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Internal Assessment Test - I																	
Sub:	Information Technology for Managers						Code:	22MBA302									
Date:	04-03-2025	Duration:	90	Max Marks:	50	Sem:	III	Branch:	MBA								
SET- III																	
								Marks	OBE								
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Part A - Answer Any Two Full Questions (2* 20 = 40 marks)																	
1 (a)	What are the components of MIS?						3	CO1	L1								
<p>Answer:</p> <p>Hardware – Computers, servers, storage devices, networking devices, input/output devices.</p> <p>Software – Database Management Systems (DBMS), Enterprise Resource Planning (ERP), Decision Support Systems (DSS).</p> <p>Data – Raw facts, figures, and processed information for decision-making.</p> <p>People – System users, IT professionals, analysts, and managers.</p> <p>Processes and Procedures – Rules and methodologies for data collection, processing, and retrieval.</p> <p>Networks and Communication Technologies – Internet, intranet, cloud computing, and data transfer systems.</p>																	
(b)	Discuss the uses of Dashboard in MIS.						7	CO1	L2								
<p>Answer:</p> <ol style="list-style-type: none"> 1. Real-Time Data Monitoring 2. Enhanced Decision-Making 3. Performance Analysis 4. Data Visualization 5. Improved Efficiency 6. Goal Tracking 7. Customizable Reports 8. Identifying Issues and Opportunities 9. Integration with Various Systems 10. Improved Communication and Collaboration 																	
(c)	Analyze the multifaceted influences of Information Technology on society.						10	CO1	L4								
<p>Answer:</p> <p>1. Economic Impact Enhances productivity and efficiency in businesses. Creates new job opportunities in IT and related fields. Enables e-commerce and digital transactions, boosting economic growth. Leads to automation, reducing the need for manual labor in some industries.</p> <p>2. Social Impact Improves communication through social media, emails, and instant messaging. Expands access to education through online learning platforms. Bridges geographical gaps, enabling global connectivity. Raises concerns about privacy, cybersecurity, and data breaches.</p> <p>3. Political Influence Enhances transparency through e-governance and digital public services. Enables online activism and political awareness. Can be misused for misinformation, fake news, and cyber threats.</p> <p>4. Educational Advancements Facilitates remote learning and online education.</p>																	

Provides access to vast information through digital libraries and research databases. Encourages skill development through e-learning platforms and certifications. 5. Healthcare Transformation Supports telemedicine and remote healthcare consultations. Enhances medical research and data analysis for better treatment. Improves patient record management through digital health records. 6. Cultural and Ethical Considerations Promotes cultural exchange through digital media. Raises ethical concerns about digital addiction and screen time. Impacts traditional lifestyles and values with global digital influence. 7. Environmental Effects Supports sustainable practices with smart technologies. Increases e-waste due to rapid technological advancements. Enables remote work, reducing carbon footprints from commuting. 8. Security and Privacy Concerns Raises cybersecurity risks such as hacking and identity theft. Necessitates data protection laws and digital ethics. Enhances surveillance capabilities, leading to debates on privacy rights.				
2 (a)	Define MIS	3	CO2	L1
A Management Information System (MIS) is a structured framework that integrates technology, people, and processes to collect, process, store, and distribute information for effective decision-making and business operations. It provides managers with relevant, timely, and accurate data to support strategic planning, operational control, and overall business management. MIS helps organizations improve efficiency, enhance productivity, and streamline decision-making by offering insights into various business functions, such as finance, marketing, human resources, and operations.				
(b)	Discuss ethical issues in information system	7	CO2	L2
Privacy Concerns – Unauthorized data collection, surveillance, and misuse of personal information. Data Security – Risks of hacking, data breaches, and identity theft. Intellectual Property Rights – Copyright infringement, software piracy, and plagiarism. Digital Divide – Unequal access to technology, leading to social and economic disparities. Cybercrime – Hacking, phishing, fraud, and cyberbullying. Workplace Monitoring – Employee surveillance and invasion of privacy. AI and Automation Ethics – Job displacement and bias in AI algorithms. Misinformation and Fake News – Spread of false information through digital platforms. Ethical Use of Big Data – Responsible handling of large-scale data analytics. Accountability and Transparency – Ensuring ethical decision-making in system development and use.				
(c)	Differentiate office automation system and transaction processing system.	10	CO2	L2

Feature	Office Automation System (OAS)	Transaction Processing System (TPS)
Definition	A system that facilitates office-related tasks by automating document handling, communication, and workflow.	A system that processes business transactions efficiently and accurately in real-time.
Purpose	Enhances productivity, communication, and document management.	Manages routine business transactions such as sales, payroll, and order processing.
Users	Office staff, managers, and administrative personnel.	Employees handling daily transactions, such as cashiers and clerks.
Functionality	Supports document creation, data management, scheduling, and communication (emails, video conferencing).	Processes high-volume transactions such as order entries, banking transactions, and inventory updates.
Examples	Word processors, spreadsheets, email systems, workflow automation tools.	Point of Sale (POS) systems, banking transaction systems, airline reservation systems.
Processing Mode	Batch processing or interactive processing.	Typically real-time processing but can also include batch processing.
Impact	Improves office efficiency and reduces paperwork.	Ensures accurate and fast transaction handling for business operations.

3 (a)	What do you mean by prototype?	3	CO3	L1
<p>A prototype is an early model or preliminary version of a system, product, or software that is created to test and refine its functionality before full-scale development. It serves as a working representation that allows designers, developers, and stakeholders to evaluate the feasibility, usability, and effectiveness of a concept. Prototyping helps in identifying potential issues, gathering user feedback, and making necessary improvements before final implementation. It is widely used in software development, engineering, product design, and system development.</p>				
(b)	Demonstrate the phases of the spiral model	7	CO3	L3
<p>1. Planning Phase Identify project objectives, constraints, and requirements. Estimate resources, timelines, and potential risks. Define alternative approaches and strategies for development.</p> <p>2. Risk Analysis Phase Identify and analyze potential risks associated with cost, schedule, performance, and technology. Develop risk mitigation strategies. Prototype critical components to validate feasibility.</p> <p>3. Engineering Phase Design and develop the software based on refined requirements. Implement coding, testing, and integration in increments. Incorporate feedback from previous iterations to improve functionality.</p> <p>4. Evaluation and Review Phase Conduct user feedback sessions, testing, and validation. Assess progress, identify improvements, and decide on the next cycle. If required, refine objectives and restart the spiral for further enhancements.</p>				
(c)	Discuss the role and responsibilities of a system administrator	10	CO3	L2
<p>1. System Maintenance and Management Install, configure, and maintain operating systems and software. Monitor system performance and ensure optimal functioning.</p>				

<p>2. Network and Security Management Manage network infrastructure, including routers, firewalls, and VPNs. Implement security measures to protect systems from cyber threats.</p> <p>3. User Management Create and manage user accounts, permissions, and access controls. Provide technical support and troubleshooting for users.</p> <p>4. Data Backup and Recovery Schedule regular backups to prevent data loss. Develop and implement disaster recovery plans.</p> <p>5. Software and Hardware Upgrades Update system software and install security patches. Maintain and upgrade hardware components as needed.</p> <p>6. Troubleshooting and Technical Support Diagnose and resolve system, network, and hardware issues. Ensure minimal downtime and quick resolution of IT problems.</p> <p>7. Compliance and Documentation Maintain system logs and documentation for audits. Ensure compliance with industry regulations and security policies.</p>				
4	<p>An e-commerce startup, ShopEase, aims to expand its operations by launching an online marketplace that can handle millions of users, real-time inventory updates, and seamless payment processing. The company hires a System Designer to create a robust and scalable system architecture.</p> <p>Challenges:</p> <ul style="list-style-type: none"> A. Designing a system that efficiently handles high traffic and large amounts of data. B. Ensuring smooth integration with third-party payment gateways and logistics providers. C. Implementing a secure and fast user authentication process. <p>Questions</p> <ul style="list-style-type: none"> 1. What are the advantages and challenges of using a microservices architecture in large-scale systems? 2. How can a System Designer ensure data consistency and security in a distributed system? 	10	CO3	L5
<p><u>1. Advantages and Challenges of Using a Microservices Architecture in Large-Scale Systems</u></p> <p><u>Advantages:</u> Scalability – Independent scaling of services based on demand. Flexibility – Different technologies can be used for different services. Fault Isolation – Failure in one service does not affect the entire system. Faster Development & Deployment – Independent development and deployment of services. Better Maintainability – Smaller, manageable services simplify debugging and updates.</p> <p><u>Challenges:</u> Complexity – Managing multiple services and communication between them. Data Consistency – Requires strategies like event sourcing and distributed transactions. Network Latency & Communication Overhead – Increased data transmission costs. Security Risks – More endpoints increase the attack surface. Monitoring & Debugging – Requires advanced tools for tracking multiple services.</p> <p><u>2. Ensuring Data Consistency and Security in a Distributed System</u></p>				

Ensuring Data Consistency:

Eventual Consistency – Using distributed databases to sync data over time.

Two-Phase Commit (2PC) – Ensuring transaction commitment across services.

Event Sourcing & CQRS – Storing event logs for consistency.

Distributed Caching – Using caching solutions like Redis for real-time data.

Ensuring Security:

Data Encryption – Encrypting data in transit and at rest.

API Gateway with Authentication & Authorization – Implementing OAuth, JWT, or API keys.

Rate Limiting & DDoS Protection – Preventing service overloads.

Zero Trust Security Model – Verifying every request and enforcing least-privilege access.

Logging & Monitoring – Using tools like ELK Stack and Prometheus for real-time tracking.

Course Outcomes (COs)		PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3	PSO4
CO1:	Understand the importance of Information technology for business	1a, 1b, 1c					1a, 1b, 1c			
CO2:	Develop insights into technology and investigate its impact on Business.			2a, 2b, 2c				2a, 2b, 2c		
CO3:	Understand Various Measures of Technology available in corporate world.				3a, 3b, 3c, 4				3a, 3b, 3c, 4	
CO4:	Understanding how creativity and innovative Technologies help to find a solution to problems									

Cognitive level	KEYWORDS
L1 - Remember	list, define, tell, describe, recite, recall, identify, show, label, tabulate, quote, name, who, when, where, etc.
L2 - Understand	describe, explain, paraphrase, restate, associate, contrast, summarize, differentiate interpret, discuss
L3 - Apply	calculate, predict, apply, solve, illustrate, use, demonstrate, determine, model, experiment, show, examine, modify
L4 - Analyze	classify, outline, break down, categorize, analyze, diagram, illustrate, infer, select
L5 - Evaluate	asses, decide, choose, rank, grade, test, measure, defend, recommend, convince, select, judge, support, conclude, argue, justify, compare, summarize, evaluate
L6 - Create	design, formulate, build, invent, create, compose, generate, derive, modify, develop, integrate

PO1–Theoretical Knowledge; PO2–Foster Analytical and Critical Thinking Abilities for data based decision making; PO3– Develop Value Based Leadership; PO4 –Ability to Understand and communicate various business aspects to global; PO5 – Ability to lead themselves and others in the achievement of organizational goals contributing effectively to a team environment;
PSO1- Comprehend Contemporary features of Business Management Science and its administration
PSO2- Analyze and interpret the dynamic situations for making Business Management strategies
PSO3- Handle responsibility with the ethical values for all actions undertaken by them
PSO4- Adapt and focus on achieving the organizational goal and objectives with complete zeal and commitment.

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