2021

Computer Science

[HONOURS]

(CBCS)

(B.Sc. Third Semester End Examination-2021)

PAPER-C7T

Full Marks: 40 ***Time: 02 Hrs***

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

Group A

Answer any FIVE questions of the following: 5X2=10

1. Explain different transmission modes available. What are the application of transmission mode?
2. Explain the transmission and propagation time.
3. What is framing? Explain different types of framing.
4. What is the purpose of stuffing? What is the different types of stuffing?
5. Compare between Rz and NRZ Digital signal with suitable example.
6. Compare between IPV4 and IpV6 addressing.
7. Explain briefly about Pulse code modulation (PCM) technique.

8. Why do we require computer network? What is the advantages of star topology?

Group B

Answer any FOUR questions of the following: 5x4 = 20

1. What is multiple access protocol. Explain different variant of CSMA protocol (1 persistent, non persistent, p-persistent). 5
2. Compare between networking devices such as HUB, Gateway and router? What is routing table? 4+1
3. Compare between TCP and UDP protocol. Why UDP is called connectionless protocol? 2+2
4. What is firewall. Why are these used? What is classless addressing? 2+2
5. IP address 192.10.0.1 resides in which class? What is the maximum number of device can be added in this network and what is the default subnet mask of this IP address? 1+2+2
6. How many parity bits are needed for data bits 1101 (using hamming code technique)? Find the hamming code and if 7^{th} bit of hamming code got corrupted how will it be identified using hamming code? 5

Group C

Answer any ONE questions of the following: 10x1 = 10

1. a) Explain static and dynamic IP addressing? What is DHCP protocol? Explain the three way handshaking protocol in TCP? Explain the basic approach of error detection technique. 2+2+3+3
2. Draw and briefly describe the signal pulse for 1010110 using Manchester and differential Manchester encoding . What are the different tasks performed by transport layer? What do you mean by Ethernet? What is the IEEE code for Ethernet? Explain the frame structure of Ethernet? Explain HTTP protocol briefly. 3+2+1+1+3
