Date: 01/11/2025

Time ID: NM2025TMID07947

Project Name: **Education Organisation using ServiceNow**

Maximum Marks: 4 Marks

PROJECT DESIGN PHASE 2

TECHNOLOGY STACK (ARCHITECTURE & STACK)

Technical Architecture:

The technical architecture for the *Education Organisation using ServiceNow* project is designed as a **modular, secure, and cloud-based system** that streamlines academic and administrative operations.
It follows a **three-tier architecture** consisting of the **Presentation Layer**, **Application Layer**, and **Data Layer**, with additional layers for **Automation, Security, and Monitoring**. The architecture ensures high availability, scalability, and seamless workflow automation using **ServiceNow's platform capabilities**.

Components and Technologies

Layer	Components	Technologies / Tools
1. Presentation Layer	- Student & Faculty Portal - Dashboards - Notifications - Reports & Analytics View	HTML5, CSS3, JavaScript, AngularJS / React.js, ServiceNow UI Builder
2. Application Layer	- Workflow Automation - Request Routing	ServiceNow Flow Designer, Service Catalog Module, REST APIs, JavaScript

Layer	Components	Technologies / Tools
	Engine - Service Catalog Management - Notification Service	
3. Data Layer	- Request Database - User Profile Database - Knowledge Base Repository - Logs & Records	ServiceNow CMDB, MySQL, PostgreSQL
4. Automation & AI Layer	- Intelligent Ticket Categorization - Chatbot for Student Queries - Predictive Analytics	ServiceNow Virtual Agent, Machine Learning Algorithms, TensorFlow
5. Security & Infrastructure Layer	- Authentication & Access Control - Data Encryption - Cloud Hosting & Backup	OAuth 2.0, SSL/TLS, AWS / Azure, Docker, ServiceNow Security Module
6. Monitoring & Reporting Layer	- Real-time System Monitoring - Performance Metrics Dashboard - Feedback & Analytics Reports	Power BI, Grafana, ServiceNow Performance Analytics, Kibana

Key Features:

- **Cloud-based Deployment:** Ensures scalability and easy access for all users.
- **Automated Workflows:** Reduces manual intervention and improves efficiency.
- **Secure Data Handling:** Implements encryption, authentication, and role-based access.
- **AI-Driven Insights:** Provides predictive analytics for academic and operational improvements.

- **User-Centric Interface:** Simple and accessible design for students, faculty, and administrators.