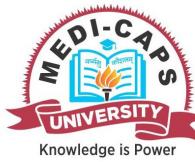


Enrollment No.....



Faculty of Science / Engineering
End Sem Examination Dec 2024
CA3CO10 Computer Networks
Programme: BCA / BCA- Branch/Specialisation: Computer
MCA (Integrated) Application

Duration: 3 Hrs.**Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

		Marks	BL	PO	CO	PSO
Q.1	i.	1	2	1, 3	1	
	(a) Physical		(b) Data link			
	(c) Transport		(d) Application			
	ii.	1	1	1, 3	1	
	In the TCP/IP model, which layer corresponds to the OSI model's Network layer?					
	(a) Application		(b) Internet			
	(c) Transport		(d) Link			
	iii.	1	1	1, 3	1	
	Which of the following is NOT a type of guided transmission media?					
	(a) Twisted pair		(b) Coaxial cable			
	(c) Fiber optics		(d) Radio waves			
	iv.	1	1	1, 3	1	
	What is the primary advantage of fiber optic cables over traditional copper cables?					
	(a) Lower cost					
	(b) Higher bandwidth and longer distance transmission					
	(c) Easier installation					
	(d) Compatibility with existing infrastructure					
	v.	1	1	1, 3	2	
	What is the primary purpose of error detecting codes in data communication?					
	(a) To correct errors					
	(b) To identify the presence of errors					
	(c) To increase transmission speed					
	(d) To reduce the bandwidth					

Marking Scheme
CA3CO10 Computer Network

Q.1		i) c) Transport ii) b) Internet iii) d) Radio waves iv) b) Higher bandwidth and longer distance transmission v) b) To identify the presence of errors vi) a) Aloha vii) b) Routing data packets across networks viii) C. TOS ix) c) Low overhead x) b) Token Bucket	1 1 1 1 1 1 1 1 1 1	OR	iii. If data is "1101011011" and divisor is " $X^3 + X^2 + 1$ " then find out the redundant bits using CRC? (CRC=101) 3M How performance is improved in Slotted ALOHA protocol compared to Pure ALOHA protocol? 2M Draw and explain procedural flowchart of Pure ALOHA protocol? 4M	6
Q.2		i. Discuss the internet 2M its hardware components 2M ii. Compare and contrast the OSI and TCP/IP reference models. 2M Discuss the layers, protocols associated with each. 4M	4 6	Q.5	i. Explain the difference between store-and-forward packet switching and circuit switching. 3M What are the advantages and disadvantages of each method? 1M ii. Draw and explain the datagram format of IPv4?	4
OR		iii. Discuss the role of different network hardware devices in managing and facilitating communication between devices.	6	OR	iii. Discuss about the Distance vector Routing Protocol 4M illustrate its operation through a practical example. 2M	6
Q.3		i. What are the main components of the electromagnetic spectrum used in wireless transmission? 1M Provide examples of applications for at least three different frequency ranges. 3M ii. Discuss the characteristics and applications of guided transmission media, including twisted pairs, coaxial cables, 4M fiber optics. Compare their advantages and disadvantages. 2M	4 6	Q.6	i. Explain how the Domain Name System (DNS) resolves domain names to IP addresses with a suitable example. ii. Draw 2M explain the TCP segment format. 4M	4 6
OR		iii. Explain the principles of wireless transmission 3M also discuss about the different types (radio, microwave, infrared). 3M	6	OR	iii. Describe the architecture of e-mail system.	6
Q.4		i. Explain the concept of a sliding window protocol 2M how it improves upon the Stop-and-Wait protocol. 2M ii. Draw and explain the conceptual view of CRC encoder and decoder? 3M	4 6	*****		