Code: 13A05601 **R13**

B.Tech III Year II Semester (R13) Regular Examinations May/June 2016

COMPUTER NETWORKS

(Computer Science and Engineering)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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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.

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Time: 3 hours Max. Marks: 70

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 budget 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.

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