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AQ–2929

Faculty of Engineering & Technology

M.E. (Elec. & Tel.) Semester-II Examination

ADVANCE COMPUTER NETWORK & PROGRAMMING

Paper—2 ENTC 3

Sections—A & B

Time—Three Hours] [Maximum Marks—80

INSTRUCTIONS TO CANDIDATES

(1) All questions carry marks as indicated.

(2) Answer **THREE** questions from Section A and **THREE** questions from Section B.

(3) Due credit will be given to neatness and adequate dimensions.

(4) Assume suitable data wherever necessary.

(5) Illustrate your answers wherever necessary with the help of neat sketches.

(6) Use pen of Blue/Black ink/refill only for writing the answer book.

SECTION—A

1. (a) Explain the concept of ISO-OSI reference model for connecting open system and discuss the problems with the layering. 8

   (b) Explain the concept of ARQ. List the different protocols used in data link layer. 6

OR

2. (a) Compare and contrast the delivery of data units in data link layer, the network layer and the transport layer with suitable examples. 7

   (b) Discuss the essential elements of a network architecture. 7

3. (a) Give the datagram header format of IPv4 and explain each field. 7

   (b) Explain in brief Address Resolution Protocol (ARP). 6

OR

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4. (a) Give comparision between IPv4 and IPv6. Explain architecture of IPv6. 7

(b) Explain dynamic routing algorithm. 6

5. (a) Derive the expression for total delay experienced by the packet in transversing the entire network. 7

(b) Discuss M/M/1 queue equilibrium. 6

OR

6. (a) The arrival rate is 10 customers in a unit of time. Suppose that it is important to have no more than 2 customers in the system. What must be the service rate so that probability that there are two or fewer customers in the system is 0.90 ? 7

(b) Explain the role of network management in congestion control. 6

SECTION—B

7. (a) Explain the objectives of ATM layer traffic and congestion control. 8

(b) Describe the need of Broadband—ISDN. 6

OR

8. (a) Describe the issue involved in using ATM technology in LAN. 7

(b) Discuss advantages and disadvantages of ATM technology. Also explain its operational principle. 7

9. (a) What are the steps of forwarding components of MPLs from source to destination ? 7

(b) What do you understand by Integrated Services ? 6

OR

10. (a) Discuss the RSVP reservation style for distributed network gaming. 7

(b) What do you understand by differentiated services ? 6

11. (a) Using suitable example explain various substitution cipher and transposition cipher encryption scheme. 7

(b) Explain various types of attacks in network security. 6

OR

12. (a) Compare private and public key cryptography in detail with suitable examples. 7

(b) Explain role of digital watermarking in network security. 6

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