**RFP for Software Development, Integration and Cloud Storage Services**



**For The Project**

**Modernization of PASTIC National Science Reference Library for Effective Resource Sharing Among S&T Libraries in Pakistan**

**Pakistan Scientific and Technological Information Center (PASTIC)**

**Islamabad**

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# Introduction of PASTIC

Pakistan Scientific and Technological Information Center (PASTIC) is the premier organization for dissemination of Scientific and Technological Information to the Scientists, Researchers, Engineers, Entrepreneurs, Industry and Citizens of Pakistan. PASTIC National Center is located in Quaid-i-Azam University Campus in Islamabad. It has six Sub Centers throughout Pakistan including Karachi, Lahore, Peshawar, Quetta, Faisalabad and Muzaffarabad. PASTIC's services include Bibliographic Service, Document Supply Service, Abstracting and Indexing Service, National Science Reference Library, Reprographic Services, and Technology Information Services. PASTIC works under Pakistan Science Foundation which is the public organization for the promotion of Scientific Activities across Pakistan.

# Scope of Work

Modernization of PASTIC National Science Reference Library for Effective Resource Sharing among S&T Libraries in Pakistan

1. Creation of digital repository of indigenous literature.
2. Creation of Union Online Public Access Catalogue (Union OPAC) for books and monographs of literature.
3. Generation of union list of International scientific research databases subscribed by S&T and R&D organizations of Pakistan.
4. Development or Customization Open Source Library Management System

# Technical Requirements

Solution should cover end-to-end architecture including but not limited to components:

1. Deploy, integrate end-to-end software solution based on cloud architecture including all required infrastructure components.
2. Cloud Management Platform (CMP) based software
3. Infrastructure including (Compute Instance, Storage, Backup, Network and Security etc.)
4. Highly redundant architecture with active Datacenter based on two (2) geo locations
5. Maintenance Services/Infrastructure Operations.
6. Vendor needs to provide similar infrastructure architecture at both sites.
7. Vendor should manage end-to-end CMP & Infrastructure Operations; need based minor development and Maintenance after Go-Live for the agreed period of contract.
8. Vendor to ensure the security of cloud platform
9. Vendor to ensure that the infrastructure shall comply with latest technologies/upgrades throughout the period of contract.

**Note:** Vendor should propose best cloud architecture with 99.99% availability for infrastructure and disaster recovery enable solution to provide uninterrupted business services to IAAS customers.

# Solution Requirements:

1. Proposed software solutions should support web platform with support for cross- platform technologies across all solution domains like RFID integration.
2. All Infrastructure cloud should be with component level high availability, with reduced foot print.
3. Assurance of compatibility for different components in terms of integration with orchestration layer.
4. Vendor must provide Low level designs for architecture, implementation, integrations, security, logical data flow between components vetted by principal
5. Vendor must provide component level private networking which must reside in different security zones as of public.
6. Proposed solution should have a documented support structure with service level agreement (SLA) based support.
7. Vendor must propose and deliver high availability scenarios.
8. Proposed solution should have well designed architecture for multi-tenancy, scalability and elasticity for all solution components i.e. compute, network, storage, security etc.
9. A complete backup solution is to be proposed with respect to the Infrastructure as a service (IAAS) solution provided.
10. Fully redundant solution at each level in order to support 24x7x365 operations
11. Vendor must provide security of cloud environment (including but not limited to) network stack, web servers, database servers, load balancers, software & Operating system.
12. Solution should have strong support for application level virtualization and integration among different instances of application.
13. Vendor will provide complete redundancy and uptime plan including but not limited to load balancers, multi-tier web servers, clustered database and should justify the proposed solution in terms of redundancy and availability.
14. Offered Solution must cover end to end integration of different component with local and remote application program interface(APIs).
15. All software development has to follow industry recommended Agile practices. Vendor must have prior expertise and experience in executing projects based on these practices.
16. Vendor will be responsible for releasing shippable and testable product slice at the end of each sprint cycle.

# General Requirements:

The vendor should ensure completion of project within 90days.

1. The vendor should provide the EOX and roadmap of all products proposed clearly as an appendix to the technical proposal.
2. The Cloud structure/Compute BOQ to be provided by Vendor will be for 2 years.
3. The Vendor will undertake the project on a turn-key basis and will be responsible for the end-to-end scope of the project.
4. First 2 years, support will be considered as managed services yearly contract will be revised after first 2 years.
5. The vendor will provide all relevant technical consultancy services (e.g. Integrations, orchestration, automation and management layer etc.) for successful deployment.
6. The Vendor shall be responsible for managed services of the platform with resident engineers.No remote access shall be provided to any unauthorized person/place outside Pakistan for any maintenance/repairs/databases/facility.
7. The solution must have 10-15% capacity for immediate expansion at any point in time.
8. The Vendor must able to double the platform capacity on 90 days’ notice.
9. The solution components must not have hardware interdependency for an upgrade.
10. The vendor proposing the Cloud solution must have well established cloud and non-cloud business in Pakistan Enterprise domain including large enterprises, SMEs etc. These enterprises could include Banking and financial institutions, manufacturing, FMCG, Service industry, Pharmaceuticals and Healthcare, Textile, Media & Communication etc.
11. In case of disaster, vendor shall be able to re-setup the infrastructure with the same scope.
12. Vendor will be responsible the year wise backup plan for infrastructure
13. Vendor to ensure the latest update of platform (including but not limited to Compute and software) throughout the tenure of contract.
14. Vendor to ensure that the platform and the services must meet all the regulatory and legal requirements that are applied on a service provider.
15. Vendor will be required to provide complete source code and documentation for the system.
16. Only properly licensed and legitimized open source and with third party libraries can be leveraged in the system subject to the applicable laws.
17. Data/Application ownership will remain the property of the PASTIC and will not be handed over (either soft or hard format) to any third party with prior approval/permission of the PASTIC.
18. System must be supported multi languages including RTL languages, below mentioned Languages would be the minimum criteria,
	1. English
	2. Arabic
	3. Urdu
	4. Persian
19. The system must support 1500 concurrent users across the country with around 400+ libraries having nearby 3 Million Digital Records searchable in seamless manner. This would be the minimum testing criteria at the time of acceptance.

# Functional Requirements

Required software system consists of three separate components.

1. Library Management System
2. End User Interface

## Library Management System

Vendor is supposed to provide a complete end-to-end web based solution (with source code) for the library and catalog management system with modules supporting different roles including users, content creators and administrators. Centralized servers with multiple independent libraries interface each having its own OPAC staff client and independent data base along with union catalog of all libraries. System should be supported two-way integration for Library software.

**Librarian Interface.**

This section lists the functionalities that can be performed by staff/librarian. System should support the following functionalities for staff.

### Circulation

This section covers functionality related to issuance/returning of titles. System should support the following functionalities.

1. Check Out: Issue a title against users
2. Check In: Return an issued title
3. Renew: Renew/extend checkout
4. Transfer: Transfer title to another user
5. Hold Request: Request for future title issuance.
6. Generate the SMS and Email alerts (Item barrow and Item return alerts)

### Cataloging

This section covers functionality related to managing records. Following functionalities should be supported

1. Add new record
2. Update existing record
3. Delete a record
4. Acquisitions

System should support acquisition of new content from vendors. Vendors should also be managed through the system.

### Advanced Search

System should support extensive search based on following criteria:

1. Keyword based search and supporting operators.
2. Complete content search.
3. Search based on category, subject and date.
4. Sorting.
5. User should be able to search all libraries or selected (three to four) libraries simultaneously.

### Reports

This section covers functionality related to reporting. System should generate the following reports at the minimum

1. Hold Queues
2. Checkouts
3. Overdue
4. Customized Repots

## End User Interface

This section lists the requirements pertaining interfaces available for end-users.

### Search

1. User should be able to search titles based on multiple parameters like title, author, subject, date etc.
2. User should be able to perform advance search including logical operators and other advance criteria.
3. User should be able to search titles from all libraries or a particular one.

### Content Browsing

1. User should be able to view details of a particular titles either by going through search or trough lists.
2. User should be able to see details about the titles like availability and physical location etc.
3. Users should be able to reserve/request the titles.

### Lists

1. User should be able to create/edit/remove private lists.
2. User should be able to view publicly available lists containing group of books.

# Digital Repository

Vendor is supposed to provide a complete digital content management solution that should be capable of storing digital content (different documents, conference proceedings, repots, Proposals and Journal Articles).

System should support extensive searching from the contents of different documents, conference proceedings, repots, Proposals and Journal Articles. The media should be downloadable and viewable wherever applicable.

## Application Architecture:

Contractor will provide open source full stack web application, consisting of a database, storage manager and front-end web interface. The architecture includes a specific data model with configurable metadata schemas, workflows and browse/search functionality.

## Built-in workflows:

Originally designed for libraries, the embedded application data model and approval workflows are familiar to librarians and archivists.

## Built-in search engine:

Vendor will provide filtered (faceted) searching and browsing of all objects. The full text of common file formats is searchable, along with all metadata fields. Browse by interfaces are also configurable.

## Unlimited File types:

System should be able to store any type of file. In addition, it auto-recognizes files of most common formats (e.g., DOC, PDF, XLS, PPT, JPEG, MPEG, TIFF).

## Metadata:

By default, system should able to use a Qualified Dublin Core (QDC) based metadata schema. Institutions can extend that base schema or add custom QDC-like schemas. Application could import or export metadata from other major metadata schemas such as ABCD, Data package, D.C.A.T

## Tools/plugins:

System should be able to come with a suite of tools (batch ingest, batch export, batch metadata editing, etc.) and plugins for translating content into application objects. Additionally, commercial plugins are available through service providers.

## Security:

System should be able to provide its own built-in authentication / authorization system, but can also integrate with existing authentication systems such as LDAP or Shibboleth.

## Permissions:

System should be able to allow to control read/write permissions site-wide, per community, per collection, per item and per file. And also delegate administrative permissions per community or per collection.

## Disaster Recovery:

System should be able to allow to export all system content as AIP (Archival Information Packages) backup files. These AIPs can be used to restore entire site, or restore individual communities, collections or items.

## Representational State Transfer (REST):

System should be able to provide RESTful APIs in accordance with modern web standards.

## Configurable Database:

The system should not be tightly coupled with a database. It should be configurable so as to address different needs and scale at the time of need.

## Configurable File Storage:

The storage should be configurable on either local file system or onto the cloud.

## Data Integrity:

On upload, system should be able to calculate and store a checksum for each file. Optionally, Purchaser may ask application to verify those checksums to validate file integrity.

# Union Catalogue Management

### Data Fetching

System should be capable to fetch publicly available libraries catalogue data updated and being run on compatible or not compatible software from a predefined set of libraries part of KOHA Integrated Library System (ILS) solution. This feature should also support periodic synchronization so as to accommodate changes.

### Searching

Searching results of theUnion Catalogue must be displayed in such a manner that country, provinces and cities along with list of universities/organizations in a hierarchical model.

|  |  |
| --- | --- |
| Sr. # | System Requirement Description |
| Other Functional Requirements |
| 1 | Software System has to be developed as a web solution with interfaces available for both end-users, content creators and administrators. |
| 2 | System should allow users to identify themselves based on valid credentials. This is necessary to display appropriate data to the users based upon access rights. |
| 3 | System should be integrated with the main PASTIC website through visible interfacing on the website home page as well as mobile application. Vendor should also provide web API for the searching of the records on PASTIC website. |
| 4 | System should allow users to identify themselves based on different roles. This should be customizable by administrators in the admin panel. Admins should have access to alter any user’s access rights. User authorization will enable the system to identify user access level. Depending upon the user rights, system should be able to control what data to be made available to which user. |
| 5 | System must be supported multi Languages including RTL languages, below mentioned Languages would be the minimum criteria: English, Arabic, Urdu, Persian |
| 6 | System should be integrate able with other library systems operating on Koha, DSpace and ABCD software libraries.  |
| 7 | System should generate relevant notifications through email and SMS. These notifications should be customizable through admin panel. |
| 8 | System should support import and export of data in multiple formats including but not limited to CSV.  |
| 9 | System should provide comprehensive dashboards for complete reporting and analytics that enable smart decisions.  |
| 10 | Punjabi, Pashto, Sindhi and Balochi keyboard integration in the system. System should be capable of searching content not only limited to English language but also do searching in Urdu, Arabic, Sindhi, Punjabi, Pashto and Balochi language. |
| 11 | Vendor should give training to our PASTIC resource Person to handle the system efficiently in future. |
| 12 | Vendor Should provide Unit testing and Stress testing reports to check the Quality of Service (QoS) of the system. |

# Non Functional Requirements

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| Sr. # | System Requirement Description |
| Overall Non Functional Requirements |
| 1 | User interface for the system should be simple and intuitive. |
| 2 | The front-end system should be fully responsive to all major devices and platforms.  |
| 3 | System should be highly scalable, maintainable and extendable through modular design with low coupling and high cohesion |
| 4 | System design should be based on n-tier architecture so as to support scalability and extendibility |
| 5 | System should be highly robust and responsive levering the best of infrastructure a reliable cloud ecosystem offers.  |
| 6 | System should be designed in a way that future integrations with other library software is easily managed through pluggable and extendable interfaces. |
| 7 | System should be thoroughly tested using a combination of industry standard practices and processes for black and white box testing. Test reports should be shared with PASTIC. |
| 8 | Complete documentation and user manual for the system should be provided along with other deliverables. |

# Security Requirements:

The offered solution shall be able to solve the potential security issues caused by the introduction of the virtualization layer. The offered solution shall be able to provide protection of the data, stored or transmitted.

Some of the main security objectives for a cloud computing implementer should include:

|  |  |
| --- | --- |
| Sr. # | System Requirement Description |
| Overall Security Technical Requirements |
| 1 | Protect cloud infrastructure with coordinated security technologies and controls at each layer of the architecture. |
| 2 | Proposed architecture must support mobility and cloud technology while protecting critical customer’s data. |
| 3 | Solution must contain IPS, IDS and firewall capabilities to separate administration and customers, same should be taking care of inter-node communication. |
| 4 | Protect data from unauthorized access, disclosure, modification or monitoring. Prevent unauthorized access to cloud computing infrastructure resources. Vendor must also configure SSL certificate to secure Web Platform. |
| 5 | Include access control and intrusion detection and prevention solutions in cloud computing implementations.  |
| 6 | Protection from unwanted access/unauthorized logging, corruption and data alteration |
| 7 | The solution must have capability to detect and mitigate any kind of malware/DDoS breakouts |
| 8 | Solution should support multi factor authentication mechanism for secure access towards self-service portal |
| 9 | Vendor shall comply with latest technologies standard throughout the contract period. |
| 10 | Vendor Shall be responsible for Vulnerability assessment and penetration Testing cost of application and responsible for the up gradation of patches according to the vulnerability report.  |
| 11 | Vendor shall be responsible for Making sure all future interfaces are well defined, based on HTTP protocol, extends API and also configure SSL certificate.  |
| 12 | All API interfaces will incorporate mandatory security policy. |
| 13 | Proposed Software/Cloud/Network system will be designed, developed, deployed and managed by Vendor. |

# Support and Maintenance Services:

1. The Vendor shall be responsible for support and maintenance services of the platform and software application.
2. The Vendor should provide a resident engineer for Managed services and on-site support/operations of the platform/application.
3. Contractor shall provide 24x7 dedicated supports for Cloud platform and infrastructure/software.
4. Vendor must implement optimization, QoS of infrastructure/application on quarterly basis.
5. Vendor shall provide SLA for incident management.

# Competitive Bidding

Single Stage - Two Envelope Bidding Procedure shall be followed. The said procedure is reproduced as follows:

1. the bid shall be a single package consisting of two separate envelopes, containing separately the financial and the technical proposals;
2. the envelopes shall be marked as “Financial Proposal” and “Technical Proposal”;
3. in the first instance, the “Technical Proposal” shall be opened and the envelope marked as “Financial Proposal” shall be retained unopened in the custody of the procuring agency;
4. the purchaser shall evaluate the technical proposal in the manner prescribed in advance, without reference to the price and shall reject any proposal which does not conform to the specified requirements;
5. during the technical evaluation no amendments in the technical proposal shall be permitted;
6. after the evaluation and approval of the technical proposals, the procuring agency shall open the financial proposals of the technically accepted bids, publically at the time, date and venue announced and communicated to the bidders in advance, within the bid validity period;
7. the financial bids found technically nonresponsive shall be returned un-opened to the respective bidders; and
8. the lowest evaluated bidder shall be awarded the contract.

# Bidding Details (Instructions to Bidders)

All bids must be accompanied by Bid Security (Earnest Money) as part of Financial bid and as per provisions of the clause “Bid Security” of this document in favor of **“Pakistan Scientific and Technological Information Center”**. The complete bids as per required under this tender document must be delivered into the Tender Box, placed at reception of PASTIC, not later than 10:30am hours on last date of submission of bids i.e. 04 June, 2018, late bids shall not be considered. The Technical bids shall be publicly opened in PASTIC office.

At 10:30am hours on 04 June, 2018. In case the last date of bid submission falls in / within the official holidays / weekends of the Purchaser, the last date for submission of the bids shall be the next working day.

Queries of the Bidders (if any) for seeking clarifications regarding the specifications of the software licenses / services must be received in writing to the Purchaser till 04 June, 2018. Any query received after said date may not be entertained. All queries shall be responded to within due time.

The bidder shall submit bids which comply with the Bidding Document. Alternative bids shall not be considered. The attention of bidders is drawn to the provisions of this tender document Clause regarding **“Determination of Responsiveness of Bid” and “Rejection / Acceptance of the Tender”** for making their bids substantially responsive to the requirements of the Bidding Document.

It will be the responsibility of the Bidder that all factors have been investigated and considered while submitting the Bid and no claim whatsoever including those of financial adjustments to the contract awarded under this Bid Process will be entertained by the Purchaser. Neither any time schedule, nor financial adjustments arising thereof shall be permitted on account of failure by the Bidder.

The Bidder shall be deemed to have satisfied itself fully before Bid as to the correctness and sufficiency of its Bids for the contract and price/cost quoted in the Bid to cover all obligations under this Bid Process.

It must be clearly understood that the Terms and Conditions and Specifications are intended to be strictly enforced. No escalation of cost except arising from increase in quantity by the Bidder on the demand and approval of the Purchaser will be permitted throughout the period of completion of the contract.

The Bidder should be fully and completely responsible for all the deliveries and deliverables to the Purchaser.

The Primary Contact & Secondary Contact for all correspondence in relation to this bid is as follows:

**Primary Contact**

|  |  |
| --- | --- |
| Name: | Syed HabibAkhterJaffri |
| Designation: | Project Coordinator |
| Email ID: | habibjaffri@gmail.com  |
| Address: | PASTIC National Center, Quaid-i-Azam University Campus, Islamabad. |

**Secondary Contact**

|  |  |
| --- | --- |
| Name: | Saifullah Azim |
| Designation:  | Principal System Analyst |
| Email ID: | saifullahazim@yahoo.com |
| Address: | PASTIC National Center, Quaid-i-Azam University Campus, Islamabad. |

|  |  |
| --- | --- |
| Name: | Muhammad Ghazi Khan |
| Designation:  | Additional Director (Admin) |
| Email ID: | ghazijakrani@gmail.com |
| Address: | PASTIC National Center, Quaid-i-Azam University Campus, Islamabad. |

Bidders should note that during the period from the receipt of the bid and until further notice from the Primary Contact, all queries should be communicated via the Primary Contact and in writing (e-mail) only. In the case of an urgent situation where the Primary Contact cannot be contacted, the bidder may alternatively direct their enquiries through the Secondary Contact.

Bidders are also required to state, in their proposals, the name, title, contact number (landline, mobile), fax number and e-mail address of the bidder’s authorized representative through whom all communications shall be directed until the process has been completed or terminated.

The Purchaser will not be responsible for any costs or expenses incurred by bidders in connection with the preparation or delivery of bids.

Failure to supply required items/services within the specified time period will invoke penalty as specified in this document.

# TERMS AND CONDITIONS OF THE TENDER

## Definitions

In this document, unless there is anything repugnant in the subject or context:

**"Authorized Representative"** means any representative appointed, from time to time, by the Client, the Purchaser or the Contractor.

**“Availability and Reliability”** means the probability that a component shall be operationally ready to perform its function when called upon at any point in time.

**"Client"** means the Project lead of technical wing of the Purchaser for whose particular project the Services have been procured or any other person, duly appointed in writing, by the Client, for the time being or from time to time, to act as Client for the purposes of the Contract.

**“Bidder/Tenderer”** means the interested Firm/Company/Supplier/Distributors that may provide or provides the services to any of the public/private sector organization under the contract and have registered for the relevant business thereof.

**"Commencement Date of the Contract"** means the date of signing of the Contract between the Purchaser and the Contractor.

**"Contract"** means the agreement entered into between the Purchaser and the Contractor, as recorded in the Contract Form signed by the parties, including all Schedules and Attachments thereto and all documents incorporated by reference therein.

**"Contractor / Vendor"** means the Tenderer whose bid has been accepted and awarded Letter of Acceptance for a specific item followed by the signing of Contract.

**"Contract Price"** means the price payable to the Contractor under the Contract for the full and proper performance of its contractual obligations.

**"Contract Value"** means that portion of the Contract Price adjusted to give effect to such additions or deductions as are provided for in the Contract which is properly apportion-able to the Services in question.

**"Day"** means calendar day.

**"Defects Liability Period"** means the period following the start of services, during which the Contractor is responsible for making good, any flaws in Services provided under the Contract.

**"Force Majeure”** shall mean any event, act or other circumstances not being an event, act or circumstances under the control of the purchaser or of the contractor. Non-availability of materials/supplies or of import license or of export permit shall not constitute Force majeure.

**"Person"** includes individual, association of persons, firm, company, corporation, institution and organization, etc., having legal capacity.

**"Prescribed"** means prescribed in the Tender Document.

**"Purchaser"** means the PASTIC Scientific & Technological Information Center or any other person for the time being or from time to time duly appointed in writing by the Purchaser to act as Purchaser for the purposes of the Contract.

**"Services"** means the services provided / required under the clause (6).

**"Works"** means work to be done by the Contractor under the Contract.

**“Eligible”** is defined as any country or region that is allowed to do business in Pakistan by the law of Government of Pakistan.

## Tender Eligibility/Qualification Criteria

Eligible Bidder/Tenderer is a Bidder/Tenderer who:

1. Has a registered/incorporated company/firm in Pakistan with relevant business experience of last Four (04) years as on;
2. Must be registered with Tax Authorities as per prevailing latest tax rules (Only those companies which are validly registered with sales tax and income tax departments and having sound financial strengths can participate);
3. Has valid Registration of General Sales Tax (GST) & National Tax Number (NTN);
4. Has not been blacklisted by any of Provincial or Federal Government Department, Agency, Organization or autonomous body or Private Sector Organization anywhere in Pakistan.
5. (Submission of undertaking on legal stamp paper is mandatory);
6. Has submitted bid for complete items and relevant bid security;
7. Has the required relevant qualified personnel and enough strength to fulfill the requirement of assignment;

**NOTE**: Verifiable proof for all the above shall be mandatory. Non-submission may cause disqualification of the bidder for any further process.

## Tender Cost

The Tenderer shall bear all costs / expenses associated with the preparation and submission of the Tender(s) and the Purchaser shall in no case be responsible/liable for those costs / expenses.

## Joint Venture / Consortium

Joint venture / consortium are not eligible for this tender.

## Examination of the Tender Document

The Tenderer is expected to examine the Tender Document, including all instructions and terms and conditions.

## Clarification of the Tender Document

The Tenderer may require further information or clarification of the Tender Document, within 05 (five) calendar days of issuance of tender in writing. The clarification and its replies will be shared with all prospective bidders.

Bidders should note that during the period from the receipt of the bid and until further notice from the Primary Contact given herein this document, all queries should be communicated via the Primary Contact and in writing (e.g. e-mail & letter) only. In the case of an urgent situation where the Primary Contact cannot be contacted, the bidder may alternatively direct their enquiries through the Secondary Contact.

## Amendment of the Tender Document

1. The Purchaser may, at any time prior to the deadline for submission of the Tender, at its own initiative or in response to a clarification requested by the Bidder(s), amend the Tender Document, on any account, for any reason. All amendment(s) shall be part of the Tender Document and binding on the Bidder(s).
2. The Purchaser shall notify the amendment(s) in writing to the prospective Tenderers.

## Preparation / Submission of Tender

1. The Tenderer must submit bid for complete items
2. The Tender and all documents relating to the Tender, exchanged between the Tenderer and the Purchaser, shall be in English. Any printed literature furnished by the Tenderer in another language shall be accompanied by an English translation which shall govern for purposes of interpretation of the Tender.
3. The Tender shall be in two parts i.e. the technical proposal and the financial proposal. Each proposal shall be in two sets i.e. the original and the copy. In the event of any discrepancy between the original and the duplicate, the original shall govern.
4. Technical Proposal shall comprise the following, **without quoting the price**:
5. Covering letter duly signed andstamped by authorized representative.
	1. Evidence of eligibility of the Tenderer and the Services.
	2. Evidence of conformity of the Services to the Tender Document
	3. List of firm’s major international and national clientele
	4. Certificate of Company/Firm Registration/Incorporation under the laws of Pakistan
6. Submission of undertaking on legal valid and attested stamp paper/ Letterhead that the firm is not blacklisted by any of Provincial or Federal Government Department, Agency, Organization or autonomous body or Private Sector Organization anywhere in Pakistan.
7. The Contractor’s financial capacity to mobilize and sustain the Supply of Services is imperative. In the Proposal, the Bidder is required to provide information on its financial status. This requirement can be met by submission of one of the following: 1) audited financial statements for the last two (02) years, supported by audit letters, 2) certified financial statements for the last two (02) years, supported by tax returns duly signed and stamped by authorized representative.
8. The statement must be signed by the authorized representative of the Bidder
9. Valid Registration Certificate for Income Tax & Sales Tax
10. Income Tax & Sales Tax Returns for the last two(02) tax years
11. The Financial Proposal shall be submitted separate envelop :
12. The Tenderer shall seal the Original Technical Proposal in an envelope duly marked as under:

Original Technical Tender for

Tender Name: [Name of Tender]

### Tender No.

[Name of the Tenderer]

[Address of the Tenderer]

[Phone No. of the Tenderer]

1. The Tenderer shall seal the Duplicate Technical Tender in an envelope duly marked as under:

Duplicate Technical Proposal for

Tender Name: [Name of Tender]

### Tender No.

[Name of the Tenderer]

[Address of the Tenderer]

[Phone No. of the Tenderer]

1. The Tenderer shall follow the same process for the Financial Tender.
2. The Tenderer shall again seal the Original Financial Proposal in an outer envelope, duly marking the envelope as under:

Original Financial Proposal for

Tender Name: [Name of Tender]

### Tender No.

Strictly Confidential

[Name of the Tenderer]

[Address of the Tenderer]

[Phone No. of the Tenderer]

1. The Tenderer shall seal the Duplicate Financial Proposal in an envelope duly marked as under:

Duplicate Financial Proposal for

Tender Name: [Name of Tender]

### Tender No.

Strictly Confidential

[Name of the Tenderer]

[Address of the Tenderer]

[Phone No. of the Tenderer]

1. 19.17 The Tender shall be dropped in the prescribed Tender Box placed at the Reception of the Purchaser’s office, during office hours, up to due date and time.
2. 19.18 This is made obligatory to affix authorized signatures with official seal on all original and duplicate (copies) documents, annexures, copies, certificates, brochures, literature, drawings, letters, forms and all relevant documents as part of the bids submitted by the tenderer.

## Tender Price

1. The quoted price shall be:
	1. Contractor will quote the price in PKR.
	2. Priceschedule is attached as Annexure E and Annexure F.
	3. Price should beInclusive of all taxes, duties, levies, infrastructure, every kind of licenses (if applicable), insurance, freight, etc.; Purchase will not pay any type of hidden cost while implementation of project.
	4. Best / final / fixed and valid until completion of all obligations under the Contract i.e. not subject to variation / escalation;
	5. Including all charges up to the delivery point at PASTIC office Islamabad.
	6. Partial prices will not be acceptable, vendor who will quote price separately will not be entertained.
2. If not specifically mentioned in the Tender(s), it shall be presumed that the quoted price is as per the above requirements.
3. Where no prices are entered against any item(s), the price of that item shall be deemed be free of charge, and no separate payment shall be made for that item(s).
4. If any additional work will requiredwhich is not mentioned in the above scope, tenderer will quote the price for required additional work and before execution of additional work prior approval will be mandatory.

## Bid Security (Earnest Money)

1. The Tenderer shall furnish the Bid Security (Earnest Money) as under:
	1. For a sum equivalent to 2% of the Total Tender Price;
	2. Denominated in Pak Rupees;
	3. As part of financial bid envelope, failing which will cause rejection of bid.
	4. Have a minimum validity period of ninety (90) days from the last date for submission of the Tender or until furnishing of the Performance Security, whichever is later.
2. The Bid security shall be returned to the technically unsuccessful Tenderer with unopened/sealed financial bid while the unsuccessful bidders of financial bid opening procedure will be returned the Bid Security only. The Bid Security shall be returned to the successful Tenderer after the completion of the project.

## Tender Validity

The Tender shall have a minimum validity period of ninety (90) days from the last date for submission of the Tender. The Purchaser may solicit the Tenderer's consent to an extension of the validity period of the Tender. The request and the response thereto shall be made in writing. If the Tenderer agrees to extension of validity period of the Tender, the validity period of the Bid Security shall also be suitably extended. The Tenderer may refuse extension of validity period of the Tender, without forfeiting the Bid security.

## Modification / Withdrawal of the Tender

1. The Tenderer may, by written notice served on the Purchaser, modify or withdraw the Tender after submission of the Tender, prior to the deadline for submission of the Tender.
2. The Tender, withdrawn after the deadline for submission of the Tender and prior to the expiration of the period of the Tender validity, shall result in forfeiture of the Bid Security.

## Opening of the Tender

1. Tenders (Technical Bids) shall be opened at 10:30 am hours on the last date of submission of bids i.e. 04 June 2018, in the presence of the Tenderer(s) for which they shall ensure their presence without further invitation. In case the last date of bid submission falls in / within the official holidays / weekends of the Purchaser, the last date for submission of the bids shall be the next working day.
2. The Tenderer's name, modifications, withdrawal, security, attendance of the Tenderer and such other details as the Purchaser may, at its exclusive discretion, consider appropriate, shall be announced and recorded.
3. No tenderer or its representative will be allowed to keep any digital device (camera, audio recorder, cell phone etc.) during tender opening meeting at given time and location.

## Clarification of the Tender

The Purchaser shall have the right, at his exclusive discretion, to require, in writing, further information or clarification of the Tender, from any or all the Tenderer(s). No change in the price or substance of the Tender shall be sought, offered or permitted except as required to confirm the corrections of arithmetical errors discovered in the Tender. Acceptance of any such correction is sole discretion of the purchaser

## Correction of errors / Amendment of Tender

1. The Tender shall be checked for any arithmetic errors which shall be rectified, as follows:
	1. If there is a discrepancy between the amount in figures and the amount in words for the Total Tender Price entered in the Tender Form, the amount which tallies with the Total Tender Price entered in the Price Schedule, shall govern.
	2. If there is a discrepancy between the unit rate and the total price entered in the price Schedule, resulting from incorrect multiplication of the unit rate by the quantity, the unit rate as quoted shall govern and the total price shall be corrected, unless there is an obvious and gross misplacement of the decimal point in the unit rate, in which case the total price as quoted shall govern and the unit rate shall be corrected.
	3. If there is a discrepancy in the actual sum of the itemized total prices and the total tender price quoted in the Price Schedule, the actual sum of the itemized total prices shall govern.
2. The Tender price as determined after arithmetic corrections shall be termed as the Corrected Total Tender Price which shall be binding upon the Tenderer.
3. Adjustment shall be based on corrected Tender Prices. The price determined after making such adjustments shall be termed as Evaluated Total Tender Price.
4. No credit shall be given for offering delivery period earlier than the specified period.

# Milestones & Payment Schedule

This section contains the payment schedule associated with milestones defined for the project. The milestones defined here have been taken from the standard milestones defined for the lifecycle of a Solution in Government Organizations. A particular project may sometimes only include successive parts of it.

|  |  |  |  |
| --- | --- | --- | --- |
| Sr. # | Milestone | Time Period Aprox. | Payment |
| (i) | Micro Design |
|  | Mobilization Advance for Software Development  | At the time of Signing of Contract. | 20% (at the signing of contract)  |
|  | Phase # 1Development of Library Management System and Deployment on Server | 8 weeks  | 30%  |
|  | Phase # 2Development of Digital Depository and Deployment on Server | 4weeks after finalization software integrations  | 20% |
|  | Phase # 3Development of Union Catalog Management and Deployment on Server. | 6 Weeks | 15% |
| (ii) | PASTIC Staff Training  |
|  | Staff Training on the developed Software and Cloud management  | 4 weeks  | 15% |
| (iii) | Operations and Maintenance |
|  | The software warranty will include providing on-call/remote Help Desk support for technical issues by attending and responding with in one working day (on call bases). | 1-1.5 year (s) after acceptance of the software applications. | After successful completion of Project Tenderer will extended the operation and maintenance Services till Dec-2019. |

# Project Time Period

Total project completion time from micro design to rollout stage is 6 months.

# Acceptance

The acceptance criterion for successful bids is defined in the following sections with details being provided for the bidding procedure to be followed for this tender by the Foundation.

## Acceptance Criteria

1. Bidding is open to all Bidders that meet the given minimum qualification criteria relating to previous experience, delivery capability, firms standing, etc., as stated in the RFP.
2. Interested eligible Bidders may obtain further information from the PASTIC National Centre and inspect the Bidding Documents during normal working hours by making contact at the address given below:

Additional Director (Admin),

PASTIC National Centre,

Q.A.U, Islamabad

Ph : +92-51-9248105, +92-51-9248103-4 Ext. 123

Fax : +92-51-9248113

Website: http://www.pastic.gov.pk

1. A complete set of Bidding Documents in English may be collected by interested Bidders on request received by phone, fax and postal mail on the contact information provided above.
2. All bids must be accompanied by a bid bond, in the shape of a Demand Draft/Pay Order/Bank Guarantee, of not less than two (02) percent of the total bid price.
3. The attention of prospective Bidders is drawn to (i) the fact that they will be required to certify in their bids that all software/Integration is produced by the Bidder and (ii) that violations are considered fraud, which is, among other remedies, punishable by potential blacklisting from participation in future procurements.
4. The lead bidder should be a company/firm having legal presence in Pakistan (Preferably Rawalpindi and Islamabad).
5. A bidder can submit only one bid with one proposed solution as multiple bids and offers of multiple alternative solutions shall not be considered.
6. By submission of documentary evidence in its bid, the Bidder or the partner in charge (in case of joint bid) must establish to the Purchaser's satisfaction:
7. That it is a Pakistani firm/company incorporated in Pakistan.
8. That it has been in business at least for the last three (4) years.
9. Subcontracting any part of the Bid shall not be allowed and Bids that include an element of subcontracting shall be rejected as non-responsive.
10. The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser will in no case be responsible or liable for those costs.
11. The Bidder may wish to visit and examine the site of the system and obtain for itself, at its own responsibility and risk, all information that may be necessary for preparing the bid and entering into the Contract. The costs of visiting the site or sites shall be at the Bidder's own expense.
12. No site visits shall be arranged or scheduled after the deadline for the submission of the Bids and prior to the award of Contract.
13. Bidders are expected to examine all instructions, forms, terms, specifications, and other information in the RFP. Failure to furnish all information required by the RFP or to submit a bid not substantially responsive in every respect will be at the Bidder's risk and may result in the rejection of its bid.

# Format for Technical Proposal:

The technical proposal should be concisely presented and structured in the form of chapters to include, but not necessarily be limited to, the following information. Support material should not be part of the main proposal but should be placed at Appendixes.

## General

The responding organization should provide the following.

1. Name of the participating organization
2. Number of years of incorporation of the participating organization or participating organizations (if more than one)

## Financial Capabilities

The responding organization shall provide its National Tax Numbers and Sales Tax Registration Numbers of the company and/or partners.

## Relevant Experience

Responding organizations must demonstrate relevant experience in projects with similar nature, government/industry sector, size and geography. Responding organization should provide the details of experience in similar projects according to the following format. An ideal reference will include projects of similar nature in the government sector with same size and geography. The number of references is restricted to five.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Sr. No. | Nature of the Project | Total Value PKR (m) | Geography | Size of Project | Name of the Project, Customer, Contact person & Contact Details |
|  |  |  |  |  |  |

## Technology Roadmap

The RO to clearly mention the roadmap for the solution quoted as part of the total solution. A detailed chapter covering at least the following:

1. Support to various standards (Application slandered, Development, Implementation (Like Waterfall, Spiral, Testing, Keyword Extraction Models etc)
2. Support to Information Security standards

## Staff assigned to the Project

Responding Organizations are required to provide name, highest qualification and relevant experience of the planned

* Project manager
* Lead IT architect
* Development team lead
* Testing team lead
* Requirements management analyst
* Database analyst

Also, a list of the number of persons and their roles for the project is to be provided. Particular focus should be on core skills set required for implementation of project of this nature.

PASTIC requires the resumes of staff, assigned to this project as per format given in Appendix-B, in the following categories.

1. Total Staff assigned to the project (Please specify role of each person, as per minimum requirements mentioned above)
2. Total Staff assigned for Project Implementation.
3. Total Staff assigned to the project for Support purposes
4. Total staff assigned to the project for Training purposes
5. Total staff assigned to the project for Development/Customization of software applications (Guidelines on team structuring for this category are mentioned at Appendix-C)

## Project Implementation/Management Plan

The responding organization shall provide a detailed implementation plan and project management plan. Responding Organization should provide the timeline. Responding Organization should cover tasks assigned to the employees and resource allocation of responding organization during the course of the project. This should not be in generic terms but should be specific to the project. Project plans in tabular form, mentioning names of tasks, sub tasks, start date, finish date, resources and milestones will also be appreciated. In the training category, ROs to provide detailed training schedules. PASTIC employs and requires all ROs to use PMI methodology for the project management of this project.

## Deliverables

The responding organization should clearly mention and list all the deliverables to be completed under the proposed project. All architectural deliverables must comply with industry standards. Generic project deliverables are defined in the PASTIC Method, of which an overview is given below:

# General Terms & Conditions

## Bid Bond

A bid bond, in the shape of a Bank Draft/Pay Order in the name of Pakistan Scientific and Technological Information Centre (PASTIC), equivalent to 2% of the total cost of bid should be submitted along with the tender. PASTIC reserves the right to forfeit the bid bond, if the information provided is not according to the various formats provided in this document.

## Validity of the Proposal

All proposals and prices shall remain valid for a period of 90 days from the closing date of the submission of the proposal. However, the responding organization is encouraged to state a longer period of validity for the proposal.

## Penalty Clause

The Contract to be executed between PASTIC and the selected vendor will contain penalty clauses for delay in the implementation schedule given at section 3 as well as failure to comply with the provision of providing the required services during the post-approval phase.

## Costing Parameter for Future Enhancement/Development:

PASTIC intends to enhance the project in future by adding the new modules subject to the availability of funds or on need basis. Costing parameters provided by firm will help the PASTIC to calculate the cost of the future modules based on defined cost calculating parameter. The cost provided in this section will only be for future use and will not be the part of current financial bid.

|  |  |  |
| --- | --- | --- |
| Sr. # | Costing calculating Parameters(Example) | Unit cost |
| 1. | Man-hour cost  |  |
| 2. | 1GB cloud storage cost |  |
| 3 | Any other (costing parameter) |  |

## Technical evaluation

There will be a two-stage technical evaluation. Preliminary evaluation (Stage-1) of technical bids will be done on the basis of following parameters:

**Preliminary evaluation (Stage-1)**

1. RO or Lead bidder should be a Company/Firm having legal presence in Pakistan.
2. RO or Lead bidder should have at least fifty full time relevant technical resources for last one year.
3. RO must have successfully completed at least five similar in size/nature projects, worth Rs. 5 - 10 Million or more.
4. RO or Lead bidder has done one project similar in nature (or at least 50% similar in nature).
5. Compliance with Secure Software application development standards.
6. Compliance of project management methodology with PMI.

**Detailed technical evaluation (Stage-2)**

Detail Technical evaluation will be done for firms who qualify the preliminary evaluation mentioned above. The firms may be asked to give presentations on their solution (if required). The PASTIC Technical Team will make the technical evaluation based on Technology Roadmap, functionality, scalability, reliability and Security features of the quoted solution.

Only firms who qualify in stage-2 (Technical evaluation) will be eligible for financial bidding.

Financial bids of the qualified firms will be opened before the representatives who wish to attend the financial bid opening.

Tender will be awarded to the Responding Organization on the basis of the lowest rate amongst the final competitors.

The decision of this Committee will be binding on all concerned and will in no case be challengeable in any forum.

## Currency

All currency in the proposal shall be quoted in Pakistan Rupees (PKR).

## Withholding Tax, Sales Tax and other Taxes

The responding organization is hereby informed that the Foundation shall deduct tax at the rate prescribed under the tax laws of Pakistan, from all payments for services rendered by any responding organization who signs a contract with the Foundation. The responding organization will be responsible for all taxes on transactions and/or income, which may be levied by the Government.

## Ownership

The ownership of all products and services rendered under any contract arising as a result of this RFP, including any source code developed, will be the sole property of PASTIC.

## Contracting

The selected vendor will submit Contract, within fifteen days of issuance of LOI.

## Governing Law

This RFP and any contract executed pursuant to this RFP shall be governed by and construed in accordance with the laws of Pakistan. The Pakistan Scientific and Technological Information Centre and all responding organizations responding to this RFP and parties to any contract executed pursuant to this RFP shall submit to the exclusive jurisdiction to Courts at Islamabad.

## Acceptance of Proposals

PASTIC reserves the right not to accept the lowest or any proposal and to annul the bidding process without assigning any reason whatsoever.

## Submission of Proposal

The complete proposals, technical and financial, should be submitted by 10:30 am on 04 June, 2018 at the address given above. Technical Portion of the bids will be opened on the same date at 10:30 am.

The RO shall deliver five copies of the technical proposal, each copy being physically separated, bound, sealed and labeled as “Technical Proposal” (one master and four copies, labeled as such on their respective envelopes). All Five copies to be further bound in one envelope. Format for submission of Technical proposal (along with chapters mentioned in Clause 4) is attached as Appendix-A.

The RO shall deliver five copies of the financial proposal each copy being physically separated, bound, sealed and labeled as “Financial Proposal” (one master and four copies, labeled as such on their respective envelopes). All Five copies to be further bound in one envelope. Financial Proposals shall provide a cost-estimate for the overall project along with detailed cost-estimates for various discrete parts of the project, as per format provided at Appendix-E.

The Bank Draft for Bid Bond to be enclosed in a separate envelope, labeled as “Bank Draft (Bid Bond)”, and which should be sealed. Please ensure that bid Bond should not be in envelop of financial proposal, it should be in a separate envelop.

## Mode of Delivery and Address

Proposals shall be delivered by hand or courier so as to reach the address given at section 17.1.2 by the last date and time indicated for submission.

**PROPOSALS RECEIVED BY FAX OR EMAIL SHALL NOT BE ACCEPTED.**

Appendix A: Summary of Technical Proposal

Summary of technical proposal should serve as the cover page for the detailed technical proposal in the form of chapters mentioned from clauses 4.1 to 4.9. Failure to provide the ‘Summary of Technical Proposal’ on the format given below, and/or failure to provide the accompanying detailed technical proposal will render the proposal non-responsive and thus not fit for processing.

|  |  |  |  |
| --- | --- | --- | --- |
| Cat | S. # | Information Required |  |
| A |  | **General** |  |
|  | 1 | No of Years in business in Pakistan |  |
|  | 2 | No of Office Locations in Pakistan |  |
|  | 3 | Annual Turnover (Million Rs.) |  |
|  | 4 | Value of projects in hand (details given at \_\_\_\_ in main proposal as per table provided) |  |
| B |  | **Details of total staff employed** |  |
|  | 1 | No of permanent staff employed: |  |
|  |  | TECHNICAL |  |
|  |  | MANAGERIAL |  |
|  | 2 | Cumulative Experience (in years) |  |
|  | 3 | Total No of certified professionals in Technical Domain |  |
|  |  |  |  |
| C |  | **Experience of Implementation of proposed systems** |  |
|  | 1 | No. of similar projects that have been completed successfully on turnkey basis |  |
|  |  | (details given at \_\_\_\_ in main proposal as per table provided ) |  |
|  | 2 | No of completed |  |
|  |  | (details given at \_\_\_\_ in main proposal as per table provided in 4.3) |  |

Appendix-B: Format for Resumes

PASTIC requires the detail of staff, assigned to this project as per format given, in the following categories.

1. Total Staff assigned to the project (Please specify role of each person, as per minimum requirements given at 5.5)

2. Total Staff assigned to the project for Support purposes

3. Total Staff assigned to the development/customization/implementation of software applications

4. Total staff assigned to the project for Training purposes

1. **General Details**

|  |  |
| --- | --- |
| Name |  |
| Date of joining, in this Company |  |
| Designation |  |
| Email |  |
| Mobile # |  |
| Role Assigned in thisProject/Activity |  |
| Highest qualification |  |
| Certifications |  |
| Relevant Experience (Abstract Only) |  |

Appendix-C: Guide Line For Technical Team Structuring.

* 1. Project Manager (One (1) in number): Overall eight (8) years of experience out of which five (5) years of project management experience and having at least Masters in Computer Science or a four year BCS.
	2. Processes Consultant (One (1) in number): Overall seven (7) years of experience out of which three (3) years of analyzing the existing processes and making the proposal for amendments in the existing processes, rules and regulations and having at Masters level education.
	3. Lead IT Architect (One (1) in number): Overall five (5) years of experience out of which two years as an architect of web based solutions/applications and having at least Masters in any field of IT/Computer Science.
	4. Development Team Lead (One (1) in number): Overall five (5) years of experience out of which two (2) years of technical leadership experience of MIS/ Work Flow systems and having at least Masters in Computer Science or a four year BCS.
	5. Testing Team Lead (One (1) in number): Overall five (5) years of experience out of which two (2) years of quality assurance / testing team leadership experience of same volume systems, practical knowledge of ISO/CMM quality standards and having at least Masters (Computer Science/Electrical Engineering/Business Administration) or a four year BCS.
	6. Requirements Management Analyst (two (2) in number): Overall five (5) years of experience out of which three (3) years of system analysis experience and having at least Masters in Computer Science or a four-year BCS.
	7. Database Analyst (One (1) in number): Overall five (5) years of experience out of which three (3) years of database team leadership experience, analysis and design of the database part of the system and having at least Masters in Computer Science or a four year BCS.

Appendix-D: Stage-2 (Technical Evaluation Criteria)

A point system will be used for qualifying the firms. Details as below:

PASS MARKS: A technically eligible bidder, based on conditions listed in Clauses 6 & 11, not meeting the 70% pass mark limit will be rejected in Technical Evaluation, and its Financial Proposal will be returned to it unopened. All bidders scoring greater than or equal to 70% of the marks will be accepted in technical proposal, and their financial bids will be opened.

According to the Technical Proposal, the Technical Evaluation will be rated as follows. Bidders may fill in the below evaluation sheet and do their own evaluation for submission, but the evaluation done by the Purchaser shall be the valid evaluation and shall prevail and would be the final award:

|  |  |  |
| --- | --- | --- |
| Implementation of Software Applications/Cloud Based Services. | Tender: |  |
| Contact: |  |
| Date: |  |
| No. | Requirement | Marks Bifurcation | Evaluation | Marks | Answer Comment/ Description |
| Company Profile | A=20 | B=13 | C=6 | D=0 |
| 1 | Provided and managed AWS/Cloud Services along with Ops Experience for uninterrupted Service provider Companies.(Reference to be provided) | If >=5, then 'A'If 4, then 'B'If 3, then 'C'If <2=, then ‘D’ |  |  |  |  |  |  |
| 2 | Certifications related to Cloud Services form recognized entities e.g. IBM (Copy of Certificates to be provided) | If >=3, then 'A'If 2, then 'B'If 1, then 'C'If 0, then ‘D’ |  |  |  |  |  |  |
| 3 | Currently handling/providing the services (like VAS/Live web portals) to manage minimum 50K active users. (Reference to be provided) | If >=3, then 'A'If 2, then 'B'If 1, then 'C'If 0, then ‘D’ |  |  |  |  |  |  |
| 4 | In the Business of application Development Implementation/Cloud Services(Reference to be provided) | 8 years and above =A 5 yrs to <8yrs = B 3 yrs to <5yrs = C Less than 3yrs = D |  |  |  |  |  |  |
| 5 | Currently handling/providing any kind of Scalable services to manage around 5 million clients (Reference to be provided) | If >=3, then 'A'If 2, then 'B'If 1, then 'C'If 0, then ‘D’ |  |  |  |  |  |  |

**Annexure E Pricing Schedule**

|  |
| --- |
| **Price Schedule**  |
| **Sr** | **Description** | **Amount****(In PKR)** |
| 1 | Software:DevelopmentIntegration of Library SoftwaresTestingTraining |   |
| 2 | Cloud Services for 2018-2019For all Pakistan libraries Any No. of clients can use access/manage/administrate/concurrently and cloud services capable enough to handle loadClustered web servers handled via load balancers Clustered data bases handled via load balancer on a private sub-netCloud design proposed separate network sub-net for frontend and backend servers Backend servers must be on private sub-netCloud should be properly secure for any type of threats malicious attacks or any dos attacks  |   |
| Total Price Without Tax |   |
| Tax Amount |   |
| Total Price Inclusive of GST |   |

**Terms and Conditions:**

1. Vendor will quote Development /Integration of Library software and CloudService for 2018-2019 along with cloud managed services for the same time separately in above pricing schedule.
2. Total Price should be inclusive of all taxes.
3. Managed services till Dec-2019 should be included in total price, Service contract will be revised after 2019.
4. Training of staff should also be included in above mentioned price schedule
5. Lump sum price (software + Cloud Storage) will be acceptable, vendor who will quote price partially will not be entertained.

**Annexure F:**

**Vender must propose prices for cloud expansion for below items**

|  |
| --- |
| **Costing Parameter for Future Enhancement/Development** |
| Sr. # | Description | Unit Cost(In PKR) |
| 1 | Man-Hour Cost |   |
| 2 | 1GB additional storage Per Annum  |   |
| 3 | 1TB additional storage Per Annum |   |
| 4 | Per instance e.g:a. 4core 4GB Per Annumb. 8core 6GB Per Annumc. 16core 16GB Per Annum |   |
| 5 | Any other (costing parameter) |   |
|   |