JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- 2025

B.Tech-Vth Semester (CSE/IT)

COURSE CODE (CREDITS): 18B11CI512 (3) MAX. MARKS: 15

COURSE NAME: INFORMATION SYSTEMS

COURSE INSTRUCTORS:Dr. Ruchi Verma MAX. TIME: 1 Hour

Note: *(a) All questions are compulsory.*

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q.No	Question	CO	Marks
Q1	A large retail chain is expanding rapidly across India. Currently, it faces challenges in managing its daily transactions, forecasting demand, and controlling inventory across 200 outlets. The company plans to integrate Online Transaction Processing for day-to-day operations and Online Analytical Processing for strategic decision-making. As a systems consultant, design a Management Information System framework for the company that integrates: i. Transaction Processing System: Explain how Point-of-Sale ,data will be captured, processed, and stored. ii. MIS Reports: Propose at least three types of management reports, routine, exception, periodic that will help middle managers improve operational control. iii. Decision Support System: Describe how OLAP and data mining can be applied for demand forecasting and customer behavior analysis. iv. Control Systems: Suggest how budgetary control and inventory control can be embedded in the MIS to ensure resource optimization. v. Innovation Angle: Recommend how emerging technologies (AI/IoT) could further enhance decision-making and align with long-term strategic planning.	CO1	5
Q2	Design and develop a Smart Library Management System using MVC architecture. The system should support: i. Dynamic book recommendations based on user borrowing history. ii. Concurrent access: multiple users searching, issuing, and returning books simultaneously. iii. Admin analytics dashboard showing real-time statistics of	CO2	5

	issued/available books, late returns, and user activity.		
Q3.	Design a Decision Support System for a retail chain to optimize inventory and promotions. The system should analyze sales data, stock levels, and trends, and allow managers to simulate "what-if" scenarios. i. Identify the Database, Model Base, User Interface, and Decision Rules in your DSS design. ii. Describe the step-by-step flow when a manager queries whether to run a festival discount. iii. Propose a strategy for real-time adaptation if demand suddenly surges.	C01	5