PSG POLYTECHNIC COLLEGE, COIMBATORE - 641 004

Department of Computer Networking

Model Question Paper

C18303 –DATA COMMUNICATION NETWORKS **Sem No : 3**

Time: 3 Hours **Max. Marks: 100**

Instructions :

1. Answer All Questions either (a) Division or (b) Division.
2. Each question carries 20 marks.
3. Division (a) and (b) has three subdivisions (i),(ii) and (iii) which carries **3** marks, **5** marks and **12** marks respectively.
4. Printed charts /graph sheets/data books to be issued to / used by the students.

1. a.i) State the components of a communication system. (3)
ii) Discuss about the addressing in a network. (5)
iii) Explain the seven layers of OSI Model. (12)

(OR)

b.i) Define attenuation and jitter. (3)
ii) Draw a hybrid topology with a star backbone and four ring networks connected to it. (5)
iii) Explain the layers of TCP/IP Model. (12)

2.a. i) How do guided media differ from unguided media? (3)
ii) Differentiate omnidirectional waves and unidirectional waves. (5)
iii) Explain the features and working of optic fibre cable. (12)

(OR)

b. i) Draw the construction of a coaxial cable. (3)
ii) Differentiate circuit switching and packet switching. (5)
iii) Explain Distance vector routing algorithm. (12)

3.a. i) State the features of Network Interface card. (3)
ii) Differentiate hub and the switch. (5)
iii) Explain the concepts of i) Router ii) Switch and iii) Modem (12)

(OR)

b.i) Define Gateway. (3)
ii) How does the bridge work? Explain. (5)
iii) Explain about wireless technologies. (12)

4.a. i) State the types of possible errors in the network. (3)
ii) Differentiate forward error correction and retransmission. (5)
iii) Explain CRC method of Error Detection with Example. (12)

(OR)

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4.b. i) How does NAK frame number meaning differ for Go back N ARQ and Selective reject? (3)

ii) State the purpose of redundancy in error detection. Explain. (5)

iii) Explain Go Back N ARQ protocol and Stop and Wait ARQ with Diagram (12)

5.a. i) State the components of network management on the internet. (3)

ii) Explain the frame format of Ethernet. (5)

iii) Explain the concepts of CSMA/CD and CAMA/CA. (12)

(OR)

b. i) Define security management. (3)

ii) Explain about token ring (802.4). (5)

iii) Explain the concepts of 1) Configuration Management 2) Fault management
3) Performance management (12)

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