Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (West), Mumbai-400058-India
(Autonomous College Affiliated to University of Mumbai)

RE- Examination SYNOPHC
July 2019

Max. Marks: 60 | **Duration: 180 Minutes**
Class: TE | **Semester: V**
Course Code: ITC52 | **Branch: IT**
Name of the Course: Computer Networks

Instructions:
(1) All Questions are Compulsory
(2) Draw neat diagrams
(3) Assume suitable data if necessary

Question No.		Max. Marks	CO
Q 1 (a)	a) Explain OSI communication model with neat diagram. 1 marks-diagram 4 marks explanation. b) Differentiate between connectionless and connection oriented services for 3 different points. **OR** Differentiate between LAN, MAN,WAN for 2 different points. Each point 1 mark	5 + 3	1
Q 1 (b)	Explain with neat diagram unguided transmission medias. Explain radio waves in detail. Diagram 1 mark. Explanation 5 marks.	4	1
Q2 (a)	What is CRC stands for ? why it is needed? calculate CRC for the data word X^3+1 at the sender as well as receiver side. What is CRC 1 mark. Its need 1 mark. Problem solving sender side 2 marks, receiver side 2 marks.	6	2
Q2 (b)	Why Aloha is needed? Explain its types with neat diagram. Need 1 mark. Each type diagram + explanation 2.5 marks.	6	4
Q3 (a)	Find the error if any in following IPv4 address. 1)111.56.045.78- leading 0 not permitted. 2) 221.34.7.8.20- there can be no more than 4 numbers in an IP address. 75.45.301.14-each number should be less than or equal to 255. Or	3	3

	Given a fragmented datagram with an offset of 120, how can you determine the first and last byte numbers? Let the first byte number in the fragment be x. Since the fragment size must be chosen so that the first byte number is divisible by 8, the value of offset will be x / 8 Given that the offset value of the arrived fragment is 120. That means, x / 8 = 120 So, x = 960 Hence the first byte number = 960 The last byte number can be determined by adding the value of length of the data to first byte number and subtracting 1 from it.		
Q3 (b)	Draw IPv4 datagram format .Explain any 7 fields of it. Diagram 2 marks. Each field 1 mark.	9	3
Q4 (a)	What is UDP stands for? Explain 5 uses of UDP. Explain flow control and error control mechasim of UDP? What is UDP 1 mark. Each use 1 mark. Flow control and error control mechanism 2 marks	9	4
Q4 (b)	In TCP, if the value of HLEN is 0111, how many bytes of option are included in the segment? HLEN=0111, which in decimal is 7. The total length of the header is 7 × 4 or 28. The base header is 20 bytes. Therefore the segment has 8 bytes of options	3	4
Q5 (a)	Explain TCP congestion control with neat diagram. Diagram 2 marks, explanation 4 marks.	6	4
Q5 (b)	Draw the basic model of FTP. Explain communication over Data connection and Control connection . Diagram 2 marks. Each connection 2 marks.	6	4