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**Question Paper Code : 21462**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Sixth Semester

Electronics and Communication Engineering

EC 2352/EC 62/10144 EC 603/10144 BME 41 — COMPUTER NETWORKS

(Common to Seventh Semester Biomedical Engineering)

(Regulations 2008/2010)

(Also Common to PTEC 2352 — Computer Networks for B.E. (Part-Time) Fifth Semester — Electronics and Communication Engineering — Regulations 2009)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Highlight the salient features of packet switching.

2. Assume 6 devices are connected in mesh topology. How many cables are needed? How many ports are needed for each device?

3. Enumerate the significance of IEEE 802.3, 803.4 and 803.5 standards.

4. State the limitations of ALOHA protocol.

5. What are the functions of ARP?

6. Highlight the salient features of IPV6 addressing.

7. State the difference between UDP and TCP.

8. Name the parameters used to validate QoS of a network.

9. What kinds of file types can FTP transfer?

10. Mention the significance of the digital signature.

PART B — (5 × 16 = 80 marks)

11. (a) Comprehend OSI Reference model with a relevant sketch.

Or

(b) Explain your understanding on networking and data transfer mechanism adopted in cable TV network.

12. (a) Describe the architecture of HDLC with relevant sketch.

Or

(b) (i) A pure ALOHA network transmits 200-bits frames on a shared channel of 200 kbps. What is the throughput if the system produces (1) 1000 fps, (2) 500 fps and (3) 250 fps. (12)

(ii) Write short note on Token Passing. (4)

13. (a) Illustrate your understanding on various address mapping schemes with examples.

Or

(b) Discuss in detail any two routing mechanism that provide reliable communication.

14. (a) Illustrate your understanding on various congestion control algorithms.

Or

(b) With a relevant sketch, explain the techniques used to improve QoS.

15. (a) (i) If TELNET is using the character mode, how many characters are sent back and forth between the client and server to copy a file named file 1 to another file named file 2 using the command *cp file 1 file 2*? (10)

(ii) Why do we need POP3 or IMAP4 for electronic mail? (6)

Or

(b) Discuss the various key generation algorithms and authentication protocols used to ensure security in computer network.

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