M.E. First Semester (Digital Electronics) (Part Time / Full Time) (C.G.S.- New)

13205 : Elective-I : Computer Communication Network : 1 UMEF 3

P. Pages : 2 | AW - 3759

Time : Three Hours | Max. Marks : 80

* 0 3 6 5 *

Notes : 1. Answer **three** question from Section A and **three** question from Section B.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Illustrate your answer necessary with the help of neat sketches.

SECTION – A

1. a) Explain in brief the following with reference to OSI model. **6**
i) The session layer
ii) The application layer.

b) Explain in brief the stop and wait ARQ. **8**

OR

2. a) Discuss the general structure and functions of the OSI reference model. **8**

b) Discuss at length the ARQ retransmission strategies. **6**

3. a) Discuss in detail the TCP/IP network. **9**

b) Discuss the features of IPv6. **4**

OR

4. a) Describe the operation of TCP/IP at sender giving a suitable diagram. **8**

b) What is IP datagram. **5**

5. a) Discuss in detail the delay models in data networks. **6**

b) What is congestion? Enlist the congestion control techniques. **7**

OR

6. a) Determine the expression for mean delay for a M/G/1 model. **7**

b) Discuss in detail the performance measures and architectural issues in network management. **6**

SECTION – B

7. a) Explain the CSMA slotted Aloha in detail. **7**

b) Using timing diagram, Explain the basic CSMA-CA operation. **7**

OR

8.	a)	Derive expression for throughput of pure Aloha and slotted Aloha.	**7**
	b)	Discuss the OFDM techniques in detail.	**7**
9.	a)	Explain a Zig-bee functional architecture in detail.	**9**
	b)	What are Ad-hoc networks.	**4**

OR

10.	a)	Explain a WAP architecture in detail.	**9**
	b)	Discuss design issues in WLAN.	**4**
11.	a)	What is cryptography? Explain secret key algorithm in detail.	**8**
	b)	What is digital signature? Explain how a whole document can be signed using digital signature.	**5**

OR

12.	a)	Describe in brief- i) Transposition ciphers ii) Substitution ciphers	**7**
	b)	Explain digital watermarking.	**6**

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