CBCS SCHEME

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BCS501

Fifth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025
Software Engineering and Project Management

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Explain software process and software engineering practices.	10	L2	CO1
	b.	Explain the waterfall model and incremental model, with diagram.	10	L2	CO1
		OR			
Q.2	a.	Explain Boehm Spiral process model with a neat diagram. Mention its advantages and disadvantages.	10	L2	CO1
	b.	Explain the five activities of a generic process framework for software engineering.	10	L2	CO1
		Module – 2			
Q.3	a.	Explain the distinct tasks of requirement engineering.	10	L2	CO2
	b.	Illustrate the UML use case diagram for safe home system.	10	L2	CO2
		OR			
Q.4	a.	Explain Class-Responsibility-Collaborator(CRC) modeling and data modeling with an example.	10	L2	CO2
	b.	Explain the elements of analysis model in requirement modeling.	10	L2	CO2
		Module – 3			
Q.5	a.	Explain the principles of agile process development.	10	L2	CO3
	b.	Explain the following : i) Adaptive software development ii) SCRUM	10	L2	CO3
		OR			
Q.6	a.	Explain the concepts of extremes programming with a neat diagram.	10	L2	CO3
	b.	Explain design modeling principles that guide the respective framework activity.	10	L2	CO3
		Module – 4			
Q.7	a.	Illustrate the project management life cycle with a neat diagram.	10	L2	CO4
	b.	Explain : i) Different ways of categorizing software projects ii) Smart objectives	10	L2	CO4
		OR			
Q.8	a.	Explain the difference between traditional versus modern project management practices along with the role of management.	10	L3	CO4
	b.	Explain software development life cycle (ISO 12207) with a neat diagram.	10	L2	CO4
		Module – 5			
Q.9	a.	Explain Quality Management System with principles of BS EN ISO-9001-2000.	10	L2	CO5
	b.	Explain the following : i) McCall model ii) Garvin's Quality Dimensions.	10	L2	CO5
		OR			
Q.10	a.	Describe six generic functions allowed in automated estimation techniques of software projects.	10	L3	CO5
	b.	Explain COCOMO II model.	10	L2	CO5

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CBCS SCHEME

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BCS502

Fifth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025
Computer Networks

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	**a.**	What is data communication? List and explain characteristics and components of communication model.	**06**	**L1**	**CO1**
	b.	Define switching. Explain Circuit Switched Network and Packet Switched Network.	**06**	**L2**	**CO1**
	c.	With neat sketch, explain different layers of TCP/IP protocol suite.	**08**	**L2**	**CO1**
		OR			
Q.2	**a.**	What are guided transmission media? Explain twisted pair cable in detail.	**06**	**L1**	**CO1**
	b.	What is Virtual Circuit Network (VCN)? With neat diagram, explain three phases involved in VCN.	**08**	**L1**	**CO1**
	c.	Write a note on Encapsulation and decapsulation at Source Host for TCP/IP protocol suite.	**06**	**L2**	**CO1**
		Module – 2			
Q.3	**a.**	Define Redundancy. Explain CRC encoder and CRC decoder operation with block diagram.	**08**	**L2**	**CO2**
	b.	Distinguish between Flow Control and Error Control. Explain Stop and Wait Protocol.	**08**	**L2**	**CO2**
	c.	List and explain Control Fields of I-frames, S-frames and U-frames.	**04**	**L2**	**CO2**
		OR			
Q.4	**a.**	What is Hamming distance? With example, explain Parity Check Code.	**06**	**L1**	**CO2**
	b.	Define Framing. Explain character oriented framing and bit-oriented framing.	**06**	**L1**	**CO2**
	c.	With flow diagram, explain CSMA/CA.	**08**	**L2**	**CO2**
		Module – 3			
Q.5	**a.**	Explain virtual-circuit approach to route the packets in packet-switched network.	**10**	**L2**	**CO3**
	b.	Illustrate the working of OSPF and BGP.	**10**	**L3**	**CO3**
		OR			
Q.6	**a.**	Explain IPv6 datagram format.	**10**	**L2**	**CO3**
	b.	Write an Dijikstra's algorithm to compute shortest path through graph.	**06**	**L1**	**CO3**
	c.	Write a note on Routing Information Protocol (RIP) algorithm.	**04**	**L2**	**CO3**
		Module – 4			
Q.7	**a.**	Explain Go-Back-N protocol working.	**10**	**L2**	**CO4**
	b.	With neat sketch, explain three-way handshaking of TCP connection establishment.	**10**	**L2**	**CO4**

		OR			
Q.8	**a.**	With an outline, explain selective repeat protocol.	**10**	**L2**	**CO4**
	b.	List and explain various services provided by User Datagram Protocol (UDP).	**10**	**L2**	**CO4**
		Module – 5			
Q.9	**a.**	Briefly explain Secure Shell (SSH).	**10**	**L2**	**CO4**
	b.	Write a note on Request message and response message formats of HTTP.	**10**	**L2**	**CO4**
		OR			
Q.10	**a.**	With neat diagram, explain the basic model of FTP.	**04**	**L2**	**CO4**
	b.	Describe the architecture of electronic mail (e-mail).	**06**	**L3**	**CO4**
	c.	Briefly explain Recursive Resolution and Iterative Resolution in DNS.	**10**	**L2**	**CO4**

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