

COMPUTER NETWORKS

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) What are the three types of redundancy checks used in data communications?
 - (b) What is congestion control?
 - (c) What is meant by flow control?
 - (d) Define passive and active attack.
 - (e) How is error controlled in data link controlled protocol?
 - (f) State different categories of CSMA/CD.
 - (g) Mention different random access techniques.
 - (h) Write the classification of IP addresses.
 - (i) What is the function of router?
 - (j) How transport layer performs duplication control?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 Discuss the ISO/OSI reference model in detail.

OR

- 3 Explain different network topologies in detail.

UNIT – II

- 4 Explain error detection and error correction techniques in detail.

OR

- 5 Explain about High-Level Data Link Control (HDLC) in detail.

UNIT – III

- 6 Write the network layer design issues in detail.

OR

- 7 What is routing? Explain the any three routing algorithms.

UNIT – IV

- 8 Write the finite state machine for stop-and-wait protocol with suitable example.

OR

- 9 What is TCP? Explain the services, features, state transition diagram, flow control and error control.

UNIT – V

- 10 Describe the standard client-server applications provided by application layer.

OR

- 11 Write a short note on:

- (a) DNS.
- (b) SNMP.
- (c) TELNET.

B.Tech III Year II Semester (R13) Regular & Supplementary Examinations May/June 2017

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PART – A
(Compulsory Question)

- 1 Answer the following: (10 X 02 = 20 Marks)
- (a) What do you mean by computer network? List any two applications of computer networks.
 - (b) Define the following with reference to network performance: (i) Bandwidth. (ii) Latency.
 - (c) Distinguish between error detection and error correction.
 - (d) What is the working principle of CSMA/CD?
 - (e) What are the design issues of network layer?
 - (f) What is congestion? State general principles of congestion control.
 - (g) List the elements of transport protocol.
 - (h) Write the applications of UDP.
 - (i) What is the purpose of DNS?
 - (j) Give brief note on client server programming.

PART – B
(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

- 2 What is layered network system? Describe layered network architecture.

OR

- 3 Compare and contrast OSI model and TCP/IP model.

UNIT – II

- 4 Explain how Hamming code is used to detect and correct one bit error with an example.

OR

- 5 Draw HDLC frame format and explain each field.

UNIT – III

- 6 What is count-to-infinity problem? Discuss how it can be overcome.

OR

- 7 What is congestion control? Distinguish between leaky bucket algorithm and token bucket algorithm.

UNIT – IV

- 8 Discuss TCP transmission policy in detail.

OR

- 9 Draw and discuss the goals of IPV6 with neat sketch.

UNIT – V

- 10 Describe e-mail architecture and services.

OR

- 11 Write short notes on the following:

- (a) WWW.
- (b) TELNET.
- (c) Secure shell.
