Compliance Sheet for Technical Proposal**

<b>Sr. No.</b>	<b>Technical Qualification Criteria</b>	<b>Documentary Evidence Required</b>	<b>Provided (Yes/No)</b>	<b>Reference Page No.</b>
<b>A</b>	<b>Past Experience of the Bidder</b>			
A1	<b>System Integration</b>	Experience details with documentary evidence for scope of work and contract value, along with client contact details, in the form of Work order / Purchase order / Completion certificate from client		
A2	<b>System Integration</b>	Experience details with documentary evidence for scope of work and contract value, along with client contact details, in the form of Work order / Purchase order / Completion certificate from client		
A3	<b>Handholding &amp; Change Management</b>	Experience details with documentary evidence for scope of work and contract value, along with client contact details, in the form of Work order / Purchase order / Completion certificate from client		
A4	<b>Examination System</b>	Experience details with documentary evidence for scope of work and contract value, along with client contact details, in the form of Work order / Purchase order / Completion certificate from client		
<b>B</b>	<b>Approach &amp; Methodology</b>			
B1	<b>Overall Approach &amp; Methodology</b>	Signed Technical Bid		
B2	<b>Project Timelines</b>	Signed Technical Bid		
B3	<b>Training &amp; Operations Methodology</b>	Signed Technical Bid		
B4	<b>Program Management Methodology</b>	Signed Technical Bid		
<b>C</b>	<b>Staff Strength</b>			
C1	<b>AI, ML &amp; Blockchain</b>	Certificate from HR head		
C2	<b>Cloud implementation</b>	Certificate from HR Head		
C3	<b>Onsite &amp; offsite</b>	CV as per Form 9: CV of Key		

Sr. No.	Technical Qualification Criteria	Documentary Evidence Required	Provided (Yes/No)	Reference Page No.
	resources	Personnel		

## Form 4: Letter of Proposal

To

Director  
Madhya Pradesh Professional Examination Board (PEB)  
"Chayan Bhawan", Main Road No.1,  
Chinar Park (East),  
Bhopal - 462011

**Subject:** Submission of the Technical bid for Selection of a system integrator for design, development, implementation and maintenance of an end to end computerized examination system

Dear Sir,

We, the undersigned, offer to provide systems implementation solutions to Madhya Pradesh Professional Examination Board (PEB) on design, development, implementation and maintenance of an end to end computerized examination system with your Request for Proposal dated <insert date> and our Proposal.

We hereby declare that all the information and statements made in this technical bid are true and accept that any misinterpretation contained in it may lead to our disqualification.

We undertake, if our Proposal is accepted, to initiate the Implementation services related to the assignment not later than the date indicated in the contract agreement.

We agree to abide by all the terms and conditions of the RFP document. We would hold the terms of our bid valid for 90 days as stipulated in the RFP document.

We understand you are not bound to accept any Proposal you receive.

Yours sincerely,

Authorized Signature [In full and initials]: Name and Title of Signatory:

Name of Firm:

Address:

Location: \_\_\_\_\_ Date: \_\_\_\_\_

**Form 5: Project Citation Format**

Sr. No.	Items	Details
<b>General Information</b>		
1.	Customer Name	
2.	Name of the contact person and contact details for the client of the assignment	
<b>Project Details</b>		
3.	Project Title	
4.	Start Date: MM/YYYY End Date : MM/YYYY	
5.	Current Status (work in progress/completed)	
6.	Number of staff deployed in the assignment	
<b>Size of the project</b>		
7.	Total Cost of the project	
8.	Period of contract	
9.	Technologies used	
10.	Number of end users catered to by the system	
11.	Number of resources deployed across the country	
12.	Number of transactions handled by the system on a yearly basis	
13.	Multi-lingual (English and Hindi) features catered to for the web site	
14.	BCP/DR capability	
15.	Details on ICT Infrastructure design and implementation work done by Bidder	
16.	Any other information to be shared with Purchaser	
17. <i>Narrative Description of the Project</i>		
18. <i>Documentary Proof and necessary details</i>		
<i>Please attach the proof - Work Orders Certificates or Letter of Appointments etc with the credential only</i>		

**Bidder:**

**Signature -----**

**Name -----**

**Designation -----**

**Company Seal -----**

**Date -----**

### Form 6: Proposed Solution

Technical approach, methodology and work plan are key components of the Technical Proposal. You are suggested to present Approach and Methodology divided into the following sections:

- a) Solution Proposed
- b) Understanding of the project (how the solution proposed is relevant to the understanding)
- c) Technical Approach and Methodology

### Form 6A: Proposed Solution

S. No.	Proposed Solution (Provide the Product Name or fill Custom Built, in case of a new development)	Version & Year of Release	OEM	O&M Support (Warranty/ATS)	Reference in the Submitted Proposal (Please provide page number/section number)

### Form 6B: Bill of Material (Software)

S. No.	Item	Proposed Solution (Provide the Product Name or fill Custom Built, in case of a new development)	No. of Licenses (Development Environment)	No. of Licenses (UAT)	No. of Licenses (Training)	No. of Licenses (Data Center Production)

**Note:**

- Any indicative prices in this section may lead to disqualification of the Bidder.
- The requirements stated in the scope of work are minimum requirements. The Bidder should provide information for all the additional equipment and components that would be required.

**Form 7: Proposed Work Plan**

<u>Activity-wise Timelines</u>							
S. No.	Item of Activity	Month wise Program					
		1	2	3	4	5	...
	Project Plan						
1	Activity 1						
1.1	Sub-Activity 1						
1.2	Sub-Activity 2						
2							
2.1							
2.2							
3							
3.1							
4							

**Note:**

- The above activity chart is just for the purpose of illustration
- Indicate all main activities of the assignment, including delivery of reports (e.g.: inception, interim, and final reports), and other benchmarks such as Purchaser approvals. For phased assignments indicate activities, delivery of reports, and benchmarks separately for each phase.
- Duration of activities shall be indicated in the form of a bar chart.
- All activities should meet the 8/80 criteria i.e should at least take 8 hours and a maximum of 80 hours.

**Form 8: Team Composition**

Name of Staff	Qualification & Experience	Area of Expertise	Position Assigned



### Form 9: CV of Key Personnel

The Bidder is required to provide the profiles of key personnel who are proposed to be deployed. The bidder should have conducted background check of the proposed personnel prior to assigning them on project

The indicative list of project personnel are:

- a) Project Manager
- b) Project Lead
- c) Technical Architect
- d) Business Analyst

CVs of the above mentioned personnel have to be submitted in the below format:

1.	Proposed position on the team:				
2.	Name of the employee				
3.	Designation				
4.	Date of Birth				
5.	Nationality				
6.	Education	Qualification	Name of School/College/University	Degree Obtained	Date Attended
7.	Certifications				
8.	Language	Language	Read	Write	Speak
9.	Employment Record	Employer	Position	From	To
<i>(Starting with present position list in reverse order – Up to three quarters of a page)</i>					

10	Relevant Experience	<i>(Give an outline on the experience most pertinent to tasks mentioned in the project. Describe degree of responsibility held on these relevant assignments – Up to half of a page).</i>
11	Certification	I, the undersigned, certify that to the best of my knowledge and belief, this bio-data correctly describes myself, my qualifications, and my experience.  Date:  Place    Signature of the Authorized Signatory

**Form 10: Deployment of Personnel**

S. No.	Name of Staff	Staff Input in Months							Total Staff man-months proposed
		1	2	3	4	5	6	n	
1									
2									
3									
4									
5									
N									
		Total							

## Form 11: Deviations

<Location, Date>

To

Director  
Madhya Pradesh Professional Examination Board (PEB)  
"Chayan Bhawan", Main Road No.1,  
Chinar Park (East),  
Bhopal - 462011

**Subject:** Deviations in RFP for Selection of a system integrator for design, development, implementation and maintenance of an end to end computerized examination system

Dear Sir:

We declare that all the services shall be performed strictly in accordance with the Tender documents except for the variations and deviations, all of which have been detailed out exhaustively in the following statement, irrespective of whatever has been stated to the contrary anywhere else in our bid.

Further we agree that additional conditions, if any, found in the Tender documents, other than those stated in deviation schedule, shall not be given effect to.

### A - On the Terms of Reference

Suggest and justify here any modifications or improvement to the Scope of Work you are proposing to improve performance in carrying out the assignment (such as deleting some activity you consider unnecessary, or adding another, or proposing a different phasing of the activities). Such suggestions should be concise and to the point, and incorporated in your Proposal.

S. No.	Deviation	Material	Non-Material	Impacted Deliverable(s)	Impacted Timeline(s)	Financial Impact

### B – Any other areas

S. No.	Deviation	Material	Non-Material	Impacted Deliverable(s)	Impacted Timeline(s)	Financial Impact

Yours sincerely,

Authorized Signature:

Name and Title of Signatory:

Name of Firm:

Address:

## Form 12: Manufacturer's Authorization Form

<Location, Date>

To,

Director  
Madhya Pradesh Professional Examination Board (PEB)  
"Chayan Bhawan", Main Road No.1,  
Chinar Park (East),  
Bhopal - 462011

### **Sub: Manufacturer Authorization Letter for RFP No. <> dated <> for <RFP Name>**

Dear Sir,

We, <OEM Name> having our registered office at <OEM address>, hereinafter referred to as OEM are an established manufacturer of the following items quoted by <Bidder Name> having their registered office at <Bidder address>, hereinafter referred to as Bidder.

We <OEM Name> authorize <Bidder's name> to quote our product for above mentioned tender as our Authorized Indian Agent.

We confirm that we have understood the delivery & installation time lines defined in the RFP. We confirm that we have worked out all necessary logistics and pricing agreement with <bidder name>, and there won't be any delay in delivery, installation and support due to any delay from our side. Our full support as per pre-purchased support contract is extended in all respects for supply, warranty and maintenance of our products. We also ensure to provide the required spares and service support as pre-purchased for the supplied equipment for Contract Term. In case of any difficulties in logging complaint at bidder end, user shall have option to log complaint at our call support centre.

We also undertake that in case of default in execution of this tender by Bidder, we shall provide necessary support to Madhya Pradesh Professional Examination Board (PEB) in identifying another authorized partner with similar certifications/capabilities and extend support to the new partner in accordance with OEM's agreement with the new partner. In case Bidder is unable to fulfil the obligations given under this RFP, OEM shall be responsible to replace the Bidder with an alternate Indian Authorized agent to facilitate PEB to get the requisite work done. OEM shall also ensure that the alternate Indian Authorized Agent in this case shall abide by all the terms and conditions laid down under this tender and during the empanelment of the Bidder for the quoted OEM products.

If any product is declared end of sale, we shall proactively ensure that a suitable equivalent or higher roll over product is offered through the existing Bidder to PEB for due approval, empanelment and order executions thereafter.

We understand that any false information/commitment provided here may result in <OEM's Name> getting debarred from doing business with PEB.

Yours sincerely,

For <OEM/Manufacturer name>

Authorized Signature [In full and initials]: \_\_\_\_\_

Name and Title of Signatory: \_\_\_\_\_

Name of Firm: \_\_\_\_\_

Address: \_\_\_\_\_

Location: \_\_\_\_\_ Date: \_\_\_\_\_

**Note:**

- *The letter should be submitted on the letter head of the Manufacturer/OEM and should be signed by the authorized signatory*
- *Any deviation would lead to summarily rejection of bids*

### Form 13: Format for Power of Attorney

Dated: \_\_\_\_\_

#### To Whomsoever It May Concern

Know all men by these presents, we \_\_\_\_\_(name and registered office address of the Bidder) do hereby constitute, appoint and authorize Mr. \_\_\_\_\_ (Name of the Person(s)), domiciled at \_\_\_\_\_(Address), acting as \_\_\_\_\_(Designation and the name of the firm), as Authorized Signatory and whose signature is attested below, as our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our Proposal for award of Tender for **“Selection of a system integrator for design, development, maintenance and operations of an end to end computerized examination system”** involving the deliverables including Provisioning for IT infrastructure, Implementation Services, Maintenance and support for at least 5 years as per location provided in Purchase Order by Professional Examination Board, Madhya Pradesh, vide Invitation for Tender (Tender Document) Document dated\_\_\_\_\_, issued by The Director, Professional Examination Board, Madhya Pradesh, including signing and submission of all documents and providing information and responses to clarifications / enquiries etc.

We hereby agree to ratify all acts, deeds and things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

For -----

(Signature)

(Name, Title and  
Address)

Accept

(Attested signature of Mr. \_\_\_\_\_)

(Name, Title and Address of the Attorney)

Notes:

- *The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.*
- *Also, wherever required, the executant(s) should submit for verification the extract of the charter documents and documents such as a resolution / power of attorney in favour of the Person executing this Power of Attorney for the delegation of power hereunder on behalf of the executants(s).*

## 14 Appendix II: Financial Proposal Templates

### Form 1: Covering Letter

<Location, Date>

To

Director  
Madhya Pradesh Professional Examination Board (PEB)  
"Chayan Bhawan", Main Road No.1,  
Chinar Park (East),  
Bhopal - 462011

**Subject:** Submission of the financial bid for Selection of a system integrator for design, development, implementation and maintenance of an end to end computerized examination system

Dear Sir/Madam,

We, the undersigned, offer to provide the Implementation services for design, development, implementation and maintenance of an end to end computerized examination system in accordance with your Request for Proposal dated <<Date>> and our Proposal (Technical and Financial Proposals). Our attached Financial Proposal is for the sum of INR\_\_\_\_\_. This amount is inclusive of the local taxes.

#### 1. PRICE AND VALIDITY

All the prices mentioned in our Tender are in accordance with the terms as specified in the RFP documents. All the prices and other terms and conditions of this Bid are valid for a period of <days> calendar days from the date of opening of the Bid.

We hereby confirm that our prices include all taxes. However, all the taxes are quoted separately under relevant sections. Any miscalculation of taxes would be on our own account.

We understand that the actual payment would be made as per the existing indirect tax rates during the time of payment.

#### 2. UNIT RATES

We have indicated in the relevant forms enclosed, the unit rates for the purpose of on account of payment as well as for price adjustment in case of any increase to / decrease from the scope of work under the contract.

#### 3. TENDER PRICING

We further confirm that the prices stated in our bid are in accordance with your Instruction to Bidders included in Tender documents.

#### 4. QUALIFYING DATA

We confirm having submitted the information as required by you in your Instruction to Bidders. In case you require any other further information/documentary proof in this regard before evaluation of our Tender, we agree to furnish the same in time to your satisfaction.



**5. BID PRICE**

We declare that our Bid Price is for the entire scope of the work as specified in Section 7, "Scope of Work". These prices are indicated in Commercial Bid attached with our Tender as part of the Tender.

**6. PERFORMANCE BANK GUARANTEE**

We hereby declare that in case the contract is awarded .to us, we shall submit the Performance Bank Guarantee as specified in this RFP document.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal.

We understand you are not bound to accept any Proposal you receive.

We hereby declare that our Tender is made in good faith, without collusion or fraud and the information contained in the Tender is true and correct to the best of our knowledge and belief.

We understand that our Tender is binding on us and that you are not bound to accept a Tender you receive.

Thanking you,

Yours sincerely,

Authorized Signature:

Name and Title of Signatory:

Name of Firm:

Address:

**Form 2: Financial Proposal**

S. No.	Item	Price (A)	Taxes (wherever applicable) (B)	Total cost (A+B)
1	Application Customization / Development + Development of Information Security Policies & Procedures + Any other service to be provided			
2	Handholding Staff Cost			
3	Helpdesk Services Cost			
4	Operations and Maintenance Costs (for 5 years of contract after "Go-Live")			
5	Training Cost			
6	Data Migration Cost			
			<b>Total cost</b>	
<b>Total Cost in Figures:</b>				

**Note: All figures to be quoted in INR (Indian National Rupee)**

## 15 Appendix III: Templates for Performance Bank Guarantee (PBG) & Change Control Note (CCN)

### Form 1: Performance Bank Guarantee

Ref: \_\_\_\_\_

Date \_\_\_\_\_

Bank Guarantee No. \_\_\_\_\_

To

Director

Madhya Pradesh Professional Examination Board (PEB)

“Chayan Bhawan”, Main Road No.1,

Chinar Park (East),

Bhopal - 462011

1. Against contract vide Advance Acceptance of the Tender No. \_\_\_\_\_ dated \_\_\_\_\_ covering \_\_\_\_\_ (hereinafter called the said “Contract”) entered into between Madhya Pradesh Professional Examination Board (PEB) (hereinafter called “Purchaser”) and \_\_\_\_\_ (hereinafter called the “Bidder”) this is to certify that at the request of the Bidder we ----- Bank Ltd., are holding in trust in favour of Purchaser, the amount of \_\_\_\_\_ (write the sum here in words) to indemnify and keep indemnified Purchaser against any loss or damage that may be caused to or suffered by Purchaser by reason of any breach by the Bidder of any of the terms and conditions of the said contract and/or in the performance thereof. We agree that the decision of Purchaser, whether any breach of any of the terms and conditions of the said contract and/or in the performance thereof has been committed by the Bidder and the amount of loss or damage that has been caused or suffered by Purchaser shall be final and binding on us and the amount of the said loss or damage shall be paid by us forthwith on demand and without demur to Purchaser.
2. We \_\_\_\_\_ Bank Ltd, further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for satisfactory performance and fulfillment in all respects of the said contract by the Bidder i.e. till \_\_\_\_\_ hereinafter called the said date and that if any claim accrues or arises against us \_\_\_\_\_ Bank Ltd, by virtue of this guarantee before the said date, the same shall be enforceable against us \_\_\_\_\_ Bank Ltd, notwithstanding the fact that the same is enforced within six months after the said date, provided that notice of any such claim has been given to us \_\_\_\_\_ Bank Ltd, by Purchaser before the said date. Payment under this letter of guarantee shall be made promptly upon our receipt of notice to that effect from Purchaser.
3. It is fully understood that this guarantee is effective from the date of the said contract and that we \_\_\_\_\_ Bank Ltd, undertake not to revoke this guarantee during its currency without the consent in writing of Purchaser.

4. We undertake to pay to Purchaser any money so demanded notwithstanding any dispute or disputes raised by the Bidder in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present bond being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Bidder shall have no claim against us for making such payment.

5. We \_\_\_\_\_ Bank Ltd, further agree that Purchaser shall have the fullest liberty, without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend time of performance by the Tendered from time to time or to postpone for any time from time to time any of the powers exercisable by Purchaser against the said Bidder and to forebear or enforce any of the terms and conditions relating to the said contract and we, \_\_\_\_\_ Bank Ltd., shall not be released from our liability under this guarantee by reason of any such variation or extension being granted to the said Bidder or for any forbearance by Purchaser to the said Bidder or for any forbearance and or omission on the part of Purchaser or any other matter or thing whatsoever, which under the law relating to sureties, would, but for this provision have the effect of so releasing us from our liability under this guarantee.
6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Bidder.

Date \_\_\_\_\_

Place \_\_\_\_\_

Witness \_\_\_\_\_

Signature \_\_\_\_\_

Printed name \_\_\_\_\_

**(Bank's common seal)**

**Form 2: Change Control Note (CCN) Format**

<b>Change Control Note</b>		<b>CCN Number:</b>
<b>Part A: Initiation</b>		
Title:		
Originator:		
Sponsor:		
Date of Initiation:		
<b>Details of Proposed Change</b>		
(To include reason for change and appropriate details/specifications. Identify any attachments as A1, A2, and A3 etc.)		
Authorized by Purchaser:	Date:	
Name:		
Signature:		
Received by the Bidder	Date:	
Name:		
<b>Signature:</b>		
<b>Change Control Note</b>		<b>CCN Number:</b>
<b>Part B : Evaluation</b>		
(Identify any attachments as B1, B2, and B3 etc.)		
Changes to Services, payment terms, payment profile, documentation, training, service levels and component working arrangements and any other contractual issue.		
<b>Brief Description of Solution:</b>		

<b>Impact:</b>	
<b>Deliverables:</b>	
<b>Timetable:</b>	
<b>Charges for Implementation:</b> (including a schedule of payments)	
<b>Other Relevant Information:</b> (including value-added and acceptance criteria)	
<b>Authorized by the Bidder</b>	<b>Date:</b>
<b>Name:</b>	
<b>Signature:</b>	
<b>Change Control Note</b>	<b>CCN Number :</b>
<b>Part C : Authority to Proceed</b>	
Implementation of this CCN as submitted in Part A, in accordance with Part B is: (tick as appropriate)	
<b>Approved</b>	

<b>Rejected</b>	
<b>Requires Further Information</b> (as follows, or as Attachment 1 etc.)	
<b>For Purchaser and its nominated agencies</b>	<b>For the Bidder</b>
Signature	Signature
Name	Name
Title	Title
Date	Date

## 16 Appendix IV: Service Level Agreement<sup>1</sup>

### Definitions

- a) For purposes of this Service Level Agreement, the definitions and terms as specified in the contract along with the following terms shall have the meanings set forth below:
- i. "Availability" shall mean the time for which the services and facilities offered by the Bidder are available for conducting operations.
  - ii. "Downtime" is the time the services and facilities are not available to PEB and excludes the scheduled outages planned in advance.
  - iii. Helpdesk Support" shall mean the Bidder's 12x7x365 (starting at 8 am) centre which shall handle Fault reporting, Trouble Ticketing and related enquiries during this contract.
  - iv. "Incident" refers to any event / abnormalities in the functioning of the solution / Services that may lead to disruption in normal operations.

### 1. Implementation Phase

Sr. No.	Measurement	Definition	Target	Penalty
1.	UAT Defect Density – Severity Level wise Defects	Delay in submission of any of the following deliverables: <ul style="list-style-type: none"> <li>• Project management Plan</li> <li>• Information Security Policies &amp; Procedures</li> <li>• Exit Management Plan</li> <li>• Establishment of live project management dashboard</li> <li>• SRS document</li> </ul>	<2 weeks delay	INR 2,50,000/- per deliverable per week of delay
			>=2 weeks to <3 weeks delay	INR 5,00,000/- per deliverable per week of delay
			>=3 weeks to <4 weeks delay	INR 10,00,000/- per deliverable per week of delay
			>4 weeks delay	Event of Default & Escalation to PEB and Bidder's Management
2.	UAT Defects	The SI shall maintain UAT defect log and penalties will be calculated for UAT from 2 <sup>nd</sup> round of User testing	<24 hours for resolution	No penalty
			>=24 hours to <48 hours for resolution	INR 25,000/- per defect
			>=48 hours to <72 hours for resolution	INR 50,000/- per defect
			>=72 hours to <96 hours for resolution	INR 1,00,000/- per defect

<sup>1</sup> Applicable SLAs during the Project Implementation Phase (i.e. from T+5 weeks to T+32 weeks) will be mutually agreed with the selected Bidder and will be incorporated as part of the contract agreement



			resolution	
			>=96 hours for resolution	Event of Default & Escalation to PEB and Bidder's Management
3.	Go-Live	Completion of - Rollout of system would mean, Go-live of the system such that all application users are able to use the centralized application /portal, to the satisfaction of the users & purchaser and confirming to the application response time parameters as defined in this tender document.	<2 weeks delay in rollout of system	INR 2,50,000/- per week of delay
			>= 2 weeks to <4 weeks delay in rollout of system	INR 5,00,000/- per week of delay
			>=4 weeks to <6 weeks delay in rollout of system	INR 7,50,000/- per week of delay
			>=6 weeks to <8 weeks delay in rollout of system	INR 10,00,000/- per week of delay
			>=8 weeks to <10 weeks delay in rollout of system	INR 15,00,000/- per week of delay
			>10 weeks delay in rollout of system	Event of Default & Escalation to PEB and Bidder's Management

**2. Performance of System – System Integrator**

Sr. No	Measurement	Definition	Penalty Calculation Interval	Target	Penalty
1.	Average time taken for opening Internet portal (Home page) from remote site at 512 Kbps connectivity	Script based checking facilitated by system integrator. Every 10 minutes daily (8am to 8 pm)	Quarterly	<=10 seconds	No Penalty
				>10 seconds	INR 5,000/- per instance of default
2.	Average time for submission of forms	Random check (100 instances per quarter) would be conducted	Quarterly	<= 5 seconds	No Penalty

Sr. No	Measurement	Definition	Penalty Calculation Interval	Target	Penalty
	/ data by PEB Average form size 100 KB and 512 Kbps connectivity	for determining average time		> 5 seconds	INR 5,000/- per instance of default
3.	Average time for submission of forms/ data by institute staff / Students  (Time between pressing the 'submit' button and generation of acknowledgement of successful or unsuccessful submission from the system)	Random check (100 instances per quarter) would be conducted, during peak hours, for determining average time.	Quarterly	< 1 minute	No Penalty
				> 1 minute	INR 5,000/- per instance of default
4.	Availability of all online applications and portal  (Primary / DR as the case may be)	Script based checking facilitated by system integrator.  Every 10 minutes daily (8am to 8 pm)  Non- availability of even one of the agreed services would amount to deviation for this purpose	Quarterly	>= 99.75%	No penalty
				>= 99.74% to < 99.75%	INR 50,000/-
				>= 99.72% to < 99.74%	INR 1,00,000/-
				>= 99.70% to < 99.72%	INR 1,50,000/-
				< 99.70%	Event of Default & Escalation to PEB and Bidder's Management
			Quarterly	Continuous downtime for more than 30 minutes	INR 2,00,000/- per instance
5.	Concurrent connects to the Web services	Simulated the stated loads and testing the system performance using load-testing tools.	Weekly	<2,500 Concurrent Users per minute	INR 1,00,000/-

### 3. Quality of Services

Sr. No.	Measurement	Definition	Penalty Calculation Interval	Target	Penalty
<b>Application Maintenance</b>					
1.	Scheduled Maintenance	The SI shall provide a detailed application maintenance plan on the commencement of the project.	Quarterly	100% of scheduled maintenance should be carried out as per maintenance plan submitted by the SI. Any scheduled maintenance needs to be planned and intimated to PEB at least 2 working days in advance.	INR 50,000 (for every non-compliance)

#### 4. Technical Support Services

Sr. No.	Measurement	Definition	Penalty Calculation Interval	Service Level Target	Penalty
1.	Response time (Only for problem request / defect fixes)	<p><b>“Response Time”</b>, means time taken (after the request has been logged at the helpdesk and escalated to SI team) by the respective SI staff in responding to the call and updating the status of the call in the Help Desk system. The response time would include:</p> <ul style="list-style-type: none"> <li>• Call diagnosis</li> <li>• Categorization into problem request/change requests for defect fixes</li> <li>• Assign severity levels to PRs</li> <li>• Tentative timelines for further action.</li> </ul>	Quarterly	At least 99% of the calls within 60 minutes	No penalty
				>= 97% to < 99% of the calls within 60 minutes	INR 25,000/-
				>= 95% to < 97% calls within 60 minutes	INR 50,000/-
				>= 90% to < 95% calls within 60 minutes	INR 75,000/-
				<90% calls within 60 minutes	INR 1,00,000/-
2.	Resolution Time	<b>“Resolution Time”</b> , means time	Quarterly	At least 99% calls to be	No penalty

Sr. No.	Measurement	Definition	Penalty Calculation Interval	Service Level Target	Penalty
		taken by the SI staff to troubleshoot and fix the problem/defect from the time the call has been escalated to the SI team till the delivery of the solution to PEB for UAT and subsequently updates the status of the call in the Help Desk system.	average	resolved within 2 working days	
	>= 97% to < 99% calls to be resolved within 2 working days			INR 25,000/-	
	>= 95% to < 97% calls to be resolved within 2 working days			INR 50,000/-	
	< 95% calls to be resolved within 2 working days			INR 75,000/-	
				Any 3 consecutive months of any of the above default will lead to termination of contract	

#### 5. Helpdesk

Sr. No.	Measurement	Definition	Penalty Calculation Interval	Service Level Target	Penalty
1.	Availability of call lines / ticketing system at Help Desk Locations	Uptime = {1 - [(Call line / Ticketing System downtime) / (Total Time)]}  Total Time shall be measured on 8*6 basis  Downtime shall be measured from the time the call line / ticketing system at a help	Quarterly	Minimum 95% up time measured on a Quarterly basis per toll-free line  100% of the toll-free lines should meet the above Target	No penalty
				Minimum 95 % uptime measured on a Quarterly basis per toll-free line	INR 25,000/-

Sr. No.	Measurement	Definition	Penalty Calculation Interval	Service Level Target	Penalty
		desk becomes unavailable to the respective users to the time it becomes available		>= 99.0% to < 100% of the toll-free lines meeting the above target	
				Minimum 95 % uptime measured on a Quarterly basis per toll-free line	INR 50,000/-
				>= 97.0% to < 99 % of the toll-free lines meeting the above target	
				Minimum 95 % uptime measured on a Quarterly basis toll-free line	INR 75,000/-
				>= 95.0% to < 97 % of the toll-free lines meeting the above target	
				Minimum 95 % uptime measured on a Quarterly basis toll-free line	INR 1,00,000/-
				< 95 % of the toll-free lines meeting the above target	

**6. Compliance Procedures**

Sr. No.	Measurement	Definition	Penalty Calculation Interval	Target	Penalty
1.	Incident Reporting	Any failure/incident on any part of the solution shall be communicated immediately to PEB as an exceptional report giving details of impact, if any.	Daily	100% incidents to be reported to PEB within 1 hour with the cause and action for the incident.	No Penalty
				Delay beyond an hour	INR 10,000/- for every hour of delay
			Daily	100% incident log to be submitted PEB that comprises exceptional & normal reportable activities by 5 <sup>th</sup> of every Quarter for the previous quarter.	No Penalty
				Delay beyond the date of submission	INR 25,000/- for every day of delay/-
2.	Information Security	Any failure/incident on any part of the information security breach shall be communicated immediately to PEB as an exceptional report giving details of impact, if any.	Daily	100% incidents to be reported to PEB within 1 hour with the cause and action for the incident.	No Penalty
				Delay beyond an hour	INR 10,000/- for every hour of delay

Sr. No.	Measurement	Definition	Penalty Calculation Interval	Target	Penalty
			Daily	100% incident log to be submitted to PEB that comprises exceptional & normal reportable activities by 5 <sup>th</sup> of every Quarter for the previous quarter.	No Penalty
				Delay beyond the date of submission	INR 25,000/- for every day of delay
3.	Implementation of Audit Recommendations	Implementation of audit recommendations by PEB or its auditor which have been agreed by Bidder & PEB to be implemented.	Half-yearly	100% on time to be implemented as per timelines agreed upon with PEB.	INR 2,50,000/- for each instance of breach
4.	Adherence to Backup Policy	The SI shall adhere to the Backup Policy developed in consultation with PEB.	Quarterly	100% adherence to Backup policy	INR 2,50,000/- for each instance of breach
5.	DR Drill	The SI shall adhere to the DR Policy developed in consultation with PEB.	Quarterly	100% of the time the drill should happen as per schedule mentioned in the PEB's DR policy	INR 2,50,000/- for each instance of breach

### 7. Data Migration

Sr. No.	Measurement	Definition	Target	Penalty
1.	Data Migration	Completion of data migration	>1 week to <= 6	INR 1,00,000/-

Sr. No.	Measurement	Definition	Target	Penalty
		as per project plan	weeks delay in data migration	per week of delay
			> 6 Weeks delay in data migration	Event of Default & Escalation to PEB and Bidder Management

### **Issue Management Procedures**

#### a) General

- i. Issue Management process provides for an appropriate management structure towards orderly consideration and resolution of business and operational issues in the event of a quick consensus not reached between PEB and Bidder.
- ii. Implementing such a process at the commencement of services shall significantly improve the probability of successful issue resolution. It is expected that this pre-defined process will only be used on an exception basis if issues are not resolved at operational levels.

#### b) Issue Management Procedures

- i. Either PEB or Bidder may raise an issue by documenting the business or technical problem, which presents a reasonably objective summary of both points of view and identifies specific points of disagreement with possible solutions.
- ii. The PEB and the Bidder will determine which committee or executive level should logically be involved in resolution.
- iii. A meeting or conference call will be conducted to resolve the issue in a timely manner. The documented issues will be distributed to the participants at least 24 hours prior to the discussion if the issue is not an emergency requiring immediate attention.
- iv. PEB and the Bidder shall develop an interim solution, if required, and subsequently the permanent solution for the problem at hand. The Bidder will then communicate the resolution to all interested parties.
- v. In case the issue is still unresolved, the arbitration procedures described in the contract will be applicable.