



1. Learning Outcomes:

Learning Outcome Component	Learning Outcome (Learner will be able to)
Business Environment and Domain Knowledge (BEDK)	<ul style="list-style-type: none"> <i>Analyze</i> how various information technology systems work together to accomplish the information needs and objectives of an organization.
Critical thinking, Business Analysis, Problem Solving and Innovative Solutions (CBPI)	<ul style="list-style-type: none"> <i>Analyze</i> the role played by types of information technology systems at various levels and functional areas of the organization.
Global Exposure and Cross-Cultural Understanding (GECCU)	<ul style="list-style-type: none"> <i>Understand</i> how data communication and networking concepts are used by various organizations across the world.
Social Responsiveness and Ethics (SRE)	<ul style="list-style-type: none"> <i>Illustrate</i> the impact of information technology in society in context of ethical, social and security concerns.
Effective Communication (EC)	<ul style="list-style-type: none"> <i>Explain</i> relationships between concepts of information systems, organization, management and strategy.
Leadership and Teamwork (LT)	<ul style="list-style-type: none"> <i>Evaluate</i> the internet applications and role of information systems in supporting various levels of business strategy.

LO – PO Mapping: Correlation Levels:

1 = Slight (Low); 2 = Moderate (Medium); 3 = Substantial (High), “-“= no correlation

Sub. Code: 4519206	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9
LO1: <i>Analyze</i> how various information technology systems work together to accomplish the information needs and objectives of an organization.	3	3	2	1	1	1	-	1	2
LO2: <i>Analyze</i> the role played by types of information technology systems at various levels and functional areas of the organization.	2	2	1	1	-	-	-	2	2
LO3: <i>Understand</i> how data communication and networking concepts are used by various organizations across the world.	2	2	1	1	3	-	-	1	1
LO4: <i>Illustrate</i> the impact of information technology in society in context of ethical, social and security concerns.	1	-	-	2	-	-	3	1	1
LO5: Explain relationships between concepts of information systems, organization, management and strategy.	2	2	2	3	-	-	2	-	1
LO6: <i>Evaluate</i> the internet applications and role of information systems in supporting various levels of business strategy.	2	1	3	3	-	-	3	1	1



2. **Course Duration:** The course duration is of **40 sessions of 60 minutes each.**

3. **Course Contents:**

Module No:	Contents	No. of Sessions	70 Marks (External Evaluation)
I	<p>Organization and Information Technology Systems:</p> <p><u>The Organization:</u></p> <ul style="list-style-type: none">• Structure, Managers and activities.• The level of people and types of decisions and their information needs.• Changing Environment and its impact on Business - The IT/IS and its influence. <p><u>Information Technology Systems:</u></p> <ul style="list-style-type: none">• Data, information and its attributes.• Information Systems – meaning, functions and dimensions and need.• Categorization of Organizational Information Systems – hierarchical and functional perspective.• Managerial challenges related to use of information technology and systems in organization <p><u>Strategic business use of IS:</u></p> <ul style="list-style-type: none">• Interdependence between organization and IS• IS strategies for competitive advantage using Porter’s Five Forces Model and Value Chain Model <p>Growth of IT Sector in India; Trends in IT sector</p>	10	17
II	<p>Types of Information Technology Systems - I:</p> <p>Meaning, functions and applications of:</p> <ul style="list-style-type: none">- Transaction Processing Systems- Management Information Systems- Decision Support Systems- Executive Support / Information Systems<ul style="list-style-type: none">o Digital Dashboardso Data Visualization – Overview, Importance & Hands on session on Excel / Tableauo Artificial Intelligence and Machine Learning- Expert Systems	10	18



<p>III</p>	<p>Overview of Data Communications and Networking Layers: Analog and Digital data, Analog and Digital Signals, Analog versus Digital, Data Rate Limit, Transmission Impairment, More about signals. Data Communication: Characteristics of Data Communication, Components of Data Communication Data Flow: Simplex, Half Duplex, Full Duplex Network Hardware: - LAN, MAN, WAN, Wireless Networks and Internetworks Network Software: Protocol Hierarchies, Design Issues for the Layer, Interfaces and Services Networking Layers: Physical Layer, Data Link Layer, Network Layer, Transport Layer, Session Layer, Presentation Layer, and Application Layer. Reference Models: Comparison of the OSI and TCP / IP Reference Model</p> <p>Internet Fundamentals: Internetworking, History & Scope of internet, Internet protocol and standardization, Role of ISP & Factors for choosing an ISP, Internet service providers in India, Types of connectivity such as Dial Up, leased line, VSAT etc., Internet server & client modules.</p> <p>Internet Applications & Services: E-Mail, Email protocols, Format of an email message, Email routing, Email client, FTP, Types of FTP servers, FTP clients, Telnet, Telnet protocol, Telnet Server, Telnet clients, Internet Relay Chat, IRC network & servers, Channels, WWW (World Wide Web), Browser.</p>	<p>10</p>	<p>18</p>
<p>IV</p>	<p>Information Security:</p> <ul style="list-style-type: none">• First line of defense – People /employees, Computer crime – hacking & cracking, cyber theft, unauthorized use at work, software piracy, theft of intellectual property, viruses & worms, adware and spyware• Second line of defense – Technology for authorization, prevention, detection and response - (Digital Signatures, cryptography, Firewalls, Intrusion Detection Systems)• Information security Audit <p>Contemporary/ emerging technologies:</p> <ul style="list-style-type: none">• Cloud and mobile computing• E-commerce, M-commerce• E-Governance• Internet of Things (IoT)	<p>10</p>	<p>17</p>



V	Practical: Students should simulate an organization and its processes and create a hypothetical information system. Students should study the information systems adapted by various business entities.	---	(30 marks CEC)
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Pedagogy:

- ICT enabled Classroomteaching
- Casestudy
- Practical / liveassignment
- Interactive class roomdiscussions

4. Evaluation:

Students shall be evaluated on the following components:

A	Internal Evaluation	(Internal Assessment- 50 Marks)
	• Continuous EvaluationComponent	30 marks
	• Class Presence &Participation	10 marks
	• Quiz	10 marks
B	Mid-Semester examination	(Internal Assessment-30 Marks)
C	End –Semester Examination	(External Assessment-70 Marks)

5. ReferenceBooks

No.	Author	Name of the Book	Publisher	Yearof Publication / Edition
1	Kenneth Laudon, Jane Laudon	Essentials of Management Information Systems	PHI	10 th
2	Kenneth Laudon, Jane Laudon	Information Systems: Managing the Digital Firm Management	Pearson	Latest
3	Andrew S. Tanenbaum	Computer Networks	PHI	Latest
4	Behrouz A. Forouzan	Data Communications and Networking	McGraw Hill	Latest
5	Stephen Haag, Amy Philips	Business Driven Technology	McGraw Hill	Latest
6	James A O'Brien, George	Management Information	TMH	Latest

	M Marakas, Ramesh Behl	Systems		
7	Stephen Haag, Maeve Cummings, Amy Philips	Management Information Systems for the Information Age	McGraw Hill	Latest
8	W.S. Jawadekar	Management Information systems	TMH	Latest
9	Raymond McLeod and George P. Schell	Management Information systems	Pearson	10 th



GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Master of Business Administration, 1st Semester

Subject Name: Information Technology Management

Subject Code: 1519606

With effective
from academic
year 2020-21

10	Efraim Turban, Jay E. Aronson and Ting-Peng Liang	Decision Support Systems and Intelligent Systems Management	Pearson	Latest
11	Efraim Turban, Dorothy Leidner, Ephraim McLean and James Wetherbe	Information Technology for Management: Transforming Organizations in Digital Economy	Wiley	Latest

Note: Wherever the standard books are not available for the topic appropriate print and online resources, journals and books published by different authors may be prescribed.

6. List of Journals / Periodicals / Magazines / Newspapers / Web resources, etc.

1. MIS Quarterly, University of Minnesota
2. CIO
3. Computer Express
4. Digichip
5. PC World
6. Computer Shopper
7. Dataquest