ERP document

(e-Governance system)

CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

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Background:

As the digital world grows and technology becomes more available to all stakeholders, CHARUSAT also thought of "going paperless and digital" in all their major operation areas. To create a smoother workflow amongst different stakeholders like students and staff members, university has implemented full-fledged automation system named as **e-Governance** since its inception in the year 2009.

History:

In year 2009, CHARUSAT has implemented an online management system e-Governance in some areas like students' admission, academic setup and examinations. Year to year various modules have been developed and implemented including finance also. Currently, all major operations in CHARUSAT are being carried out in e-Governance system only. We keep developing newer functionalities and implementing newer modules on day to day basis and strengthening our ERP system.

Purpose and advantages of e-Governance:

- Campus-wide integration of a conventional system.
- Reduction or elimination of manual processes.
- Improved strategic decision making and planning capabilities.
- Self-service environment for students and faculty.
- Support of sophisticated and advanced data analyses for use in decision making.
- Integrated workflow for the organization's best practices and decreased dependence on paper.
- Platform for re-engineering organization practices and continued process enhancements.

ORGANIZATIONAL STRUCTURE OF GOVERNANCE:
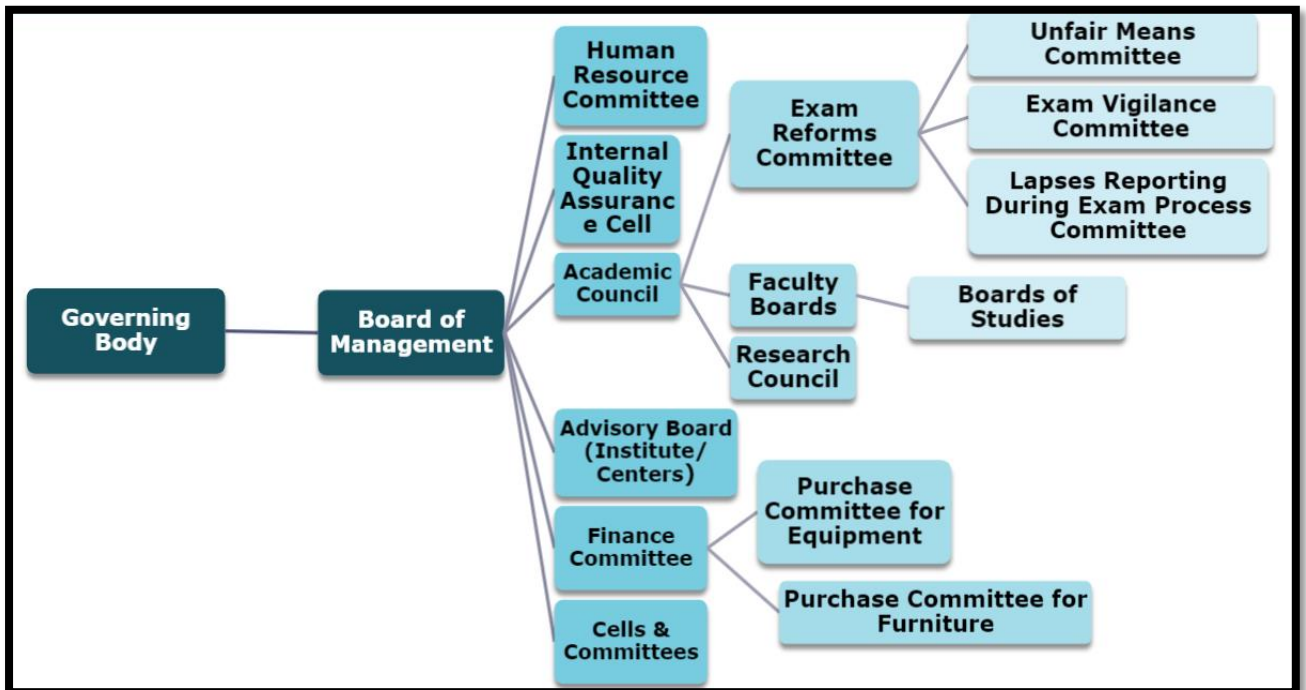
ORGANIZATIONAL STRUCTURE OF EXECUTION:
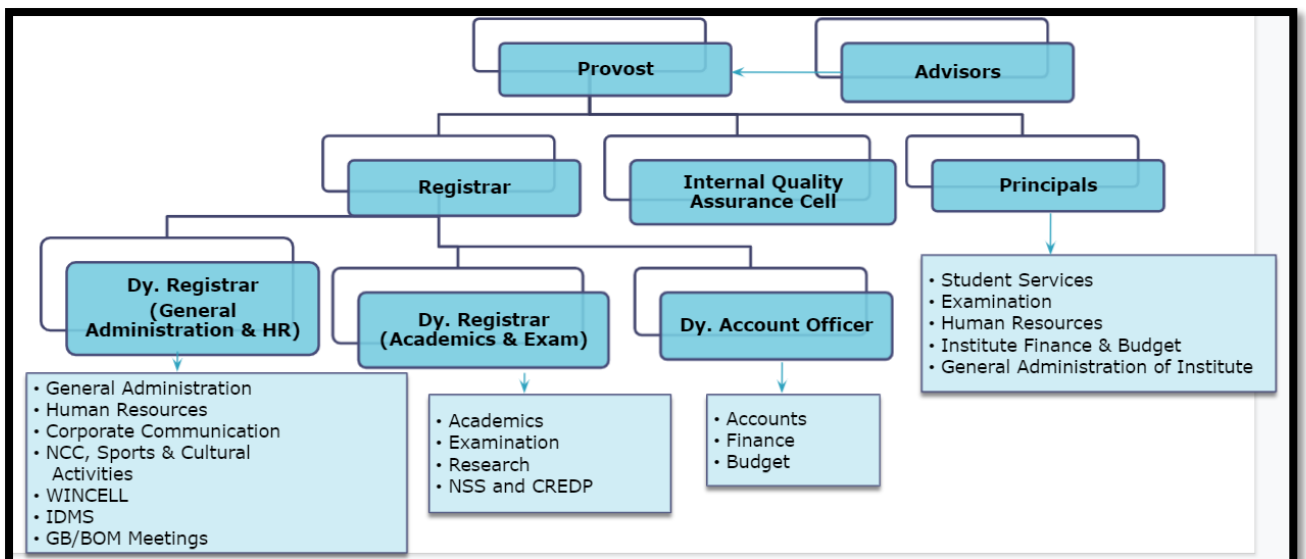
CORE MODULES OF E-GOVERNANCE:

1	**ORGANIZATIONAL SETUP & SECURITY MODULE** (Centralized single login for all modules and all users)
2	**STUDENT ADMISSION & FEES MODULE** (Enrollment to Convocation & Alumni)
3	**HR MODULE** (Employee Recruitment to Retirement)
4	**ACADEMIC & TIMETABLE MODULE** (Resource Management to Student Attendance)
5	**EXAMINATION MODULE** (Examination scheduling to Degree awarding)
6	**CENTRALIZED DATABASE SYSTEM** (Faculty Activities like publications, projects, events etc.)
7	**FINANCE & PAYROLL MODULE** (Budgeting, Costing & Asset Management, Tax Return & etc.)
8	**STUDENT COUNSELLING & FEEDBACK MODULE** (Student Mentoring, Course wise Faculty Feedback & other stakeholder's feedback)
9	**TRAINING & PLACEMENT MODULE**
10	**PURCHASE & INVENTORY MODULE** (Procurement to Payment Process)
11	**HOSTEL MANAGEMENT MODULE** (Registration, Fees, Room Allotment, Gate pass)
12	**COMMUNICATION MODULE** (Mobile App, Dashboard, Email, SMS)

1. ORGANIZATIONAL SETUP & SECURITY MODULE

- Faculty Setup

- Program Setup

- Institute Setup

- Department Setup

- Degree Setup

- Academic Year

- User Group Management

- User Management

- User GroupWise Rights Management

2. STUDENT ADMISSION & FEES MODULE

• Student Enrollment	• Student Ledger with O/S Fees
• Student Reshuffle Out/In	• Pending/Outstanding Fees Management
• Admission Cancel	• Various Fees Reports
• Generate Student-ID/Enrollment No	• Course Registration
• Fees Plan/Structure	• Student Academic Information
• Fees Receipt	• Student Listing Report
• Other Receipts	• Student Convocation Details
• Student Scholarship	• Intake vs. Admission Listing & Summary Reports
• Deposit Refund	• Student Portal
• ACPC Account Management	• Online Payment Integration

3. HR MODULE

• Pay Commission	• Employee Event Management (Increment/Promotion/Transfer/Resignation/Retirement)
• Pay Band	• Online Leave Application
• Designation Master	• Online Leave Approval/Rejection
• Department Master	• Manual Leave Entry
• Leave Rules	• Leave Cancellation
• Employee Information	• Various Listing and Analysis Reports & Letter Generation
• Employee Leave Op. Balance	• Employee Portal
• Attendance Discrepancy Rules Setup	• Auto generate leave based on Rules
• Email Setting	• Attendance Discrepancy Reports
• Exclude Employee from Discrepancy	• Employee Recruitment Module
• Integration with Punch (Biometrics) Data	• Yearly and Term wise Goal Planning and Follow Up
• Generate Discrepancy by applying Rules	• Performance Appraisal

4. ACADEMIC & TIMETABLE MODULE

• Resource Management	• Faculty Subject Assignment
• Division & Batch Creation	• Assign Division & Batch
• Time Slot Master	• Student Subject Assignment
• Subject Group Master	• Create/Manage Time Table
• Subject Master	• Subject Lesson Planning
• Subject Topic	• Faculty Load Adjustment
• Subject Resource Information	• Teaching Off Management
• Academic Calendar	• Student Attendance
• Syllabus Master	• Various Listing & Analysis Reports
• Student Course Registration	• Alerts for Parents / Students via mail/SMS/Dashboard

5. EXAMINATION MODULE

• Subject & Syllabus Master	• Student Examination Attendance
• Schedule Examination	• Examination Marks
• Examination Panel	• Result / Grace Analysis
• Examination Fees	• Generate / Publish Result
• Students Examination Form	• Re-assessment Process
• Hall Ticket	• Grade Card & Transcript
• Internal Examination System	• Post Examination Reports
• Exam Remuneration	• Provisional Degree/Degree Certificate

6. CENTRALIZED DATABASE SYSTEM

• Journal Publications	• Event Organization
• Conference Publications	• Research & Consultancy Project Management
• Book/ Book Chapter Publications	• AAA Generation* (Under Development)
• Patent	• Accreditation Module* (Under Development)
• Event Participation	

7. FINANCE & PAYROLL MODULE

• Receipts	• Trial Balance
• Payments	• Income & Expense
• Expense & Purchase Vouchers	• Balance sheet
• Journal Vouchers	• Cash Flow
• Cheque Book Management & Cheque Generation	• Budgeting
• Outstanding Management	• Asset Management
• Account Ledger	• Costing

Payroll

• Earning/Deduction Heads	• Salary Calculation & Modification
• Earning/Deduction Setup	• Salary Release (Provision to Integrate with Bank)
• Prof. Tax & Income Tax Parameter Setup	• Salary Posting (PF/Prof. Tax/I. tax etc.) Integrated with Finance
• Employee Salary Information	• DA Difference Calculation and Posting
• Integrated with Biometric for LWP	• Arrears Calculation & Payment
• Integrated with Hostel for deduction	• All Govt. recognized PF, P. Tax and I. Tax Reports
• Income Tax Planning	• Various listing and analysis reports

8. STUDENT COUNSELLING & FEEDBACK

STUDENT COUNSELLING	FEEDBACK MODULE
• My Counselees	• Feedback Setup
• Counselee Details - General	• Faculty Feedback Form
• Counselee Details - Academic	• Feedback Status Report (Detailed/Summary)
• Counselling Session Schedule & Details	• Feedback Report (Question wise/Overall Percentage)
• Annexures	• Faculty * Course Feedback Report
• Graduated Student Statistics	• Institute Feedback Report (Objective/Descriptive)

9. TRAINING & PLACEMENT

• Company Master
• Student Career Selection
• Training & Placement Entry
• Ad-Hoc Report
• Summary Report

10. PURCHASE & INVENTORY MODULE

• Indent	• Goods Receipt
• Enquiry	• Invoice
• Quotation	• Dispatch
• Rate Analysis	• Stock Adjustment
• Sanction Request	• Stock Register
• Purchase Order	• Various Reports

11. HOSTEL MANAGEMENT MODULE

• Hostel Setup	• Hostel Facilities
• Student Registration	• Gate Pass Entry
• Hostel Fees & Deposit Collection	• Hostel In-take vs. Allocation Analysis
• Auto Room Allocation	• Room Vacancy Report
• Room Ex-Change/Inter Change	• Various Analysis and Listing Reports

12. COMMUNICATION MODULE

• Email to Student/Employee
• SMS to Student/Employee***** SMS Service charges will be paid by Client to the service provider and it is not part of the project cost mentioned here.
• Dashboard Facility for notices, News, Alerts and events for Student/Employee
• Android & ios based smart phone Application for Staff and Students

Module Integration
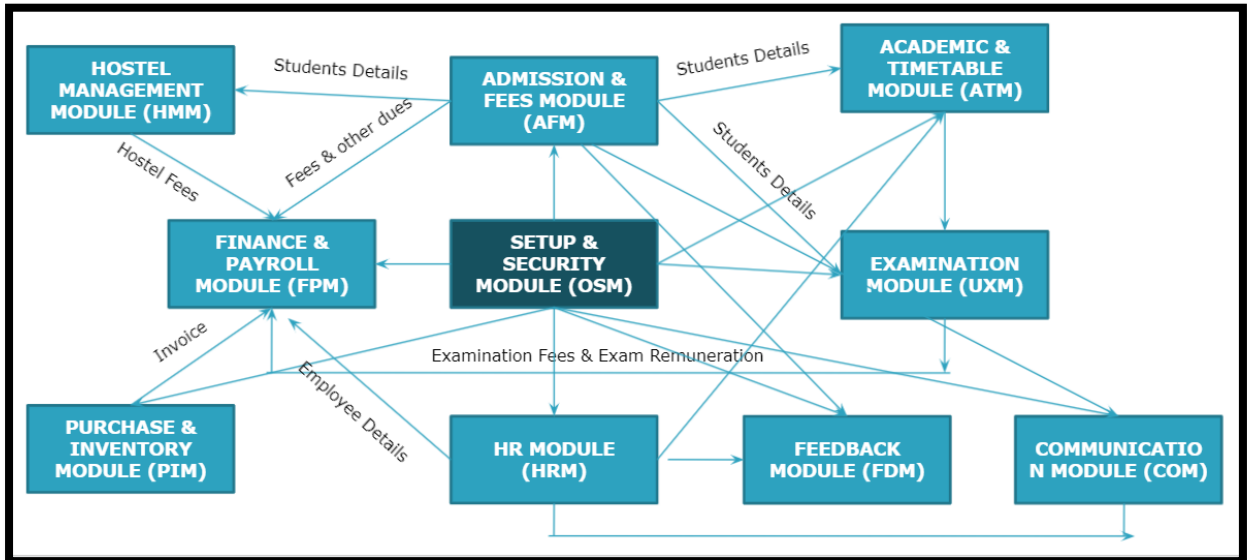
OPERATIONAL METHODOLOGY

Development Methodology

- Initiation phase (Requirement Analysis, Scope, Partners, Potential Gap, Risk, Solutions)
- Definition phase (Functional Requirements, Operational Requirements, Limitations, Boundary)
- Design phase (Front End, Back End design)
- Development phase (Coding as per design, End User Interaction)
- Testing (Various Testing)
- Deployment (Start Using it, Training End User and Key User)

Implementation - Roles and Responsibilities

- Client has to define a Senior Executive who can take/derive organizational decisions and who will be ERP Project Champion, a Middle Senior Executive who can help in execution covering organizational process changes, hardware installations etc. and a System manager who can do overall communication with CHARUSAT and Client users.
- Project Monitoring and Implementation will be joint responsibility of CHARUSAT and Client.
- CHARUSAT and Client both have to declare the team within 15 days from work order confirmation.
- Dedicated Technical team will be appointed by CHARUSAT for onsite Implementation at Client site during implementation period.
- Frequent visit of CHARUSAT Project Manager at Client during the implementation period will be there.
- Periodical implementation report will be provided by CHARUSAT to Client and will be reviewed jointly.
- System manager of Client shall ensure availability of required information on time, manage meeting/training with core users/end users and make sure about the availability of required person and resource by CHARUSAT.
- Core Users / Key Users /end users of Client shall be available with the CHARUSAT Implementation team as and when required.
- Office Space with computers, network connectivity, and CHARUSAT webmail email and Google chat access should be provided by Client during implementation period.

Training Methodology

- During the implementation of the project, CHARUSAT will conduct a detailed training for the Client core user team. The key user training will be to train the key users in the detailed functionality of e-Governance and the configuration aspects. The key users have a role to play even after the project is complete and gone live. They will be responsible for supporting the end users after the implementation is over.

- Technical training will be provided for the System Manager identified from Client, to take care of day to day operations and trouble shooting. This would include, Server management, User management, Device management backup and restore of Database.

- Phase wise detailed training will be provided to end users identified by Client.

- Demo software will be installed for end users to hands on practice and CHARUSAT staff will guide end users personally on their desk for initial entries

- MS Power-point presentations will be provided for easy and quick reference.

- All the training and support will be provided at Client Campus Only.

Post Implementation Support

- After the implementation phase, Client is responsible for database backup and server and its storage management if the product is deployed on Client server. CHARUSAT will assist Client as and when required.

- 6 Months free offsite support will be provided by CHARUSAT after the phase wise production rollout.

- The support will be provided by adding ticket to shared document, via chatting on Google talk with our representative during office hours, by sending an email or on telephone during office hours.

- In general scenario support to resolve any bugs or other issues will be provided from CHARUSAT office.

- Free Support will cover error/issue fix, minor modifications in data entry UI and reports, user training and consultation on phone/chat, Monthly visit of Project Manager/Team Leader to review project status.

TECHNOLOGY

SOFTWARE	
OS	Windows Server - 2016 R2
IIS	Web Server - 8.x
IDE	Visual Studio 2012 Team System
Framework	ASP .Net - 3.5
Database server	MS SQL Server - 2019 R2
Versioning Control Tool	Visual Source Safe - 2005
Reporting Tool	Crystal Reports - 10.5

HARDWARE REQUIREMENT

- Three Servers are required. One will be as application server, one will be as database server and one will be as development server.
- The backup of database will be automatically taken on application server as per the predefined schedule.
- Daily night database backup will be copied on external hard drive for disaster management.

Minimum Recommended server configuration

- Intel Xeon Processor hexacore processor
- 16 Gb ECC RAM
- 1 TB Minimum Hard disk
- 1 Gbps Lan Speed
- 2 kVA UPS with 20 min battery backup

APPLICATION SOFTWARE REQUIREMENT:

- OS: Windows Server 2012/2016 enterprise with sp2/R2
- Database: SQL Server 2019 R2
- Visual Studio 2012 (on one Server) – Preferable (Not mandatory)
- IIS 7.0 or higher
- WinRAR
- Adobe PDF Reader
- Microsoft office (on one Server) – Preferable (Not mandatory)