Request for Proposal for Selection of Agency for Refurbishment/Development and Maintenance of Website and other University Module of Pandit Deendayal Upadhyaya Shekhawati University, Sikar as per Guidelines for Indian Government Website (GIGW)

Table of Contents

Bid Notice

Online e-bids are invited from the bidders up to **08 December 2024** at **07:00 PM** for **Request for Proposal for Agencies for Refurbishment/Development and Maintenance of Website and other University Module for Pandit Deendayal Upadhyaya Shekhawati University, Sikar** as per Guidelines for Indian Government Website (GIGW) which shall be opened as per details given in the Tender Document available on GEM portal https://gem.gov.in/ . Further corrigendum/clarification, if any, shall only be available on the above website. The University reserves the right to cancel any or all the bid the bidding process without assigning any reason.

Section-I: Instructions to Bidders

1.   Introduction

1.1   About University

Pandit Deendayal Upadhyaya Shekhawati University, formerly Shekhawati University, is a state university situated in the village Katrathal, in Sikar district, 15 kilometres (9.3 m) from Sikar, in Rajasthan, India. The university caters to the Academic needs of the students from the Shekhawati region.

The university was established in the year 2012 by Rajasthan Legislative Assembly by passing Shekhawati University, Sikar Act, 2012.The jurisdiction of University is Spans over areas of Sikar, Jhunjhunu and Neem Ka Thana districts of Rajasthan. The University was renamed in 2014 through the Shekhawati University, Sikar (Change of Name) Act, 2014.

1.2   About Project

Web and Mobile based university management systems automate tasks through digital technology. It includes student registration, admissions, fee collection, conducting examinations, online result publishing, providing course degrees, managing audits, finance, accounts, etc.

A cloud-based university management system is an complete solution that enables streamlining of all university operations and the automation of tasks. It includes fee management, admissions, examination, curriculum management, exam management, online evaluation, classroom training, and others. All the activities conducted in universities will be automated using advanced technologies.

Our university's infrastructure contains a variety of entities, such as students, employees, fees, resources, etc. Maintaining data of all these entities is very difficult and challenging. Thus university is planning to streamline the complete process, which will provide a unified database of all the aforementioned entities and also help to keep a record of every process in the university on cloud and on university site server.

1.3   Project Objective

University has planned to undertake major revamping of their information systems through improved application and an efficient and reliable IT infrastructure. These various planned initiatives are aimed at reducing administrative burden of the university, for better management and faster decision making, security of data, and increasing the efficiency and effectiveness of the service delivery to related parties.

PDSU has approx. 4.00 lacs students registered per year/semester in its various 565 affiliated colleges and nearly 110 different examination schemes. These

Examinations will be conducted on yearly/semester pattern. The maximum number of students registered in an examination can be as large as approx. 1,00,000 while the minimum number of students can be as less as 5. The number of students registered. Number of examinations and the number of affiliated colleges may increase or decrease.

This Project involves:
- Refurbishment/Development and Maintenance of University website according to GIGW guidelines for the period of one year
- Providing all machine and manpower for all annual/semester exam related work throughout the year. A local Office in the university campus has to be maintained in the space provided by PDUSU, Sikar
- Providing web space for PDUSU, designing, maintaining a secure examination module so that students, colleges and the University can access rights-based information pertaining to examination year 2024-25 & 2025-26.
- Web/Mobile interface where students will be able to fill their enrollment form, annual & semester examination forms, may communicate corrections in his/her particulars, and get their information remotely. SMS facility to communicate with students and provide examination related information.
- The work also includes answer books packing, coding /decoding of answer books of annual & semester examinations, revaluation and supplementary examination, systematic arrangement of answer books in secrecy halls and all related works.
- Work also includes other modules related to University, Affiliation, Student, Examination related to University

2. Scope of Work

This section of the RFP contains the broad level scope of work for the work to be undertaken by the agency. The Scope of Work mentioned below is indicative and might increase. The detailed scope of work for an agency will be defined by the concerned department at the time of allotment of work.
The broad level of scope of work will include, but not limited to following:
a) The agency shall be having an application or develop a baseline common application covering all the activities applied.
b) The Agency is required to carry out a study of the university requirements related to the online Web based application for Managing

Pre & Post activities of Entrance Exam & Semester Exam development/customization.

c) The Agency shall prepare a User Requirements Specifications (URS) document and get it approved from the concerned University.

d) The Agency shall design overall look and feel of the website/Application and get it approved by the concerned University before finalizing the whole web based application.

e) The Agency shall develop complete website, including information, interactive forms and reports as per the URS document approved by the concerned University, as mentioned above.

f) The Agency shall help the University in website implementation, hosting and domain registration.

g) The selected agency will address all the issues raised during the audit and will have to successfully carry out the modifications necessary to meet the Security Audit Compliance without any additional cost to the concerned University.

h) The selected agency shall complete the SSL Certification of the developed website as per guidelines of GoI.

i) The Agency shall provide comprehensive Training to the employees of concerned University for using website/application as required. The agency will also have to provide the necessary manuals for the reference of the University.

j) The Agency shall get the Final approval of all the deliverables from the concerned University.

k) The Agency shall conduct Change Management (if any) activities as mutually agreed with the University.

l) The Agency shall provide Operational Support and Maintenance (O&M) as per requirements after acceptance of web application by the concerned University for a maximum period of one year or till completion of respective education year.

Refurbishment/Development, Design, Maintenance and Implementation of Website on GIGW guidelines

2.1 Govt. of India Guidelines for Government Websites

Guidelines for Indian Government Websites (GIGW) are an integral part of Central Secretariat Manual of Office Procedure Prepared by National Informatics Centre (NIC), Government of India (GoI) and adopted by Department of Administrative Reforms and Public Grievances (DARPG) which

was first published in January 2009, again in February, 2018 and recently in March 2023. The details of the latest guidelines can be downloaded from the link https://guidelines.india.gov.in. The key objective of these guidelines is to ensure that Indian Government websites, belonging to any constituent of the Government and at any level, are citizen centric and visitor friendly. It is advised that latest guidelines issued by Government shall be followed while developing or managing any Government website, Portal or Web based application. All the websites developed for the State Government Departments must follow these guidelines strictly.

2.2   Broad Specifications for the Development of Websites

This document recommends broad guidelines for developing the websites for the Government Department & their organizations and overall guidance towards development of sharable & accessible departmental services. These guidelines aim to assist the departments/organizations in ensuring that their websites conform to the high standards consistently. Some of the key standards are as follows:

The Website shall follow the latest GIGW guidelines defined by Government of India for development of websites of government departments (https://guidelines.india.gov.in).

- World Wide Web Consortium (W3C) is an international body working towards defining standards in web technologies and formats for publishing contents on the web. Agencies will also have to refer to the World Wide Web Consortium (W3C) guidelines for additional information.

- Content Management Systems (CMS) allow non-technical users to manage the content of their own websites without the intervention of the programmer. Use of CMS will allow the department to keep their website current and interactive. Additionally, since the CMS is a standard program, security holes and bugs are addressed on a regular basis, which can be beneficial to the departmental websites. All departmental websites should make use of a standard CMS unless the particular requirement demands a custom made website.

- Use of open standard based tools and technologies for the development of website, software as well as content is very important to interoperability and accessibility of websites.

- The website should be browser independent.

- The websites shall be Bi-lingual – Hindi as well as English. The user shall have the option to choose language. Any other regional Language (Urdu, Sanskrit etc.) might be required in some cases. The exact requirement would be shared before allotment of work. Empanelled agency along with

concerned department will translate the content of website in English/Hindi/Regional language. The line-item rates for regional languages like Urdu, Sanskrit

etc. would be same as of Hindi language.

2.3   Web Content Accessibility Guidelines (WCAG)

All the government websites designed and developed under this initiative should meet the standards as defined in latest Web Content Accessibility Guidelines (WCAG). WCAG means that "people with disabilities can use the Web too". More specifically, Web accessibility means that people with disabilities can perceive, understand, navigate, and interact with the Website, and that they can contribute to the Website. Web accessibility also benefits others, including older people with changing abilities due to aging. Web accessibility encompasses all disabilities that affect access to the Website, including visual, auditory and physical, speech, cognitive, and neurological disabilities. Web accessibility means designing websites that is flexible to meet different user needs, preferences, and situations. This flexibility also benefits people without disabilities in certain situations, such as people using a slow internet connection, people with "temporary disabilities" such as a broken arm, and people with changing abilities due to aging. The website must be meeting latest 'AA' WCAG web accessibility. This section contains not only traditional accessibility issues, but anything that might keep a visitor from being able to access the information on a website. Some of the key points that should be meeting in your website are as:

- **Site Load-time is Reasonable.**
  If a site takes forever to load, most people will not use it.

- **Adequate Text-to-Background Contrast.**
  Dark-gray on light-gray may seem stylish, but I'm not going to ruin my eyesight to read your blog. Eyes and monitors vary wildly, so keep your core copy contrast high. Good, old fashioned black-on-white is still best most of the time.

- **Font Size/Spacing Is Easy to Read.**
  Opinions vary on the ideal size for text, but err on the side of slightly too big. Poor readability increases frustration, and frustration leads to site abandonment. Also, make sure your line spacing is adequate - white-space is a designer's best friend.

- **Flash & Add-ons are used sparingly.**
  Matter how great your site looks; people won't wait 5 minutes for a plug-in to load. Use new technology sparingly and only when it really

enhances your goals. Sticking to standard HTML/CSS is also a plus for search engines.

- **Images Have Appropriate ALT Tags.**
Not only do sight-impaired visitors use ALT tags, but search engines need them to understand your images. This is especially critical when you use images for key content, such as menu items.

2.4 Other University Module
2.4.1 Pre-Examination Module

To provide a robust and scalable solution for the effective management of the University's examination system, ensuring compliance with the New Education Policy (NEP), and offering seamless integration of annual and semester systems with role-based web applications for stakeholders.

Detailed analysis of the University's current examination system, involves handling of main, semester, re-evaluation (RE), and supplementary exams, examination of workflows for managing answer books (packing, handling, storage) and TR corrections. Identification of areas for improvement to transition seamlessly to an NEP-compliant semester system.

A. Entrance Exam Management System
A.1 Application Submission for Entrance Exam

- Registration & Login creation
- Submission of online application form for Entrance Examination in various courses offered by University.
- Entrance Exam Fees Payment
- Examine of Application by University, communication to applicants for correction of error through SMS/email
- Correction of errors by Applicants within due time lines
- Acceptance/Rejection of Applications
- Refund/Forfeiture of fees
- Offsite Helpdesk System for seamless support
- MIS Reporting
- Dashboard
- Delivery of Data to University and/or Upload of data toUniversity portal
- Any other activity related to above as required

A.2 Examination Centre, Admit Card, Attendance Sheet,OMR/Answer Sheet Collection Confirmation

- Details of Examination Centre
- Allotment of Examination Centre to Applicants and Roll number generation for entrance examination

- Generation & Online downloading of Admit Cards
- Generate Roll List for Examination Centre
- Generate Applicant Desk Slip
- Generate Examination Centre Wise Attendance Sheet
- Generation of Numerical Return (NR)
- OMR/Answer Sheet Collection Confirmation
- Record Attendance on Application
- MIS Reporting
- Dashboard
- Delivery of Data to University and/or Upload of data to
- University portal
- Any other activity related to above as required

A.3 OMR Scanning & Result Processing
- Scanning of OMR answer sheet
- Uploading scanned image of OMR
- Result Processing of Entrance test
- Generate Entrance Exam Merit List
- Publishing Results on the Website
- MIS Reporting
- Dashboard
- Delivery of Data to University and/or Upload of data to University portal
- Any other activity related to above as required

B. Admission (through Entrance Exam/Direct Admission/Spot)
B.1 Counselling & Application Submission for Entrance Passed Applicant
- Login creation (If required)
- Communication to Applicant for counselling/Re-Counselling through SMS/Email along with Counselling/Re-Counselling schedule
- Online Counselling/Re-Counselling Fee submission
- Course & College Choice filling / Selection by Applicant
- Allotment of College & Course to the Applicant
- Seat Confirmation Fees Submission
- Document Verification with online documents submitted and Original documents
- Admission Fees Submission
- Providing the final admitted list to the University
- Offsite Helpdesk System for seamless support
- MIS Reporting
- Dashboard

- Delivery of Data to University and/or Upload of data to University portal
- Any other activity related to above as required

Application Submission for Merit/Cut-Off Based Direct Admission

- Registration & Login creation
- Submission of online application form for Merit Based Direct
- Admission in various courses offered by University
- Online Application Fee submission
- Scrutiny of Applications by University, communication to applicants for correction of error through SMS/email
- Correction of errors by Applicants within due time period
- Acceptance/Rejection of Applications
- Refund/Forfeiture of fees
- Publish Merit & Cut-Off List
- Communication to Applicant for counselling/Re-Counselling through SMS/Email along with Counselling/Re-Counselling schedule
- Online Counselling/Re-Counselling & Fee submission
- Course & College Choice filling / Selection by Applicant
- Allotment of College & Course to the Applicant
- Seat Confirmation and Fees Submission
- Document Verification with online documents submitted and Original documents
- Providing the final admitted list to the University
- Offsite Helpdesk System for seamless support
- MIS Reporting
- Dashboard
- Delivery of Data to University and/or Upload of data on University portal
- Any other activity related to above as required

B.3 Application Submission for Spot Admission

- Registration & Login creation
- Submission of online application form for Spot Based Admission in various courses offered by University.
- Counselling and Fees Submission
- Scrutiny of Application by University/Institute, communication to applicants for correction of error through SMS/email
- Correction of errors by Applicants within due time period
- Acceptance/Rejection of Applications
- Communication to Applicant for counselling through SMS/Email along with Counselling schedule

- Course & College Choice filling / Selection by Applicant
- Allotment of College & Course to the Applicant
- Document Verification with online documents submitted and Original documents
- Admission Fees Submission
- Providing the final admitted list to the University
- Offsite Helpdesk System for seamless support
- MIS Reporting
- Dashboard
- Delivery of Data to University and/or Upload of data to University portal
- Any other activity related to above as required

C. Pre-semester Exam

C.1 Semester Exam - Pre Examination Work

- Registration & Login creation for students, College & University (Dept wise)
- Examination Form Submission
- Editing of Application Form for correction
- Examination Fee Payment
- Scrutiny of Application by University, communication to applicants for correction of error through SMS/email
- Correction of errors by Applicants within due time lines
- Acceptance/Rejection of Applications
- Refund/Forfeiture of fees
- Reports

C.2 Register Examination Centre for conducting Semester Exam

- Register details of Examination Centre, Rooms, seats etc
- Register Invigilator and plan its duty
- Register Flying Squad

C.3 Admit Card, Attendance Sheet, OMR/Answer Sheet Collection

- Prepare Seating Plan for Applicants
- Allotment of Centre to Applicants
- Generation & Online downloading of Admit Cards
- Generation of Attendance sheet for Semester Exam
- Generate Numerical Return
- Generate Roll List
- Nominal Roll & Award List
- Verification Forms

- Generate Invigilator room allotment list
- OMR/Answer Sheet Collection Confirmation along 'B' copy issue/submission/remaining report
- Submission of Attendance (Student wise/Centre wise/Paper wise)
- Scan Applicant Attendance Sheet
- Digitize Applicant Attendance Sheet
- Scan Invigilator's Duty
- Digitize Invigilator's Duty
- Scan Flying Squad's Visit
- Digitize Flying Squad's Visit

D. Post Semester Exam
D.1 Post Semester Exam Coding Decoding Work

- Login creation
- Receiving the copies from the university in packed bundle
- Sorting and preparing of answer copies
- Creation of copies in proper bundle
- Segregation of copies class/course/subject/paper wise
- Deployment of resources and machine for coding and tearing of flap
- Separation of B flaps from the copies
- Registering them in the records
- Creation of bundle of flaps
- Bundling of the copies again
- Generation of OMR Award sheet bundle wise
- Attaching Preprinted coded numbers OMR Answer Sheet with answer copies bundles
- Handling over to copies to the university representative
- OMR Data Creation
- Scanning of OMR sheets for decoding coded roll numbers
- Extraction of student data
- Editing and correction of student data
- Correction and checking of wrong bubbling
- Final preparation of data for further processing/publishing
- Delivery of Data to University and/or Upload of data to University portal
- Any other activity related to above as required

Fee Payment Integration:
Support for E-Mitra and online banking payment methods. Automated invoice generation with unique control numbers.

Admit Cards:

Online generation and printing of admit cards post-verification.

College Portal:

Tools for verifying student forms, printing examination materials, and managing college-specific examination workflows. Training material in PDF/PPT formats for seamless use of the system.

University Portal:

Role-based dashboards for monitoring examination processes. Interfaces for managing TR corrections, result finalization, and document generation (mark sheets, certificates, migration forms). Automated roll number generation based on specified parameters (center, institute, category, ordinance, etc.). Data Management

Enrollment and Roll Numbers:

Unique Enrollment Numbers (1–70,000 for regular; 80,001 onwards for non-collegiate) generated annually and semester-wise. Pre-filled forms for continuing students with prior data integration (Class XII, RBSE/CBSE, and last year's data).

Attendance Tracking:

Online attendance program integrated with examination data. Generation and verification of absentee statements using format 29-E.

Communication Support:

SMS alerts to students for critical updates (exam schedules, center details, results). Helpline setup with at least two dedicated lines, operational from 9 AM to 6 PM daily, including holidays.

System Performance:

Load testing to ensure the system supports 50,000–75,000 applications/day and 1,500–2,000 concurrent users.

Scalable architecture for future requirements.

Security and Compliance. Implementation of proper audit trails for all data changes. Safeguards to ensure the confidentiality of examination processes, including coding/decoding answer scripts. Declaration and submission of final data in prescribed formats (E-CDR/DVD) at critical project milestones (form filling, roll list preparation, result declaration).

Key Features:

Web Application Design: Browser-independent, dynamic, and bilingual interfaces.

University Information Portal: Dedicated section for syllabus, time table, press notes, circulars, RTI information, merit lists, and more.

Timeline and Evaluation Project Timeline:

Deliverables at three critical stages:

Post-form filling.

Post-roll list preparation.

Post-result declaration.

Performance Review:

Service evaluation after the first year (2024-25).

Work continuation for 2025-26 contingent on satisfactory performance and Vice Chancellor's approval.

The firm is expected to deliver a scalable, robust, and secure solution that meets the University's requirements for both annual and semester examination systems while ensuring compliance with NEP guidelines. The solution should enhance operational efficiency, improve the user experience, and seamlessly integrate with external systems like NAD for credit management.

2.4.2 Post Examination Module

To streamline the post-examination processes for annual and semester systems as per NEP, ensuring accurate result preparation, documentation, and reporting, while maintaining transparency, security, and student-centric service delivery.

Collection and Tracking:
- o Receive and catalogue answer books from examination centres with barcoded tracking.
- o Maintain a tamper-proof, traceable log of answer book movement.

Evaluation Process:
- o Organize and distribute answer books to evaluators.
- o Utilize fictitious coding to ensure anonymity and prevent bias during evaluation.
- o Monitor the evaluation process and record marks securely in the system.

Revaluation and Scrutiny:
- o Facilitate revaluation requests from students, adhering to university timelines.
- o Update and maintain records for revised marks and provide detailed reports.

Examiner Module

Internal Examiner
- Profile generation of the internal examiner profile
- User id/password/reset password option
- Update Bill profile details

- Update Banking details
- Allot marks on panel for the allotted answer copies
- Submission of the marks
- Submission of bills if required
- Take print

External Examiner

- Registration of the examiner
- Profile generation of the external examiner profile
- User id/password/reset password option
- Update Bill profile details
- Update Banking details
- Allot marks on panel for the allotted answer copies
- Submission of the marks
- Submission of bills if required
- Take print

University Login (to verify Examiner profile and bills)

- Login In
- Registration
- Reset and Forget Password option
- Dashboard with realtime access of the examiner profile
- Verification of internal and external profile
- Edit the details of the examiner
- Print facility of the examiner reports

Result Preparation and Declaration

Result Compilation:

- Compile results for all examination types (main, supplementary, revaluation, etc.).
- Ensure the inclusion of internal assessments and practical exam scores as per NEP guidelines.
- Cross-verify data for discrepancies and address errors before finalization.

Result Declaration:

- Publish results online in a student-friendly format, accessible via roll number or enrolment number.
- Ensure timely notification to students through SMS/email alerts regarding result publication.
- Display results in formats required by various stakeholders (students, colleges, regulatory authorities).

Category-Wise Reports:
- Generate detailed category-wise reports, including class, gender, and reserved categories.
- Provide reports for university administration and state-level education authorities.

Document Generation and Distribution
Tabulation Register (TR):
- Prepare and provide college-wise tabulation registers in three copies (one for colleges, one for university use, and one bound copy after revaluation and finalization).

Student Documents:
- Generate and distribute:
  - Marksheet (Provisional, Corrected, and Duplicate)
  - Advance Marksheet
  - Provisional Certificate
  - Migration Certificate

NEP-Compliant Digital Credentials:
- Upload results to the National Academic Depository (NAD) or Academic Bank of Credits (ABC) as per NEP standards.
- Ensure digital credentials meet prescribed security and authenticity standards.

Communication and Transparency
Student Notifications:
- Provide timely updates to students on examination results, document availability, and other relevant activities through SMS or email.

Helpdesk Support:
- Set up a helpline to address student and college inquiries regarding results and certificates.
- Provide FAQs and tutorials for accessing digital credentials.

Public Announcements:
- Use the university's official website to post announcements, including press notes, merit lists, and rank holders.

System Integration and Scalability
System Design:
- Integrate post-examination systems with pre-existing university modules for seamless data flow.

- Ensure the system accommodates NEP-specific requirements, such as semester-based credit systems.

Scalability:

- Build systems capable of handling large volumes of transactions, results, and document generation for an increasing number of students.

Compliance with NEP Guidelines

Academic Credit Integration:

- Map and maintain semester-wise credits as per the NEP's credit transfer framework.
- Generate and upload ABC-compliant reports for every student after each semester.

Multilingual Support:

- Ensure result documents and online portals are available in bilingual formats (e.g., Hindi and English) as per regional and national requirements.

Data Security and Confidentiality:

- Implement strict access controls and data encryption to protect sensitive information.
- Conduct regular audits to ensure compliance with NEP data handling standards.

Deliverables

Post-Examination Reports:

- Tabulation Registers (college-wise, category-wise, bound copies) in 3 copies.
- Comprehensive statistical analysis reports.

Student Documents:

- Corrected and verified marksheets and certificates.
- Digital credentials uploaded to ABC/NAD.

Notifications and Alerts:

- SMS and email alerts for result declaration, document availability, and other updates.

Support System:

- Fully operational helpline with documented logs of student queries and resolutions.

Performance Metrics
Accuracy:
- Zero errors in results and document generation.

Transparency:
- Student-friendly access to results and related services.

Compliance:
- Adherence to all NEP guidelines and university regulations.

2.4.3 Barcoding and Decoding of Answer Copies

Barcoding and decoding system for managing answer copies during university examinations. The system aims to enhance efficiency, maintain confidentiality, and streamline the evaluation process.

To establish a secure, scalable, and accurate process for barcoding and decoding answer copies, ensuring:

- Confidentiality of examinee identity.
- Transparency and traceability in answer copy handling.
- Smooth integration with the university's existing examination management system.

Barcode Generation:
- Unique barcodes to be generated for each answer book based on predefined parameters (exam session, subject, roll number range, etc.).
- Barcodes must adhere to secure, tamper-proof standards.

Barcode Printing and Application:
- High-quality barcode labels to be printed and securely affixed to answer books.
- Barcode placement to ensure it does not obstruct writing or evaluation spaces.

Tracking System:
- Barcode integration with an online tracking system for monitoring answer book movement from distribution to collection.

Answer Book Decoding
Fictitious Coding:
- Post-examination, barcodes will be used to assign a unique fictitious code to each answer book, masking the student's identity during the evaluation process.
- Ensure that no evaluator has access to examinee details during the marking process.

Double-Decoding Process:
- Post-evaluation decoding to link fictitious codes back to actual roll numbers for result compilation.
- Implement a secure and audited system to prevent errors or breaches in the decoding process.

Barcode Preparation:
- Generate barcodes linked to examination metadata (roll numbers, subjects, centers).
- Print and affix barcodes to answer books.

Distribution:
- Ensure each center receives a pre-barcoded set of answer books.
- Record the issuance of answer books to coding unit.

During Examination

Answer Book Collection:
- Use barcodes to track the collection of answer books from centers to the central processing unit (CPU).

Data Integrity:
- Ensure barcodes remain intact and legible during transportation.

Post-Examination

Fictitious Coding:
- Replace roll numbers with unique fictitious codes using barcoded information.
- Prepare coded answer books for evaluators.

Evaluation Process:
- Distribute fictitiously coded answer books to evaluators.
- Track evaluator assignments and ensure the return of evaluated copies.

Decoding for Results Compilation:
- Reverse mapping of fictitious codes to roll numbers for result preparation.
- Generate detailed reports for validation and audits.

Deliverables

Barcode Labels:
- Secure and durable barcode labels for all answer books.

Tracking System:
- A software module for tracking answer books using barcodes from distribution to evaluation and result preparation.

Fictitious Code Mapping:

- Comprehensive mapping data of barcodes to fictitious codes and back to roll numbers for seamless result preparation.

Audit Trails:

- Detailed logs of barcode generation, application, fictitious coding, decoding, and evaluation processes.

Reports:

- Center-wise tracking reports of answer books.
- Logs of evaluator assignments and decoding activities.

Security and Confidentiality

Data Protection:

- Ensure that all examinee and evaluation data remains secure and confidential.
- Enforce role-based access controls to sensitive information.

System Audits:

- Regular audits of the barcoding and decoding processes to ensure accuracy and compliance.

Tamper-Proof Design:

- Barcodes and fictitious codes should be tamper-proof to prevent unauthorized access or manipulation.

System Integration and Scalability

- Integrate the barcoding and decoding module with the existing university examination management system.
- Ensure scalability to accommodate an increasing number of students and examinations in future academic years.

Performance Metrics

Accuracy:

- Zero errors in barcode mapping, fictitious coding, and decoding.

Efficiency:

- Timely barcoding and decoding of all answer books to meet result declaration deadlines.

Traceability:

- End-to-end tracking of answer book movement with real-time updates.

2.4.4 Affiliation Management System

To design and develop an online Affiliation Module that facilitates end-to-end management of the college affiliation process, including application submission, evaluation, fee payment, document verification, approval, and report generation.

Affiliation Workflow Automation:
- Automate the complete affiliation process, including new applications, renewals, inspections, and approvals.
- Ensure integration of workflows to capture data, documentation, and status updates.

Dynamic Form Creation:
- Develop dynamic, user-friendly forms to capture required details for:
  - New Affiliation Applications
  - Renewal of Affiliation
  - Upgradation Requests (e.g., additional courses, seat capacity)
- Allow form fields to support bilingual inputs (e.g., English and Hindi).

Fee Management:
- Implement an online fee payment system for affiliation-related charges, including:
  - Application fee
  - Inspection fee
  - Renewal charges
- Enable automated receipt generation and fee reconciliation with university accounts.

Document Upload and Verification:
- Enable secure upload of required documents such as:
  - Accreditation and recognition certificates (e.g., NAAC, AICTE)
  - Faculty details
  - Infrastructure details (labs, libraries, etc.)
  - Proof of previous affiliations (if applicable).
- Incorporate a verification process for uploaded documents by university officials.

Role-Based Access Control:
- Provide secure, role-based access to stakeholders, including:
  - College Administrators

- University Inspection Teams
- Affiliation Department Officials
- Higher Education Regulatory Authorities

Inspection Management

Inspection Scheduling:
- Enable scheduling of physical or virtual inspections for affiliated and applicant colleges.
- Automate notifications for inspection teams and colleges regarding the schedule.

Inspection Reporting:
- Provide a digital interface for inspection teams to upload their reports, findings, and recommendations.
- Standardize templates for inspection reports to maintain consistency.

Compliance Tracking:
- Enable tracking of compliance submissions by colleges based on inspection findings.
- Send automated reminders for pending compliance actions.

Approval Process and Decision-Making

Approval Workflow:
- Streamline the approval process for applications by incorporating automated checkpoints and validations.
- Provide real-time status updates to colleges about their application progress.

Decision Notifications:
- Automate notifications for approval, rejection, or conditional affiliation decisions.
- Include reasons for rejection or conditions for approval in notification letters.

Integration with Regulatory Authorities:
- Ensure seamless data sharing with statutory bodies like UGC, AICTE, etc., as per compliance requirements.

Reporting and Analytics

Dashboards for Stakeholders:
- Develop dashboards for various stakeholders to monitor key metrics such as:
  - Number of applications (new and renewal)

- Status of applications (approved, pending, rejected)
- Fee collection reports
- Inspection outcomes
- Include visual analytics tools for trend analysis and decision-making.

Customizable Reports:

- Enable generation of customizable reports for regulatory submissions, internal audits, and performance tracking.

User Support and Training

User Manuals and Training:

- Provide detailed user manuals and video tutorials for using the affiliation module.
- Conduct training sessions for university staff and college representatives.

Helpdesk Support:

- Establish a dedicated helpdesk to address user queries related to the module.
- Include email and phone support for timely resolution of issues.

Deliverables

Affiliation Module Features:

- Online Application Submission and Tracking
- Fee Payment and Receipt Generation
- Document Upload and Verification System
- Inspection Management Tools
- Approval Workflow Automation
- Reporting and Analytics Dashboards

Training and Support:

- Training sessions for university officials and college users
- Helpdesk setup for addressing queries and resolving issues

Documentation:

- User manuals and technical documentation
- Compliance and audit reports

System Deployment:

- Secure hosting of the affiliation module with scalability for future enhancements
- Integration with existing university systems (if applicable)

2.4.5 Setup of Email Server

To design, install, configure, and deploy a fully functional email server solution for the university, ensuring secure and efficient communication. The solution will be based on a Windows-based email server application, integrated with the university's IT infrastructure, and capable of handling the email needs of faculty, staff, and students.

System Design and Architecture
Email Server Solution Design:
- Assess the university's requirements for email services, including the number of users, volume of emails, and security needs.
- Design a scalable, secure, and high-performance email system based on Windows-based email server solutions (e.g., Microsoft Exchange Server, Office 365, or similar).

Server Infrastructure Setup:
- Determine the necessary hardware or virtual machine specifications for hosting the email server.
- Set up the server infrastructure (physical or virtual) with adequate resources (storage, CPU, RAM, network bandwidth) to meet the university's email usage needs.

DNS and Domain Setup:
- Configure DNS settings for email domain (e.g., @university.edu) for seamless email delivery and security.
- Ensure that the correct MX records are set up for email routing.

User Authentication and Integration:
- Integrate the email server with the university's existing authentication systems (e.g., Active Directory or LDAP) for seamless user login and access management.
- Allow for automatic user creation, role-based access, and deactivation of accounts.

Email Server Installation and Configuration
Server Installation:
- Install the selected Windows email server solution (e.g., Microsoft Exchange, or equivalent).
- Ensure that the server is configured for the latest software updates, security patches, and performance optimization.

Email Account Setup:
- Set up email accounts for all university users (faculty, staff, and students), including personalized email addresses (e.g., username@university.edu).
- Configure email aliases, forwarding, and distribution groups as per the university's requirements.

Security and Compliance Configuration:
- Configure email security protocols, including SSL/TLS encryption for sending and receiving emails.
- Enable spam filtering, virus scanning, and malware protection to secure the email communication.
- Implement role-based access control for different types of users (admin, faculty, staff, students).
- Configure email retention policies to comply with university regulations for data storage and deletion.

Integration with Existing Systems:
- Integrate the email server with other university IT systems, including student portals, HR systems, and administrative systems for unified communication.

Email Client Configuration and Access
Email Client Setup:
- Provide configuration settings for accessing the email server via various email clients, including Microsoft Outlook, webmail (OWA), and mobile email apps.
- Ensure email client compatibility for Windows, macOS, Android, and iOS devices.

Webmail Interface Setup:
- Configure and customize webmail access (e.g., Outlook Web Access, or equivalent) for users to access their email via a web browser.
- Provide university-branded webmail interface with access to inbox, calendar, contacts, and tasks.

Backup and Disaster Recovery Setup
Backup Configuration:
- Set up regular email data backup procedures, including daily, weekly, and monthly backup schedules.
- Store backups securely in compliance with university data protection policies.

Disaster Recovery Plan:

- Implement a disaster recovery solution to restore email services in case of server failure or data loss.
- Ensure that email server settings, configurations, and email data are recoverable within a defined timeframe.

Monitoring and Maintenance

Email Server Monitoring:

- Implement real-time monitoring of the email server for performance, security, and availability.
- Set up automated alerts for server issues, downtime, or performance degradation.

Regular Maintenance and Updates:

- Provide a maintenance plan for regular updates to the server software, security patches, and email clients.
- Ensure continued optimization of the server to handle growing email traffic.

Log Management and Reporting:

- Implement email server logs for auditing and troubleshooting purposes.
- Generate periodic reports on server performance, email traffic, security events, and user activity.

User Training and Support

Training Sessions:

- Provide training for university IT staff on email server management, troubleshooting, and user account maintenance.
- Offer end-user training for faculty, staff, and students on using the email system, including access methods, email management, and security best practices.

User Documentation:

- Develop comprehensive user manuals, FAQs, and troubleshooting guides for the university's staff and students.
- Provide an administrator's guide for the IT department on server management and maintenance procedures.

Helpdesk Support:

- Set up a helpdesk or ticketing system for addressing user issues related to the email system (e.g., login problems, email delivery issues).
- Offer technical support during and after the deployment phase.

Deliverables

Email Server Solution Setup:
- Fully functional Windows-based email server configured and operational.
- Domain and DNS setup completed for the university email system.

User Accounts and Permissions:
- Email accounts created for all users (faculty, staff, and students) with appropriate permissions.

Security Configuration:
- SSL/TLS encryption, spam filters, antivirus protection, and backup solutions implemented.

Email Client and Webmail Setup:
- Configured email clients for desktop and mobile access.
- Webmail interface set up for users to access their email via browsers.

Backup and Recovery System:
- Automated backup system in place with defined disaster recovery procedures.

Training and Documentation:
- Training for both end-users and administrators on the email system.
- User manuals and guides delivered to the university's IT team.

Performance Metrics

Uptime:
- The email server should maintain a minimum uptime of 99.9%.

Email Delivery Rate:
- Ensure that the email delivery rate is consistently above 98%, with minimal delays.

Security:
- Ensure the email system is protected from common email-based threats (spam, phishing, malware).

User Satisfaction:
- Gather feedback from users to evaluate system usability and performance.

2.4.6 Setup of Local server

To design, install, configure, and implement a local backup server solution based on Windows Server, ensuring that critical data and applications within

the university are backed up regularly, securely stored, and recoverable in case of data loss or disaster recovery.

System Design and Architecture
Backup Server Solution Design:
- Assess the university's backup needs by reviewing data storage volumes, applications, and critical systems that require backup.
- Recommend a scalable and secure backup system design based on Windows Server (e.g., Windows Server Backup, or a third-party solution compatible with Windows Server like Veeam or Acronis).
- Design backup architecture that ensures redundancy, reliability, and high availability.

Server Infrastructure Setup:
- Determine hardware or virtual machine specifications for the backup server, ensuring sufficient capacity for backup storage and growth (e.g., storage arrays, RAID configurations).
- Provide recommendations for server configurations (processor, memory, disk capacity) based on data requirements, taking into account both current and future needs.
- Set up and install the Windows Server operating system and any required backup software.

Backup Storage Configuration:
- Set up storage devices (e.g., SAN, NAS, or direct-attached storage) or configure virtual backup storage for the backup system.
- Ensure that the storage system is scalable to accommodate increasing data volumes over time.

Installation and Configuration of Backup Server
Server Installation:
- Install the Windows Server OS on the backup server, ensuring that it is updated with the latest patches and security updates.
- Install and configure the selected backup solution (Windows Server Backup or third-party software) on the backup server.
- Server Specifications:
- Operating System: Windows Server 2008 R2 Standard Edition or higher (64bit) Disk Controller
- Hard Drive 2 TB SA-SCSI 15K RPM
- Public Bandwidth 5000 GB Bandwidth
- Uplink Port Speeds 100 Mbps Public & Private Network
- Network Port 100 Mbps Public Uplink

- Remote Management Reboot / KVM over IP
- Primary Management 1 IP Address
- Control Panel Software: Parallels Plesk Panel 11 (Windows)
- Database Software: Microsoft SQL Server 2008 Enterprise
- Anti-Virus & Spyware Protection: McAFee Virus Scan Enterprise.
- Monitoring: Host Ping
- Notification Email and Ticket
- Advanced Monitoring
- Response Automated Notification
- Hardware & Software Firewalls: Microsoft Windows Firewall
- VPN Management- Private Network Unlimited SSL
- VPN Users & PPTP- VPN
- Vulnerability Assessments & Management Nessus Vulnerability Assessment

Backup Software Configuration:

- Configure backup software to support university-wide data backups, ensuring it integrates with existing systems and applications.
- Set up backup policies, including backup frequency (daily, weekly, monthly), retention policies, and types of backups (full, incremental, differential).
- Configure automated backup scheduling for different departments and systems based on their data importance and backup needs.

Backup Target Configuration:

- Configure backup targets, such as network shares, external storage devices, or cloud storage for offsite backup (if required).
- Ensure proper configuration of backup encryption and access control to ensure the security of sensitive data.

Security and Compliance Configuration

Encryption Setup:

- Implement end-to-end encryption for backup data both during transfer and at rest to ensure that data is secure and protected from unauthorized access.

Access Control and Authentication:

- Set up role-based access control (RBAC) for backup server and storage access, ensuring that only authorized personnel can perform backup operations or access backup data.
- Ensure compliance with university data protection regulations and security best practices.

Audit and Logging:

- Configure audit logs for all backup activities, including backup completion, failures, and restores.
- Set up alerting and reporting systems to notify the IT department in case of backup failures or issues.

Backup Scheduling and Execution

Automated Backup Scheduling:

- Set up automated backup schedules based on university departments' needs (e.g., administrative offices, academic departments, databases).
- Ensure that critical systems, databases, and data repositories are backed up frequently and successfully without manual intervention.

Backup Verification:

- Implement post-backup verification to ensure that backups are successful, complete, and usable for recovery.

Disaster Recovery and Restore Process

Disaster Recovery Plan (DRP):

- Develop a disaster recovery plan that defines the steps to restore data from backups in the event of a system failure, data corruption, or loss.
- Set Recovery Point Objectives (RPO) and Recovery Time Objectives (RTO) in line with university operational requirements.

Testing Restore Operations:

- Perform test restores of sample data sets periodically to verify the integrity and usability of backup data.
- Train IT personnel on restore procedures to ensure a quick and efficient recovery process.

Monitoring and Maintenance

Backup Monitoring:

- Set up real-time monitoring and alerts for backup processes to ensure that backups are completed successfully.
- Monitor backup server performance, storage utilization, and backup job status through a centralized monitoring tool.

Scheduled Maintenance:

- Establish a routine maintenance plan for the backup server, including patching, updates, and periodic cleanup of outdated backup data.
- Ensure that backup data storage is optimized and managed to prevent any performance degradation.

Backup Reporting:

- Configure automated reporting on backup status, including success and failure reports, to ensure regular review by the IT department.
- Provide periodic performance and health reports of the backup system.

Training and Documentation

Training for IT Staff:

- Provide hands-on training for university IT staff on managing the backup system, monitoring backups, performing restores, and handling emergencies.

End-User Documentation:

- Develop and provide user-friendly documentation for IT staff outlining backup and restore procedures.
- Ensure clear instructions for accessing backup data in case of departmental requests.

Backup System Documentation:

- Provide comprehensive documentation detailing backup architecture, configuration, schedule, and restoration processes.
- Ensure documentation is updated regularly to reflect changes to the system or procedures.

Deliverables

Fully Functional Backup Server:

- A local backup server installed, configured, and operational, capable of performing regular backups for the university's critical systems and data.

Backup and Restore Policies:

- Clear backup schedules, types, retention policies, and encryption settings documented and implemented.

Disaster Recovery Plan:

- A tested disaster recovery plan with recovery point objectives (RPO) and recovery time objectives (RTO) defined.

Backup Verification Logs:
- Logs showing the verification of backups and the integrity of backup data.

Training Materials:
- Training manuals and sessions for IT personnel to manage and maintain the backup system.

System Monitoring Setup:
- Monitoring tools and reports for backup job status and performance.

Audit and Security Configuration:
- Logs and auditing system to track all backup activities.

Performance Metrics

Backup Success Rate:
- The system should achieve a 99% success rate for all scheduled backups.

Restore Speed:
- Restoration of critical data should be completed within the defined Recovery Time Objective (RTO).

Data Integrity:
- Ensure that 100% of backed-up data can be restored without corruption or loss.

2.4.7 Dedicated Cloud server hosting for period of One year
- Identify and recommend the most appropriate cloud service provider (AWS, Azure, Google Cloud, etc.) based on the university's requirements, including budget, scalability, security, and compliance needs.
- Work with the selected cloud provider to provision a dedicated cloud server instance for hosting university applications.

Infrastructure Planning:
- Determine the necessary resources, including compute power (CPU), memory (RAM), and storage (SSD or HDD), required to host the university's applications efficiently.
- Design the cloud infrastructure with redundancy, failover, and high availability to ensure business continuity.

Server Configuration and Setup:
- Set up and configure a Windows Server environment based on the selected cloud provider's infrastructure.

- Ensure the server is equipped with the latest Windows Server version and configured for optimal performance, security, and stability.

Cloud Server Installation

Operating System Installation:

- Install and configure the latest version of Windows Server (2019/2022) or an appropriate version as per the university's needs.
- Ensure the server is patched with the latest security updates and configured for maximum security from the outset.

Cloud Storage Configuration:

- Set up cloud-based storage solutions such as block storage or file storage to handle university data needs.
- Ensure storage is scalable and capable of growing with the university's data requirements.

Database and Application Hosting:

- Install and configure required database management systems (DBMS), such as Microsoft SQL Server to host the university's applications and data.
- Configure web hosting capabilities for hosting student portals, academic systems, and any other web-based applications.

Security Setup

Firewall and Network Security:

- Implement a robust firewall configuration to protect the cloud server from unauthorized access.
- Set up VPN (Virtual Private Network) access for secure connections between the university's on-premise systems and cloud server.
- Configure proper security groups and network access controls to limit access to critical university applications.

Data Encryption:

- Implement encryption for data at rest and data in transit to safeguard sensitive information.
- Enable SSL/TLS for encrypted communication between web applications and users.

User Access Management:

- Set up Active Directory (AD) or Azure Active Directory to manage user authentication and access to university systems.

- Implement role-based access control (RBAC) for fine-grained access management to ensure that only authorized users can access specific applications or data.

Multi-Factor Authentication (MFA):

- Implement multi-factor authentication (MFA) for administrator and user accounts to enhance login security.

Performance Optimization and Scalability

Server Performance Tuning:

- Configure server resources (CPU, RAM, Disk) based on the application requirements and optimize the server for maximum performance.
- Install and configure monitoring tools for real-time performance tracking of cloud server and hosted applications.

Auto-scaling Setup:

- Configure auto-scaling rules to automatically scale the cloud server's resources (compute, storage) based on demand (e.g., traffic spikes during exam seasons).
- Implement load balancing to distribute traffic across multiple instances to ensure smooth application performance.

Backup and Disaster Recovery

Cloud Backup Solution:

- Implement a cloud-based backup solution for server data, application data, and databases.
- Configure automatic backups and define retention policies to ensure that data is protected and can be restored quickly in case of data loss.

Disaster Recovery (DR) Setup:

- Set up disaster recovery mechanisms, ensuring the cloud environment can be quickly restored to a functional state in case of a major failure.
- Create a comprehensive disaster recovery plan with a defined RPO (Recovery Point Objective) and RTO (Recovery Time Objective).

Application Hosting and Configuration

Application Deployment:

- Deploy university applications (student portal, academic management systems, administrative tools, etc.) on the cloud server.

- Configure web servers (e.g., IIS for Windows Server) for hosting the university's web-based applications.

Database Configuration:

- Install, configure, and optimize databases to handle university applications' data processing needs.
- Set up scheduled database backups, performance tuning, and replication if necessary.

Monitoring and Maintenance

System Monitoring:

- Set up cloud-native or third-party monitoring tools (e.g., CloudWatch, Azure Monitor) to track the health and performance of the server and applications.
- Enable alerting and reporting for system health, resource utilization, application performance, and security breaches.

Ongoing Maintenance and Updates:

- Ensure regular system updates and patches for Windows Server and all installed applications.
- Perform routine health checks, including resource optimization and load balancing adjustments.

Log Management and Auditing:

- Set up centralized logging and auditing systems to track access to sensitive data and system changes.
- Ensure that logs are securely stored and regularly reviewed for signs of anomalies.

Documentation and Training

System Documentation:

- Provide detailed documentation for the cloud server setup, configuration, security policies, and disaster recovery procedures.
- Include guidelines on how to manage, update, and troubleshoot the cloud server and applications.

Training for IT Team:

- Offer training sessions for the university's IT team on managing the cloud server environment, handling applications, performing backups, and responding to security incidents.

Deliverables

Provisioned Dedicated Cloud Windows Server:
- A fully configured and optimized dedicated cloud Windows server for hosting university applications.

Secure and Scalable Application Hosting:
- Deployment and configuration of university applications on the cloud server with robust security and scalability.

Backup and Disaster Recovery Solutions:
- A cloud-based backup system and disaster recovery plan for seamless data protection.

System Monitoring and Reporting:
- A comprehensive monitoring and alerting system to ensure ongoing server health and performance.

Training and Documentation:
- Training materials for IT staff and a full set of documentation on the server and application hosting setup.

Performance Metrics

Uptime:
- Targeting 99.9% uptime for hosted applications and services.

Performance:
- Server response times should meet the agreed-upon performance standards (e.g., under 3 seconds for most web application pages).

Backup Success Rate:
- Backup success rate of 99% or higher for all scheduled backups.

2.4.8 Alumni Management System

Alumni Management Module for the PDSU, Sikar. The objective is to create a robust and user-friendly platform that will help the university maintain a strong relationship with its alumni, facilitate engagement, and manage alumni data effectively.

The Alumni Management Module aims to centralize and streamline the management of alumni data, interactions, events, and communications. The system should provide a seamless experience for both university administrators and alumni, supporting activities such as registration, event management, fundraising, and communication with alumni.

System Design and Planning

Requirement Gathering:

- Collaborate with key stakeholders (University Alumni Association, Administration, IT Department) to gather detailed requirements for the module.
- Identify key functionalities required for alumni management, such as registration, profile management, event management, donations, etc.
- Define user roles (Alumni, Admin, Event Managers, etc.) and their permissions within the module.

System Architecture Design:

- Design a scalable, secure, and flexible architecture that supports future expansion of features.
- Ensure the system integrates seamlessly with the university's existing student management system (if applicable) and any other relevant systems.

Database Design:

- Develop a relational database schema to store alumni information (personal details, academic history, graduation details, contact information, career updates, etc.).
- Include necessary tables for event management, donations, and other engagement activities.

Development of Key Features

Alumni Registration and Profile Management:

- Create a self-service registration portal for alumni to sign up, update their personal and professional details, and stay connected with the university.
- Provide fields for personal information (name, contact details, address, graduation year, degree, etc.) and professional information (current job, industry, achievements, etc.).
- Implement a feature for alumni to upload photographs, resumes, and other media, which can be viewed by other alumni and the university community.
- Enable alumni to mark their participation in university events or reunions.

Event Management:

- Provide a feature for organizing and managing alumni events (reunions, webinars, annual meetups, etc.).

- Include functionalities for event creation, registration, RSVP tracking, and communication to alumni (email invitations, reminders, event updates).
- Allow alumni to sign up for events and track their participation history.
- Integrate event calendar and notifications for upcoming events.

Donations and Fundraising:

- Implement a donation module where alumni can contribute funds for various causes like scholarships, campus development, etc.
- Provide an online payment gateway integration for secure donations (credit/debit cards, net banking).
- Track alumni donations and generate reports on contributions.
- Allow alumni to view their donation history and receive tax exemption certificates.

Alumni Directory:

- Create an online alumni directory that is searchable by graduation year, department, location, industry, etc.
- Implement filters and search functionality to help alumni easily find and connect with fellow graduates.
- Include a privacy setting so that alumni can choose which information is publicly visible.

Communication Platform:

- Develop a messaging system within the portal to allow alumni to communicate directly with the university and fellow alumni.
- Enable notifications for new messages, event updates, and other important communications.
- Send periodic newsletters to alumni about university achievements, upcoming events, and initiatives.

Career Services:

- Integrate job posting and job search functionalities that allow alumni to post job openings or apply for jobs.
- Allow alumni to access career support services, including resume building, interview tips, and mentoring opportunities.
- Provide alumni with the option to volunteer as mentors for current students or recent graduates.

Alumni Analytics and Reporting:

- Implement dashboards and reporting tools for administrators to track alumni participation, engagement, donations, etc.
- Enable the generation of reports based on custom filters (donation amounts, event participation, alumni demographics).

- Provide insights into alumni engagement trends and areas that require more focus.

Integration with Other University Systems:

- Integrate the Alumni Management Module with the university's existing student database (if applicable) to ensure smooth data migration and consistent alumni profiles.
- Ensure that alumni data is updated automatically as new students graduate.

UI/UX Design

Responsive Web Interface:

- Design a user-friendly, responsive web interface that works seamlessly across different devices (desktops, tablets, and mobiles).
- Use a clean and modern design with intuitive navigation to ensure that alumni can easily access information and perform tasks.
- Provide multi-language support (English and regional languages as required).

Role-Based Access Control (RBAC):

- Define multiple user roles (Alumni, Administrator, Event Organizer) and their respective permissions.
- Ensure that admins have the ability to manage alumni records, event registrations, and communications, while alumni can manage their profiles and interact with university offerings.

Testing and Quality Assurance

Unit Testing:

- Perform unit testing of each module and feature to ensure that it functions as intended.

System Integration Testing:

- Test the integration of the Alumni Management Module with existing university systems to ensure that data flows correctly across platforms.

User Acceptance Testing (UAT):

- Conduct UAT with a group of alumni and university staff to gather feedback and refine the system before full-scale deployment.

Performance Testing:

- Conduct load and performance testing to ensure that the system can handle large numbers of users (especially during high traffic periods like event registrations or fundraising campaigns).

Implementation and Deployment

System Installation:

- Deploy the Alumni Management Module on the university's production server or cloud environment, based on the chosen infrastructure.
- Set up backups and disaster recovery procedures to ensure data integrity and availability.

User Training and Documentation:

- Provide training to university administrators and staff on how to use the system, including adding and updating alumni records, creating events, and generating reports.
- Offer training materials and documentation for alumni to understand how to navigate the platform, update their profiles, and participate in events.

Go-Live Support:

- Provide full support during the go-live phase to address any issues, perform troubleshooting, and ensure smooth operation.
- Monitor the system for issues related to performance, user experience, and security after launch.

Post-Implementation Support and Maintenance

Ongoing Support:

- Offer ongoing technical support for bug fixes, troubleshooting, and enhancements based on user feedback.
- Provide regular updates to ensure the system remains secure and functional.

System Maintenance:

- Ensure that the system is regularly updated with security patches and performance optimizations.
- Perform periodic data backups and maintenance checks to ensure data integrity and system availability.

Deliverables

Alumni Management Module:

- Fully developed and implemented Alumni Management Module with all features (registration, events, donations, communication, etc.).

Training and Documentation:

- Training materials for both alumni and university administrators.

- Comprehensive system documentation for ongoing support and maintenance.

Reports and Analytics:

- Functioning alumni directory, event tracking, and donation systems with reporting capabilities.

2.4.9 Grievance Management System

The goal of this module is to provide an efficient, transparent, and systematic platform for managing grievances raised by students, staff, and faculty within the university.

Objectives

- **Centralized Grievance Handling:** Create a unified platform where all grievances are submitted, tracked, and resolved.
- **Automated Process:** Automate grievance submission, tracking, resolution, and notifications to streamline the workflow.
- **Transparency and Accountability:** Provide clear visibility of grievance status, actions taken, and resolution outcomes.
- **Feedback and Reporting:** Enable feedback mechanisms and detailed reporting to improve the grievance redressal process.

Requirements Gathering & System Design

Requirement Analysis:

- Conduct stakeholder interviews (administrators, students, staff, faculty) to gather detailed requirements.
- Define system requirements for grievance types, roles, permissions, and workflows.
- Identify user roles, such as Students, Faculty, Staff, Grievance Committee Members, Admin, etc.
- Set expectations for response times, escalation procedures, and resolution timelines.

System Design:

- Design a scalable, modular, and secure architecture for grievance management.
- Design database schema to support various grievance types, users, resolution statuses, and history.
- Ensure integration with existing university systems (Student Information System, HRMS for staff grievances, etc.).

UI/UX Design:

- Create an intuitive, user-friendly interface for different users (students, faculty, administrators, grievance officers).
- Ensure the interface supports multi-platform use (responsive design for web and mobile).
- The UI must support bilingual inputs (English and the regional language) in Unicode.

Key Features and Functionalities

Grievance Registration:

- Allow students, staff, and faculty to submit grievances online through a simple, structured form.
- Provide the ability to classify grievances by type (academic, administrative, infrastructure, faculty/staff behavior, etc.).
- Attach supporting documents, images, or screenshots related to the grievance.
- Enable grievance categorization, priority selection, and assigning to relevant departments or individuals.

Grievance Tracking and Status:

- Provide a grievance tracking dashboard where users can view the status of their grievances.
- Status options such as "Submitted," "Under Review," "In Progress," "Resolved," "Escalated," etc.
- Automatic notifications via email and SMS to inform users of status updates and actions taken on their grievances.
- Provide an escalation mechanism in case the grievance is not resolved within a specified timeline.

Role-Based Access Control (RBAC):

- Define different user roles (Student, Faculty, Admin, Grievance Officer, etc.) with distinct permissions for viewing, submitting, and resolving grievances.
- Ensure that only authorized individuals have access to sensitive grievance data.
- Admin can configure roles, manage user permissions, and assign grievances to the appropriate departments or personnel.

Grievance Resolution Workflow:

- Develop a customizable workflow for grievance resolution, which includes initial review, investigation, response generation, and final resolution.

- Assign grievance resolution timelines and priority levels based on the type and severity of the issue.
- Provide functionality for supervisors or grievance officers to comment on, escalate, or resolve grievances.
- Implement an approval system for grievance resolution where necessary (e.g., approval from senior administration).

Feedback Mechanism:

- After resolution, the user who filed the grievance should be able to provide feedback on the handling of the issue.
- The feedback will be used to assess the efficiency of the grievance handling process and identify areas for improvement.
- Provide a rating system (e.g., 1-5 stars) for users to rate their experience with the grievance resolution.

Reporting and Analytics:

- Provide robust reporting features to generate insights on grievance trends, resolution times, and user satisfaction.
- Generate custom reports by type, status, department, and time period to aid decision-making and process improvement.
- Dashboards for administrators to monitor the volume of grievances, resolution progress, and compliance with response times.

Automated Notifications and Alerts:

- Send automated email and SMS alerts for grievance submission, status changes, and resolution.
- Enable alerts for administrators and grievance officers regarding pending or overdue grievances.

Knowledge Base:

- Provide a knowledge base or FAQ section where users can find answers to frequently encountered issues, thereby reducing the number of grievances raised.
- Enable self-service support for users to resolve common issues without submitting a formal grievance.

Audit Trail and Data Security:

- Ensure the system maintains a complete audit trail for all grievances, including timestamps for submissions, actions taken, and resolutions.
- Implement strict data security measures such as encryption for sensitive information (e.g., personal data of the grievance submitter).

- Ensure compliance with data privacy regulations (GDPR, IT Act, etc.).

Development and Implementation
Technology Stack:
- The system will be developed using a modern web stack: HTML5, CSS3, JavaScript (React/Angular/Vue.js) for frontend, and a backend framework (Asp.net) for server-side development.
- A relational database management system (RDBMS) such as Ms SQL

Integration with Existing Systems:
- Integrate with the university's existing systems (Student Information System, Website etc.) to auto-populate user details.
- Allow grievance data sharing between departments (administrative, academic, HR) while ensuring data privacy.

Mobile Compatibility:
- Ensure the grievance management system is mobile-friendly with a responsive design.
- Optionally, develop a dedicated mobile application for easier grievance submission and tracking on-the-go.

Security Considerations:
- Implement multi-factor authentication (MFA) for grievance officers and administrators.
- Use SSL/TLS for encrypted communication and data security.
- Implement strong password policies and user authentication mechanisms.

Testing and Quality Assurance
Unit and Integration Testing:
- Conduct thorough unit testing for all modules (grievance submission, resolution, feedback, etc.).
- Test system integrations with the university's existing IT infrastructure.

User Acceptance Testing (UAT):
- Conduct UAT sessions with stakeholders (students, faculty, grievance officers) to gather feedback and ensure the system meets expectations.
- Adjust the system based on UAT feedback to improve usability and functionality.

Performance and Load Testing:
- Ensure the system can handle peak load during times of high grievance submissions (e.g., semester-end).
- Optimize the system to ensure minimal downtime and fast response times.

Deployment and Go-Live
Deployment:
- Deploy the grievance management system on the production environment (cloud/on-premise).
- Set up continuous integration/continuous deployment (CI/CD) pipelines for easier maintenance and updates.

Data Migration:
- If applicable, migrate historical grievance data to the new system while ensuring data integrity.

Training and Documentation:
- Provide training for administrators, grievance officers, and users on how to use the system effectively.
- Develop and deliver comprehensive user guides, system manuals, and training materials.

Post-Implementation Support and Maintenance
Ongoing Support:
- Provide a 3–6 month support period post-go-live for addressing bugs, issues, and minor enhancements.
- Offer helpdesk support during working hours for troubleshooting.

System Maintenance:
- Perform regular backups, security patches, and software updates to ensure the system runs smoothly.
- Monitor the system for performance issues, ensuring uptime and responsiveness.

Deliverables
Fully Developed Grievance Management Module with the following features:
- Grievance submission, tracking, and status update system
- Role-based access control (RBAC) for different user types
- Feedback mechanism and reporting tools
- Knowledge base, automated notifications, and alerts
- Security measures including audit trails and data encryption

Training and Documentation:
- Comprehensive training sessions for university staff and students on how to use the system.
- Documentation including user guides and technical manuals.

Post-Implementation Support:
- Provide ongoing maintenance and support for system issues and updates.

2.4.10 Fee Management System

This module is to streamline the fee collection, management, and reporting process for students, administrative staff, and faculty, ensuring efficient management of university fees.

Objectives

- Fee Collection Automation: Simplify the fee collection process for all students, including tuition, examination, hostel, library, and other charges.
- Payment Integration: Support multiple payment gateways for fee payment (online banking, debit/credit cards, and offline payment methods).
- Fee Structure Management: Enable dynamic management of different fee structures based on courses, departments, academic years, and student categories (regular, non-collegiate, international).
- Accounting and Reporting: Generate accurate reports and maintain detailed records for auditing and decision-making purposes.
- Transparency: Provide students and administrative staff with real-time updates on payment status and due fees.

Requirements Gathering & System Design

Requirement Analysis:
- Conduct meetings with stakeholders (students, faculty, administrative staff) to identify requirements.
- Define fee types, payment categories, and exemptions.
- Determine the rules for fee calculation, discounts, late fees, and installment options.
- Define integration points with other university systems (Student Information System, HRMS, etc.) for seamless data exchange.

System Design:
- Design a scalable, modular architecture to accommodate future upgrades and changes in the fee structure.

- o Create a database schema for managing fee types, payments, students, and transactions.
- o Ensure that the system can handle various fee schedules for different departments, courses, and student types.
- o Design the UI/UX with an easy-to-navigate interface for students and administrators.

UI/UX Design:
- o Design an intuitive user interface that allows students to view their fee details, make payments, and track payment history.
- o The interface should be responsive and support bilingual input (English and the regional language) in Unicode.
- o Ensure the admin interface is user-friendly for managing fee structures, processing payments, and generating reports.

Key Features and Functionalities

Fee Structure Management:
- o Admin can create, modify, and delete fee categories, fee items, and fee structures for various courses, departments, and programs.
- o The system should support multiple fee categories (tuition fee, examination fee, hostel fee, library fee, etc.) with custom amounts based on student type and program.
- o Allow fee exemptions, discounts, and rebates based on criteria such as scholarships, financial aid, and late payment penalties.

Student Fee Management:
- o Enable students to view and pay their fees through a secure online portal.
- o Display all outstanding dues, including course-specific fees, examination fees, hostel fees, and others.
- o Support various payment options such as online payment (credit/debit cards, UPI, net banking) and offline payment (bank challans, cash at university counters).
- o Provide the option for students to pay fees in installments, if applicable.
- o Allow students to track payment history, view receipts, and download fee invoices.

Payment Gateway Integration:
- o Integrate popular payment gateways (such as Razorpay, Paytm, Billdesk, etc.) to facilitate secure online fee payments.

- o Provide integration with SMS and email notification systems to confirm successful payments and inform about pending dues.
- o Ensure payment reconciliation for both online and offline methods.

Automated Fee Calculation:

- o The system should automatically calculate fees based on the selected courses, departments, and student type (e.g., regular, non-collegiate, international).
- o Apply discounts, exemptions, and penalties as per the university's fee policy.
- o Support the ability to apply late fees automatically and display the updated fee amounts.

Fee Receipt Generation:

- o Upon successful payment, generate fee receipts in PDF format with details such as fee breakdown, payment method, transaction number, and payment date.
- o Allow students to download and print receipts directly from the portal.
- o Send automated email and SMS notifications to students after payment receipt generation.

Fee Collection Dashboard:

- o Provide administrators with a dashboard that shows detailed information about fee collection status, pending payments, and total collected fees.
- o Allow filtering by departments, courses, student categories, and payment status (paid, pending, overdue).
- o Generate reports on payment collection, outstanding dues, and departmental fee allocation.

Financial Reporting & Analytics:

- o Provide real-time reports on fee collection, due fees, paid/unpaid amounts, and outstanding payments for individual students and departments.
- o Generate financial summaries, including daily, monthly, and yearly fee collection reports.
- o Enable export of reports in multiple formats (CSV, Excel, PDF) for accounting and auditing purposes.
- o Provide analytics for administrators to analyze trends in fee collection, outstanding payments, and identify potential issues.

Student Account Management:
- o Allow the university staff to manage student fee accounts, including updating fee records, adjusting dues, and resolving discrepancies.
- o Provide the ability to mark fees as paid, process refunds, or adjust amounts in case of errors.
- o Track the status of each student's fee balance (paid, partial payment, overdue).

SMS and Email Notifications:
- o Send SMS and email notifications to students for fee payment reminders, confirmation of payments, and overdue payments.
- o Send fee status updates to students and administrative staff regularly.

Security and Data Privacy:
- o Implement strong data encryption for financial transactions and personal information.
- o Use role-based access control (RBAC) to ensure that only authorized personnel can manage fee records and payments.
- o Ensure compliance with data privacy regulations (GDPR, IT Act) regarding student financial data.

Development and Implementation
Technology Stack:
- o **Frontend:** HTML5, CSS3, JavaScript (React/Angular/JS)
- o **Backend:** Asp.net
- o **Database:** Ms SQL
- o **Payment Gateway APIs:** Razorpay, Paytm, or others as specified by the university
- o **Security:** SSL encryption, HTTPS, and two-factor authentication for sensitive financial operations.

Integration with University Systems:
- o Integrate the Fee Management Module with the university's Student Information System (SIS) to fetch student data (personal information, course enrollment).
- o Optional Integrating with HRMS (Human Resource Management System) for employee fee collection if applicable (e.g., for staff or faculty members).

System Scalability and Performance:
- o Ensure the system can handle peak loads, especially during fee payment deadlines, with at least 1500-2000 concurrent users.

- o Perform load testing and ensure smooth functioning under heavy traffic.

Testing and Quality Assurance
Unit and Integration Testing:
- o Test individual modules (fee calculation, payment gateway, reporting, etc.) to ensure they work as intended.
- o Conduct integration testing to ensure smooth data flow between systems (SIS, HRMS, and accounting).

User Acceptance Testing (UAT):
- o Conduct UAT sessions with administrative staff and students to verify that the system meets the functional and usability requirements.
- o Make necessary changes based on feedback.

Performance Testing:
- o Test the system for scalability, ensuring it can handle a large number of simultaneous transactions and users.

Deployment and Go-Live
Deployment:
- o Deploy the Fee Management Module in the production environment (cloud or on-premise as per the university's infrastructure).
- o Set up necessary server configurations, backup systems, and data recovery processes.

Data Migration:
- o If necessary, migrate historical fee data (e.g., fees paid by students in previous terms) to the new system.

Training:
- o Provide training to university staff (admin, accounts, grievance officers) on using the Fee Management Module.
- o Create user manuals, online help guides, and training videos for self-learning.

Post-Implementation Support and Maintenance
Ongoing Support:
- o Provide a support period of 3-6 months post-deployment to resolve bugs, issues, and perform minor enhancements.
- o Offer regular maintenance and updates as per the university's needs.

System Monitoring:
- o Set up automated monitoring tools to track system performance, uptime, and transaction errors.

Deliverables

Fee Management Module with the following capabilities:
- o Fee collection and payment integration.
- o Fee structure management, automated calculation, and payment tracking.
- o Reporting, financial summaries, and payment reconciliation.
- o SMS and email notifications.

Training and Documentation:
- o Comprehensive training sessions for administrative staff and students.
- o User guides, technical manuals, and system documentation.

Post-Implementation Support:
- o Ongoing support, bug fixes, and system enhancements.

2.4.11 Academic Management System

This module is to provide a centralized, efficient platform for managing academic content, including course materials, lectures, syllabi, assignments, and other academic resources, improving both teaching and learning experiences.

- **Centralized Content Repository:** Create a single platform to store, organize, and manage academic content, such as lecture notes, assignments, course syllabi, multimedia files, and reference materials.
- **Improved Collaboration:** Facilitate collaboration between faculty, students, and administration in content creation, sharing, and feedback.
- **Access Control:** Provide role-based access for faculty, students, and administrative staff, ensuring that sensitive academic resources are accessible only to authorized individuals.
- **Easy Navigation & Search:** Ensure the system provides easy search and navigation features for accessing academic content based on subjects, courses, departments, or other relevant criteria.
- **Integration with Other Systems:** Ensure seamless integration with the university's Learning Management System (LMS), Student Information System (SIS), and other academic platforms.
- **Analytics and Reporting:** Enable reporting features that help faculty and administrators track the usage and effectiveness of the academic content shared.

Requirements Gathering & System Design
Requirement Analysis:
- o Conduct meetings with stakeholders (faculty, academic departments, students, IT staff) to identify requirements for the content management module.
- o Define types of content to be managed: lecture notes, study materials, assignments, syllabus, multimedia content (videos, presentations), and any additional academic documents.
- o Understand user roles and permissions for content creation, access, and modification (faculty, students, admin).
- o Identify integration points with existing systems, including the LMS and SIS, for seamless data flow.

System Design:
- o Design the architecture of the content management system (CMS) to ensure scalability, flexibility, and data integrity.
- o Define the database schema for content storage, categorization, and metadata.
- o Implement a modular design that allows for easy addition of new content types and features.
- o Design the content management interface to be user-friendly and responsive, ensuring compatibility with both desktop and mobile devices.

UI/UX Design:
- o Create wireframes and mockups of the user interface (UI) for different user roles (faculty, students, admin).
- o Ensure the system is easy to navigate, allowing users to quickly upload, search, and download content.
- o Design intuitive search functionality with filters for content type, course, department, and date range.

Key Features and Functionalities
Content Upload and Management:
- o Enable faculty and authorized staff to upload academic content (lecture notes, videos, PDFs, syllabi, assignments).
- o Support a variety of content types, including documents, images, videos, and links to external resources.
- o Allow faculty to categorize content based on subjects, courses, academic year, semester, or department.
- o Provide tools to update or remove content as required, ensuring that outdated materials are archived or removed.

Role-Based Access Control (RBAC):

- Define user roles such as faculty, students, academic staff, and administrators, each with specific permissions for content creation, modification, viewing, and sharing.
- Ensure that faculty can share content with their respective students and departments, while students can only access their own courses and content.
- Admin role will have full access to all content and user management.

Content Search and Filtering:

- Implement advanced search features to allow users to find specific academic content quickly.
- Search by content type (syllabus, notes, assignments, etc.), course, department, or keywords.
- Provide filters for sorting content by date, relevance, or popularity.

Content Preview and Download:

- Allow users to preview content (documents, videos) before downloading.
- Enable students to download lecture notes, assignments, and study materials as needed.
- Implement content protection measures such as limiting the number of downloads or access attempts for sensitive materials.

Course and Subject-wise Content Organization:

- Organize content into subject-specific and course-specific sections for easy access.
- Allow faculty to link resources to specific lectures, assignments, or exam preparations.

Version Control and Revision History:

- Track versions of academic content to ensure that users can access previous versions if needed.
- Display a revision history for each file, including who updated the content and when.

Content Sharing and Collaboration:

- Enable faculty members to collaborate on content creation and share resources with other faculty within the same department or across departments.
- Allow faculty to set permissions for collaborative access to resources (e.g., editing rights, comment-only access).
- Enable students to submit assignments through the system and receive feedback from faculty.

Analytics and Reporting:
- o Provide administrators and faculty with detailed reports on content usage, including who accessed what material, when, and how often.
- o Track popular resources, helping faculty identify content that is most useful for students.
- o Enable faculty to monitor assignment submissions and engagement with academic content.

Integration with Existing Systems:
- o Ensure seamless integration with the Learning Management System (LMS) to synchronize content with online courses and assessments.
- o Integrate with the Student Information System (SIS) to pull student data and allow for personalized content delivery.
- o Provide integration with email systems for notifications and reminders about content updates.

Mobile Compatibility:
- o Ensure that the platform is mobile-responsive, allowing students and faculty to access content from any device.
- o Optionally, develop a mobile application for better accessibility and offline content access.

Multimedia Content Support:
- o Support multimedia content, such as recorded lectures, webinars, and instructional videos, which can be uploaded by faculty.
- o Provide streaming support for videos and ensure compatibility with various media formats.

Content Approval Workflow:
- o Allow for content approval workflows, where uploaded content is subject to review and approval by an administrator or academic department head before being made publicly available.
- o Set up approval stages, including draft, review, and published.

Development and Implementation

Technology Stack:
- o Frontend: HTML5, CSS3, JavaScript (React/Angular/Vue.js)
- o Backend: Node.js/Django/Java
- o Database: MySQL/PostgreSQL/NoSQL (for scalability)
- o File Storage: Amazon S3, Google Cloud Storage, or similar for large media files

- o Security: SSL encryption for data in transit, secure user authentication (OAuth2, LDAP), role-based access control (RBAC).

System Integration:

- o Integrate with the university's existing Learning Management System (LMS) to facilitate seamless course content delivery.
- o Ensure integration with email, SMS, and push notification systems for alerts regarding new or updated content.
- o Set up automated synchronization with the university's Student Information System (SIS) for real-time updates on student enrollment.

Scalability and Performance:

- o Ensure the system can handle a high volume of content uploads, downloads, and concurrent users.
- o Optimize the platform for minimal downtime and fast access, especially during peak usage times like exam preparation periods.

Testing and Quality Assurance

Unit and Integration Testing:

- o Conduct comprehensive unit tests on individual features (content upload, search, access control).
- o Perform integration testing with other systems (LMS, SIS, and email services).

User Acceptance Testing (UAT):

- o Conduct UAT with faculty, students, and administrators to ensure that the system meets functional requirements and user expectations.
- o Gather feedback and make necessary adjustments before deployment.

Performance and Load Testing:

- o Test the system under high load (e.g., simultaneous uploads and content access) to ensure it performs well during peak usage.

Deployment and Go-Live

Deployment:

- o Deploy the Academic Content Management Module to the production environment, ensuring proper setup of the servers and databases.
- o Set up a disaster recovery plan to prevent data loss.

Data Migration:

- o If necessary, migrate legacy academic content to the new platform while maintaining data integrity and ensuring a smooth transition for users.

Training and Documentation:
- o Provide training sessions for faculty and staff on how to upload, manage, and organize academic content.
- o Create detailed user manuals, video tutorials, and FAQs to help users get started.

Post-Implementation Support and Maintenance
Ongoing Support:
- o Provide 3-6 months of post-implementation support for bug fixes, performance enhancements, and minor updates.
- o Offer helpdesk support for users experiencing difficulties with the system.

Maintenance:
- o Provide regular system updates to address security vulnerabilities, introduce new features, and maintain optimal performance.

Deliverables
Fully Developed and Deployed Academic Content Management Module with the following features:
- o Content upload, management, and sharing functionalities.
- o Role-based access control and collaboration features.
- o Content search, filtering, and reporting tools.
- o Analytics and usage tracking.

Training and Documentation:
- o Training sessions for faculty and administrators.
- o User guides and system documentation for end-users and administrators.

2.4.12 Single Window system for distribution of Migration / Provisional Marksheet and Degree

The system will enable the efficient and secure issuance, distribution, and tracking of Migration and Provisional Marksheets for students after the completion of their respective academic programs.

- • **Centralized Distribution System:** Create an integrated system for issuing and distributing Migration and Provisional Marksheets to students.

- **Automation of Marksheet Generation:** Automate the process of marksheet generation based on academic records, results, and completion of requirements.
- **Secure Access & Tracking:** Ensure secure access to marksheets and allow students to track the status of their migration and provisional marksheets.
- **Integration with Existing Systems:** Ensure seamless integration with the Student Information System (SIS), results processing system, and the university's document management systems.
- **Efficient Delivery Mechanism:** Provide multiple options for the delivery of marksheets, such as digital copies via email/portal and physical copies.

  Requirement Analysis:
  - Conduct meetings with stakeholders (academic departments, administration, IT department) to understand the detailed requirements for Migration and Provisional Marksheets.
  - Define the types of marksheets (provisional, migration) and the necessary data points required for each.
  - Understand user roles: administrators, students, and authorized university staff (for approvals and verifications).
  - Define integration points with the Student Information System (SIS) to retrieve student academic records and result data.

System Design:
- Design a system that automates the generation of provisional and migration marksheets based on academic records and results.
- Define the database structure for storing the marksheet templates, student data, and issuance records.
- Ensure the system is scalable to handle a high volume of marksheet requests and deliveries.
- Design a user-friendly interface for both students and university staff to interact with the system.
- Design role-based access control to ensure that only authorized personnel can approve or generate marksheets.

Key Features and Functionalities

Marksheet Generation:
- Automatically generate provisional and migration marksheets for students once they have completed their course requirements (e.g., results declared, all fees cleared).

- The system should generate marksheets with the correct course information, grades, total marks, university logo, and security features like QR codes, barcodes, and digital signatures.
- Ensure that the marksheet formats comply with university standards and government regulations.

Marksheet Templates and Customization:
- Provide templates for migration and provisional marksheets, allowing for customization based on different academic programs, departments, and examination sessions.
- Include details such as student name, roll number, department, course, examination session, result status, and issuing authority.

Role-Based Access Control (RBAC):
- Implement different roles and permissions such as "Admin", "Registrar", "Staff", and "Student":
  - Admin: Full access to generate, verify, and manage marksheets.
  - Registrar: Approval of provisional and migration marksheets.
  - Staff: Assist in processing and issuing marksheets.
  - Students: Access their marksheets (view, download, or request physical copies).

Digital and Physical Delivery Options:
- **Digital Delivery:** Allow students to download their provisional and migration marksheets from the university portal or receive them via email in PDF format.
- **Physical Delivery:** Generate reports of requested physical copies and enable students to request printed versions, which can be sent by post or collected from the campus.

Tracking and Status Updates:
- Allow students to track the status of their marksheet (e.g., generated, verified, issued, or dispatched).
- Send automatic notifications (email/SMS) to students when their marksheet is ready for download or when a physical copy is dispatched.

Verification and Security Features:
- Implement verification tools to ensure the authenticity of marksheets, such as QR codes, barcodes, and digital signatures.
- Provide an online verification feature for third parties (e.g., employers or educational institutions) to verify the authenticity of the marksheet by scanning the QR code or entering details.

Marksheet Approval Workflow:
- o Provide an approval workflow for the migration and provisional marksheets:
  - Faculty/Registrar can review and approve marksheets before they are made available to students.
  - Automatically flag any discrepancies in marksheet data for further review before approval.

Integration with SIS:
- o Integrate the system with the existing Student Information System (SIS) to retrieve student academic records, exam results, and fee payment status.
- o Ensure the marksheet generation process uses accurate and up-to-date student data.

Reporting and Analytics:
- o Generate reports on marksheet distribution, including the number of marksheets issued, status of each request, and pending approvals.
- o Admins can view detailed logs of marksheet generation activities to maintain an audit trail for compliance and accountability.

Audit Trail:
- o Maintain a comprehensive audit trail of marksheet issuance, including who generated, approved, and delivered each marksheet.
- o Ensure that any updates or changes to marksheets are logged with timestamps and user details.

Development and Implementation

Technology Stack:
- o **Frontend:** HTML5, CSS3, JavaScript (React, Angular, or Vue.js)
- o **Backend:** Asp.net for robust backend services.
- o **Database:** MsSQL for relational data storage; cloud storage for document storage.
- o **File Storage:** AWS S3, Google Cloud Storage, or similar for storing marksheets securely.
- o **Security:** SSL/TLS encryption for data in transit, two-factor authentication (2FA) for admin access, role-based access control (RBAC).

System Integration:
- o Integrate with the Student Information System (SIS) to fetch student data, results, and course completion status.

- o Integrate with the university's email/SMS systems for sending notifications to students.
- o Provide a secure link for students to download their marksheets from the university portal.

Mobile Compatibility:

- o Ensure the system is mobile-responsive, allowing students to access and download their marksheets on smartphones and tablets.
- o Optionally, develop a mobile application for faster access to marksheets and tracking.

Testing and Quality Assurance

Unit Testing:

- o Conduct unit tests on all modules (marksheet generation, approval workflow, student tracking).
- o Test integration points with the Student Information System (SIS) and email/SMS systems.

User Acceptance Testing (UAT):

- o Conduct UAT with faculty, administration staff, and students to ensure that the system meets functional requirements.
- o Gather feedback and make necessary changes before deployment.

Load Testing:

- o Ensure the system can handle a large volume of marksheet requests simultaneously, especially during peak periods (e.g., graduation season).
- o Test the system's performance under load to guarantee speed and efficiency.

Deployment and Go-Live

Deployment:

- o Deploy the system to the production environment, ensuring proper server and database setup.
- o Perform data migration if required, ensuring that legacy marksheet data is available in the new system.

Training and Documentation:

- o Provide training sessions for university staff (administrators, registrars) on how to manage and issue marksheets.
- o Create comprehensive user manuals for both university staff and students.

Post-Implementation Support:
- o Offer support for bug fixes, performance optimizations, and minor updates after deployment.
- o Provide helpdesk support for students and faculty experiencing issues with the marksheet distribution process.

2.4.13 Store Management System

The system will be designed to streamline and automate the management of university stores, including inventory tracking, stock management, procurement, issue requests, and reporting. The goal is to enhance operational efficiency and provide accurate, real-time information regarding the store's inventory and transactions.

Objectives

- **Centralized Store Management:** Develop a centralized system to handle all aspects of store operations, including inventory management, procurement, and distribution.
- **Automation:** Automate stock entry, stock issue, and procurement processes to reduce manual work and errors.
- **Real-Time Tracking:** Enable real-time tracking of inventory and store transactions.
- **Reporting & Analytics:** Provide comprehensive reports on inventory levels, usage, procurement needs, and expenses.
- **Integration:** Ensure integration with existing university systems, such as the financial system and student information system.
  Requirement Analysis:
  - o Meet with stakeholders (store managers, procurement team, finance department) to understand detailed requirements for the system.
  - o Define user roles: Admin, Store Manager, Staff, Procurement Officer, Finance Department, and other authorized personnel.
  - o Identify the types of goods or materials handled by the store (e.g., books, office supplies, lab equipment, etc.).
  - o Document system requirements for inventory management, procurement, and issue tracking.

System Design:
- o Design a scalable and secure architecture that can handle high-volume transactions and large inventory datasets.
- o Design user-friendly interfaces for all stakeholders (staff, store managers, administrators).

- o Define database structure for inventory, purchase orders, issue requests, transaction logs, and reporting data.
- o Design workflow for goods receipt, goods issue, procurement, and stock adjustments.

Key Features and Functionalities

Inventory Management:

- o Track inventory levels in real-time for each product stored in the university store.
- o Allow store managers to add new items, update stock levels, and categorize inventory items (e.g., books, supplies, lab materials).
- o Manage stock using features such as reorder points, maximum stock levels, and minimum stock levels.
- o Enable barcode scanning or QR code scanning to simplify stock intake and issue processes.
- o Track the expiry dates (if applicable) of items like chemicals, lab supplies, and perishables.

Procurement Management:

- o Streamline procurement requests and approvals for purchasing new inventory items.
- o Allow authorized users to create purchase orders, send them to suppliers, and track delivery status.
- o Ensure that purchase orders are linked to inventory levels to prevent over-ordering.
- o Generate automatic purchase suggestions based on inventory levels and reorder points.
- o Maintain supplier records and track performance (e.g., delivery times, quality).

Goods Receipt & Issuance:

- o Track goods receipt from suppliers, including the verification of item quantity and quality.
- o Allow store managers to update stock levels once goods have been received and verified.
- o Manage goods issuance to various departments or individuals within the university.
- o Maintain an audit trail of all stock movements, with details such as date, time, and user responsible.

Role-Based Access Control (RBAC):

- o Implement role-based access for different types of users: Store Managers, Procurement Officers, Admins, and Finance Teams.

- o Provide varying levels of access based on role, ensuring that only authorized users can modify or approve certain actions (e.g., stock adjustments, procurement).

Stock Adjustments & Transfers:

- o Allow store managers to adjust stock levels in case of discrepancies or damages, with reasons for the adjustments recorded.
- o Enable interdepartmental stock transfers (e.g., lab equipment from one department to another).
- o Implement a workflow for transferring stock to different locations (e.g., campus buildings or departments).

Real-Time Reporting:

- o Generate real-time reports on inventory levels, stock usage, purchase orders, and financial transactions.
- o Provide monthly, quarterly, and annual reports on stock turnover rates, procurement costs, and stock wastage.
- o Implement a dashboard for quick access to important metrics such as current stock levels, recent purchases, and pending orders.
- o Track budgets for each department and compare against actual expenditure on materials and supplies.

Audit Trail & Compliance:

- o Maintain a secure audit trail for all transactions related to the store, including stock movements, procurement, and adjustments.
- o Ensure compliance with university financial procedures by integrating the store management system with the university's financial systems.
- o Implement automated alerts for expired items or stock discrepancies.

Notifications & Alerts:

- o Send email/SMS alerts for key events such as low stock levels, pending purchase orders, and stock discrepancies.
- o Notify relevant users (store managers, procurement officers) when stock reaches reorder levels.
- o Alert staff when stock is issued or when approval is required for a new purchase.

Integration with University Systems:

- o Integrate the system with the university's financial and accounting systems for seamless invoicing and payment processing.
- o Sync inventory data with student and faculty systems if necessary (e.g., for issuing materials to students or faculty).

- o Integrate with the university's asset management system to track valuable equipment and assets.

Security & Data Protection:
- o Ensure the system uses HTTPS encryption for secure communication and data transfer.
- o Implement regular backups to ensure data recovery in case of a system failure.
- o Protect sensitive data, including purchase orders, invoices, and financial transactions, with strong access controls.

Development and Implementation
Technology Stack:
- o **Frontend:** HTML5, CSS3, JavaScript (React, Angular, or Vue.js)
- o **Backend:** Asp.net Java for backend services.
- o **Database:** Ms SQL for database management.
- o **Cloud Storage:** AWS S3, Google Cloud Storage, or similar for secure data storage.
- o **Security:** SSL/TLS encryption, role-based access control (RBAC), two-factor authentication (2FA).

Mobile Compatibility:
- o Ensure the system is mobile-responsive, allowing store staff and managers to access the system on mobile devices for on-the-go stock management and updates.

System Integration:
- o Integrate with the university's financial system for invoice management, budgeting, and financial reporting.
- o Integrate with the university's procurement system to streamline purchase order processes and approval workflows.

Testing and Quality Assurance
Unit Testing:
- o Test individual modules (inventory, procurement, reporting) for functional correctness.

Integration Testing:
- o Test the integration points with other university systems such as the financial system, procurement system, and asset management systems.

User Acceptance Testing (UAT):
- o Conduct UAT with store managers, procurement officers, and finance department staff to ensure the system meets functional requirements.
- o Gather feedback and make necessary adjustments before final deployment.

Load Testing:
- o Ensure the system can handle a high volume of users and transactions, especially during peak periods such as the start of a new semester or academic year.

Deployment and Go-Live

Deployment:
- o Deploy the system to the production environment.
- o Perform data migration from legacy systems (if applicable).
- o Configure the system for live operations and ensure it's running smoothly.

Training:
- o Provide training sessions for all user roles (Store Managers, Procurement Officers, Admin, etc.) to ensure they understand how to use the system.
- o Provide training materials, such as user manuals and video tutorials.

2.4.14 Mobile Application for Student Management Activities

Mobile Application for managing **student admissions** and **examination activities** at the PDSU, Sikar. The application will provide students with a user-friendly platform to apply for admission, register for exams, check results, view schedules, receive notifications, and more, while also allowing the university administration to streamline these processes.

- **Enhance Student Experience:** Provide students with easy access to admission and examination-related services through their mobile devices.
- **Streamline University Operations:** Automate and optimize the student admission and examination management processes.
- **Increase Efficiency:** Reduce manual work and paperwork by integrating mobile functionalities into existing systems for both students and university staff.

- **Improve Communication:** Enable effective and timely communication between the university and students, including notifications for admission status, exam schedules, results, and more.

Requirements Gathering & System Design
Requirement Analysis:
- Gather input from university stakeholders (Admission Office, Examination Department, IT Department, etc.) to understand specific requirements.
- Identify user roles: Admin, Student, Examination Department, Admission Staff.
- Define key features and functionalities, such as mobile registration for admission, exam form filling, result viewing, notifications, etc.
- Ensure the application is scalable to handle a large number of students.

System Design:
- Design a user-friendly interface with a seamless flow for students to navigate.
- Design a backend system that integrates with the university's existing Student Information System (SIS) and examination management system.
- Choose the appropriate technology stack for mobile app development (iOS and Android platforms).
- Define and design databases for managing student records, admission status, exam schedules, results, and notifications.
- Ensure compliance with security and data protection regulations (e.g., student data privacy).

Key Features and Functionalities
Student Admission:
- **Online Application Form:**
  - Students can fill out the admission application form directly through the mobile app, providing necessary personal, academic, and contact details.
  - Support for uploading required documents (e.g., transcripts, photos, etc.) through mobile-friendly file upload mechanisms.
- **Eligibility Check:**
  - The app will include an eligibility checker based on predefined criteria for different programs and courses.

- o **Payment Integration:**
  - Integration with payment gateways for online fee submission (e.g., credit card, debit card, UPI, etc.).
  - Provide a payment receipt with a unique transaction number for student reference.
- o **Admission Status and Notifications:**
  - Provide students with real-time updates about the status of their admission application (accepted, rejected, pending).
  - Notify students about important dates such as document verification, interview schedules, and final admission approval.

Examination Registration:

- o **Exam Registration Form:**
  - Allow students to fill out exam forms directly from the app, providing all necessary details such as subject choices, exam centers, and related information.
- o **Eligibility Verification:**
  - Verify eligibility for each examination (semester, supplementary, or revaluation exams) based on pre-set criteria in the university system.
- o **Payment for Exams:**
  - Enable students to make payments for exam fees directly via the app, with an option to download payment receipts.
- o **Exam Schedule and Centers:**
  - Provide a real-time view of exam schedules, exam center locations, and hall tickets.
- o **Notifications:**
  - Push notifications for exam schedules, changes, and updates regarding exam-related activities.

Results and Transcript Access:

- o **View Results:**
  - Students can view their exam results directly through the app.
  - Results should be displayed with detailed subject-wise marks, overall grades, and remarks.
- o **Download Transcripts/Mark Sheets:**
  - Allow students to download their provisional and final marksheets, certificates, and transcripts.

- o **Revaluation/Backlog Updates:**
  - Provide updates regarding revaluation results and backlog clearance, with the option for students to apply for revaluation directly from the app.

Student Profile Management:
- o **Profile Creation & Editing:**
  - Students can create, view, and update their profile, including personal information, contact details, academic records, etc.
- o **Document Storage:**
  - Allow students to upload and store important documents like ID proof, marksheets, photographs, and other academic documents.
- o **Application History:**
  - Maintain a record of all past admission and examination-related applications for easy reference.

Communication and Notifications:
- o **Push Notifications:**
  - Push notifications for key events like admission acceptance/rejection, exam registrations, result declarations, upcoming deadlines, and exam-related updates.
- o **SMS and Email Integration:**
  - Integration with SMS and email systems to notify students about key events such as fee payments, exam schedules, result announcements, etc.
- o **Message Center:**
  - Provide a message center for communication between students and the university, allowing students to track and respond to queries or updates related to their admission/exam status.

User Interface and Experience (UI/UX):
- o **User-Friendly Interface:**
  - Simple and intuitive interface for students with easy navigation, clear instructions, and user-friendly forms.

- o **Language Support:**
  - Support for multiple languages (English, Hindi, and any other regional language) for better accessibility.
- o **Dashboard:**
  - A personalized dashboard for students showing their admission status, upcoming exams, results, and notifications.

Security & Data Privacy:
- o **Data Encryption:**
  - Ensure that all sensitive data such as personal details, academic information, and payment information are encrypted using industry-standard protocols.
- o **Two-Factor Authentication (2FA):**
  - Implement 2FA for student logins to enhance security, especially when accessing sensitive data like results and certificates.
- o **Data Privacy:**
  - Comply with data protection regulations and ensure that student information is stored securely and used responsibly.

Development & Implementation
Technology Stack:
- o **Frontend (Mobile):** React Native or Flutter (cross-platform mobile app development) for Android and iOS platforms.
- o **Backend:** Asp.net for server-side application development.
- o **Database:** MySQL for managing student data, exam records, and other related information.
- o **Cloud Hosting:** AWS or Google Cloud for hosting the backend and database.
- o **Payment Gateway Integration:** Razorpay, Paytm, or other reliable payment gateways for online fee payments.
- o **Push Notification Service:** Firebase Cloud Messaging (FCM) or similar service for notifications.

Mobile App Development:
- o **Platform Support:** Android and iOS compatibility.
- o **Responsive Design:** Ensure the app is optimized for various screen sizes and devices.
- o **Offline Functionality:** Allow certain features to work offline, such as viewing downloaded marksheets, results, etc.

Testing and Quality Assurance:
- o **Unit Testing:** Ensure all components of the app work as expected individually.
- o **Integration Testing:** Ensure the app integrates smoothly with the university's backend systems (SIS, Examination Management, etc.).
- o **User Acceptance Testing (UAT):** Conduct UAT with actual students and university staff to gather feedback and ensure the app meets functional requirements.
- o **Load Testing:** Test the app's ability to handle large volumes of concurrent users, especially during peak times such as admission or result declaration periods.

Deployment:
- o **App Store Deployment:** Deploy the app to Google Play Store (Android) and Apple App Store (iOS) after successful testing.
- o **Server and Backend Deployment:** Deploy backend services on a scalable cloud platform (e.g., AWS, Google Cloud) to handle large user traffic.

Training and Documentation:
- o Provide training for university staff on how to manage and monitor the app.
- o Provide user manuals and guides for students to navigate the app effectively.

Post-Implementation Support
Bug Fixes and Updates:
- o Provide support for bug fixes and necessary updates during the initial 6 months post-launch.

User Feedback & Enhancement:
- o Gather user feedback from students and university staff to identify areas for improvement and new feature additions.

Ongoing Maintenance:
- o Provide ongoing app maintenance, including updates for compatibility with new mobile OS versions, security patches, and feature enhancements.

2.5   Indicative Deliverables

This section provides indicative deliverables; however actual deliverables will depend upon project specific requirements and will be finalized after the User requirement document.

- User Requirements Specifications

- High Level Design and Architecture Document
- Security Test Reports along with certificate bearing HASH value of source code.
- User Manual
- Technical Manual
- Source Code, Database Script (without Data) etc.

The selected agency shall have to provide above deliverables online through the portal 'https://shekhauni.ac.in/' after completion of the deliverables of project.

2.6   Roles and Responsibilities
2.6.1 Responsibility of University

The University (PDSU)l would be responsible for the followings:

i.   Providing strategic directions to the agency engaged.

ii.   Approving deliverables.

iii.   Review the document & progress of the agency engaged, as and when needed.

iv.   Will Support agency in their study by providing access to various stakeholders and providing requisite documents and guidance as needed.

v.   Nominate a Nodal Officer who will be responsible for logistic and communication support.

vi.   Making payments as per the agreed payment terms to agency for the assignment.

vii.   Provide the training requirements i.e. number of days of the training & the means of training, before allotment of work. Space required for imparting training will be provided by the concerned University.

viii.   The content to be published on the website will be provided by the concerned University, but it will be the responsibility of the selected agency to work along with the University to finalize the content suitable for publishing.

ix.   The University will evaluate the work done by agency & provide approval for hosting of web application and final website.

x.   Nodal Officer of the University and other concerned officers/personnel shall ensure work to be completed as per the prescribed work scope in his supervision through the authorized personnel of the service provider selected for the said work.

xi.   It will be the responsibility of the university to provide error free data to the service Provider

xii. In view of the sensitivity of the work, it will be the responsibility of the concerned officers of the University and the authorized personnel of the selected Service Provider to maintain its confidentiality.

2.6.2 Responsibility of Agency

i. The selected agency shall be required to carry out the work as defined in the Scope of work and produce the deliverables as mentioned in Indicative Deliverables Section of this RFP.

ii. Post Work Allotment selected agency shall provide services of qualified resources to the University as and when required.

iii. The agency shall provide services using their own resources on an exclusive basis in order to ensure the required coordination with university, and to complete the project as per timelines indicated in the RFP.

iv. The agency shall provide project status report on requirement basis to the University mentioning the progress of the project, any issues to be clarified and report the delays, if any.

v. Any hardware/software required for development/revamping of web application would be solely managed by agency.

vi. Implementing and operationalising the solutions and services as required in the scope of work.

vii. Ensuring that changes suggested by University are incorporated in the available solution.

viii. Regular coordination with University so that minimum issues and disputes arise.

ix. Regular operations, updating and maintenance of the solutions/services provided to the end client.

x. Service provider shall provide in written details of resources (Name, Mobile no., ID etc.) executing the related work in coordination with University Nodal officer/Other officers. In the same manner replacement of resources shall be reported.

xi. In view of the sensitivity of the work, it will be the responsibility of the authorized personnel of the Service Provider to maintain its confidentiality.

xii. All data related to the project shall be received by University. All the source code, data, reports etc. related to the work will be made available by the agency directly to the nodal officer related to the said work of the university.

2.7   Tenure of Project

The rates are invited for two session Examinations i.e. Exam year 2024-25, 2025-26. If the services of the approved firm are found satisfactory for the respective exam year 2024-25 and 2025-26 then work order for the following exam year i.e. 2026-27 will be issued by mutual consent after approval of Vice Chancellor.

2.8   Work Allotment to agency and Rejection of Bid

1. Opening of bids: The Tendering Authority will open the bid in the presence of bidder's representatives who choose to attend, as per schedule.
2. Correction of Errors: Price Bids determined to be substantially responsive will be checked by the Tendering Authority for any errors. If there is a discrepancy between the quoted rate in figures and the quoted rate in words, the rate in words will take precedence. Time frame of any objection will be entertained only for as per the guideline of GEM bid conditions.
3. Evaluation of Technical Bids: The Tendering authority may take presentation in order to examine the technical competence of the bidder.
4. Evaluation and Comparison of Financial Bids
   a. The Tendering authority's evaluation of a financial bid will take price quoted for project as final price, only those bids will be opened who have qualified all the criteria of QCBS and will get the qualifying marks, no objection will be entertained after the reject of the bid.
   b. If the bid of the successful bidder is substantially below the Tendering Authority's estimate for the contract, the Tendering Authority may require the bidder to produce detailed price breakup to demonstrate the internal consistency and justification/reasonability of those prices. After evaluation of the price analysis, the Tendering Authority may require that the amount of the Security deposit be increased at the expense of the successful bidder to a level sufficient to protect the Tendering Authority against financial loss in the event of default of the successful bidder under the Contract.

Tendering Authority Right to Accept any bid and to reject any or all bids: The Tendering Authority reserves the right to accept any bid, and to annul the tender process and reject all bids at any time prior to award of contract, without assigning reasons & 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 the Purchasers action.

Tendering Authority reserves the right to accept any bid, and to annul the tender process and reject all bids at any time prior to award of contract, without assigning reasons & 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 the Purchasers action.

2.9 Project Location

Project Execution with all the modules will be done at Pandit Deendayal Upadhyaya Shekhawati University, Sikar.

3. Qualification Criteria and Evaluation process
3.1 Pre-qualification Criteria
3.2 Technical Evaluation

4. QCBS (Quality-cum-Cost Based Selection)

Sno	Technical Evaluation	Description	Max Marks
1.	Registration/Certificate of Incorporation (CIN)	• Proprietorship firm/ Individual/HUF= 2 Marks • Private Limited = 5 Marks	5
2	Turnover and Company age	• Minimum Average Turnover 10 Crores and minimum company age 12 years = 10 marks • Minimum Average Turnover 5 Crores and minimum company age 5 years = 5 Marks	10
3	MSME (Ministry of Micro, Small and Medium Enterprises)	• Proof Enclosed of Certificate for services of Information Technology) = 10 Marks	10
4	GIGW	•	
4	Certificate	• Both ISO 9001:2015& ISO 27001 = 5 Marks • Only ISO 27001 = 3 Marks • Only ISO 9001:2015 = 2	5

		Marks	
5	Empanelment (Relevant certificate mandatory)	• Empanelled in One Nodal Agency = 3 marks • Empanelled in Two or more = 5 marks	5
6	Technical Manpower	• More than or equal to 20 manpower = 5 Marks • Less than 20 Manpower = 2 Marks	5
7	Project Experience	The Bidder must have successfully completed/ongoing projects in related IT field for any Central/State Government/State Board/State Cooperation/PSU (Work order should match the name of the organization with submitted Certificate of Incorporation) • One project of value not less than INR 50 Lakh = 10 Marks • Two project of value not less than INR 30 Lakh = 5 Marks • Three Projects of Value not less than INR 15 lakhs = 2 Marks	10
8	Site visit report with execution/methodology plan	The Bidder must have submitted a detailed site visit report with proper understanding and technical suggestion which is duely stamp and signed authorized signatory of company.	15
9	Technical Presentation	Approach & Methodology: i. Understanding of Scope of Work ii. Solution Architecture approach iii. Site Design Layout with Photographs. iv. Cable/Wiring Layout Diagram. v. Risk's identification and proposed mitigation. vi. Project Management plan	35

Technical Evaluation (Max Marks-100)

Note:- Bidders who do not qualify the technical eligibility evaluation will not be considered for financial evaluation.
The Bidders, who have not obtained 75 marks out of 100 marks in technical evaluation, will not be considered for Financial evaluation.
Conditional Bids shall not be accepted on any ground and shall be rejected straightway.
For any kind of query regarding survey or scope of work bidder can contact GAD section of University.

5. **Terms of Payment**
   - Payment shall be made by the Tendering Authority only after completion of work order or delivery of services, commissioning and acceptance of the Tasks detailed in section 'Scope of work' and 'Deliverables', to the entire satisfaction of the University.
   - The Tendering Authority may consider making payments, which shall be subject to the following conditions on various tasks actually completed as under:

Sno	Milestone (per semester/unit rate)	Phase Payment
1.	Understanding the System and completed successfully the task mentioned in Scope of Work at point no 2.1, 2.2, 2.3(**Refurbishment/Development, Design, Maintenance and Implementation of Website on GIGW guidelines**)	Phase 1
2.	Completed successfully the task mentioned in Scope of work at point no 2.4.1 (**Pre-Examination Module**) (per Semester)	Phase 2
3.	Completed successfully the task mentioned in Scope of work at point no 2.4.4, 2.4.5, 2.4.6, 2.4.7, 2.4.8, 2.4.9, 2.4.10, 2.4.11, 2.4.12, 2.4.13, 2.4.14.	Phase 3
4.	Completed successfully the task mentioned in Scope of work at point no 2.4.2 **Post Examination Module** (per Semester)	Phase 4

5.	Completed successfully the task mentioned in Scope of work at point no 2.4.3 **Coding and Decoding of Answer copies** (rate per answer copy)	Phase 5

Notes:

1. No Advance Payment will be made.
2. Bill will be raised in the name of COE PDUSU and Payment indicated at serial no 2,4,5 will be released to firm after number verification by Controller of exam only.
3. Before bidding, firm has understood the nature of working of the University, different schemes, syllabus, examination pattern etc.
4. Rates should be quoted including all taxes applicable GST, any other tax and all other expenses, manpower, material etc. and FoR University office.
5. Currency of Payment: Payment shall be made in Indian Rupees only.

BOQ

Charges for First Year

Sno	Work Description	Qty	Rate
1.	Refurbishment/Development, Design, Maintenance and Implementation of Website on GIGW guidelines	1	
2.	Pre-Examination Module (rate per student)	1	
3.	Post Examination Module (rate per student)	1	
4.	Coding and Decoding of Answer copies (rate per answer copy)	1	
5.	Affiliation Management System	1	
6.	Setup of Email Server	1	
7.	Setup of Local server	1	
8.	Dedicated Cloud server hosting for period of One year	1	
9.	Alumni Management System	1	
10.	Grievance Management System	1	
11.	Fee Management System	1	
12.	Academic Management System	1	
13.	Single Window system for distribution	1	

	Work Description	Qty	Rate
	of Migration / Provisional Marksheet and Degree		
14.	Store Management System	1	
15.	Mobile Application for Student Management Activities	1	

Annual Maintenance Charges after One Year

Sno	Work Description	Qty	Rate
1.	Refurbishment/Development, Design, Maintenance and Implementation of Website	1	
2.	Pre-Examination Module (rate per student)	1	
3.	Post Examination Module (rate per student)	1	
4.	Affiliation Management System	1	
5.	Setup of Email Server	1	
6.	Setup of Local server	1	
7.	Dedicated Cloud server hosting for period of One year	1	
8.	Alumni Management System	1	
9.	Grievance Management System	1	
10.	Fee Management System	1	
11.	Academic Management System	1	
12.	Single Window system for distribution of Migration / Provisional Marksheet and Degree	1	
13.	Store Management System	1	
14.	Mobile Application for Student Management Activities	1	

Qualification Criteria and Evaluation process
Pre-qualification Criteria

1. The Bidder's firm shall be a Private Limited/Proprietorship/Registered entity with a valid proof of registration in India.

2. The Bidder should have a valid MSME /Udyam certificate.

3. The Bidder should have a valid registration an GIGW (Government of India Guidelines for Website) empanelled Certificate in government nodal agency, bidder not submitting the document will be rejected.

4. Bidder must have at least one work order for GIGW compliant website of any state government organization/University, bidder not submitting the document will be rejected.

5. The Bidder should have a valid Work Experience certificates of minimum 2 completed /ongoing projects in examination (Pre/Post Examination work) in last 3 years in any State/Central university/Board,State /Central department in field of IT.

6. The bidder should not have been blacklisted by any PSU/State Organization/ Government in the last three years, valid notarised affidavit on stamp paper should be submitted.

7. The Bidder should have valid ISO Certificates (9001:2015, 27001)

8. The Bidder's should have a Positive Net worth in last three years.

9. The Bidder should have valid Nodal Empanelment in any IT PSU /PSU/ State Corporation for IT services.

10. The Bidder should have minimum 20 technical manpower employed in the organization documentary proof to be submitted

11. The bidder should have minimum 3 Crore average annual turnover (FY 2021-22,2022-23,2023-24),

12. The turnover certificate should be duly certified from CA with UDIN

13. The Bidder should have GSTIN Registration certificate.

14. The Bidder should have valid PAN Number.

15. The Bidder should have valid ESIC and EPF registration certificate bidder not submitting the document will be rejected.

16. The Bidders must submit documentary evidence such as Balance sheet & Profit & Loss a/c Statement for in support of the above

17. In absence of requisite documents, university reserve the right to reject the bid without making any reference to the bidder.

Technical Evaluation
QCBS (Quality-cum-Cost Based Selection)

1. Technical Specifications Compliance sheet from bidders and giving undertaking that the items provided by them comply with the specifications provided in the bid document and there are no deviations.
2. Compliance of the SOW, Payment terms etc as uploaded as part of the GEM Bid on bidder's letterhead.
3. The Bidder should not have been debarred/black-listed by any Central/State Government Agency. An notarised affidavit by the bidder in this regard to be submitted.
4. Other valid Documents as required for Bid compliance like Udyam/MSME.

5. Character certificate on company's letterhead is mandatory.
6. Taxes: GST or any other taxes as per Govt. norms shall be applicable from time to time. The % of Tax must be indicated separately in the quotation.
7. Site visit report with execution/methodology plan is compulsory for eligible bidder with signed and stamp of authorised person of company

Sno	Technical Evaluation	Description	Max Marks
1.	Registration/Certificate of Incorporation (CIN)	• Proprietorship firm/ Individual/HUF= 2 Marks • Private Limited = 5 Marks	5
2	Turnover and Company age	• Minimum Average Turnover 5 Crores and minimum company age 12 years = 10 marks • Minimum Average Turnover 3 Crores and minimum company age 5 years = 5 Marks	10
3	MSME (Ministry of Micro, Small and Medium Enterprises)	• Proof Enclosed of Certificate for services of Information Technology) = 10 Marks	10
4	Certificate	• Both ISO 9001:2015& ISO 27001 = 5 Marks • Only ISO 27001 = 3 Marks • Only ISO 9001:2015 = 2 Marks	5
5	Empanelment (Relevant certificate mandatory)	• Empanelled in One Nodal Agency = 3 marks • Empanelled in Two or more = 5 marks	5
6	Technical Manpower	• More than or equal to 20 manpower = 5 Marks • Less than 20 Manpower = 2 Marks	5
7	Project Experience	The Bidder must have successfully completed/ongoing projects in related Examination work for any Central/State Government/State Board/State Cooperation/PSU (Work order should match the name of the organization with submitted Certificate of Incorporation) • One project of value not less than INR 50 Lakh = 10 Marks • Two project of value not less than INR 30 Lakh = 5 Marks • Three Projects of Value not less than INR 15 lakhs = 2 Marks	10
8	System Requirement study and execution/methodology plan	The Bidder must have submitted a detailed system requirement study and execution plan with proper understanding and technical suggestion which is duly stamp and signed authorized signatory of university 2 days before bid end date.	15
9	Technical Presentation	Approach & Methodology: i. Understanding of Scope of Work ii. Solution Architecture approach	35

		iii. Architecture Design iv. Risk's identification and proposed mitigation. v. Project Management plan	

Technical Evaluation (Max Marks-100)

Note:- Bidders who do not qualify the technical eligibility evaluation will not be considered for financial evaluation.

The Bidders, who have not obtained 75 marks out of 100 marks in technical evaluation, will not be considered for Financial evaluation.

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