Code: 15A05502 **R15**

B.Tech III Year I Semester (R15) Regular & Supplementary Examinations March 2021

COMPUTER NETWORKS

(Common to CSE & IT)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) Define the terms Bandwidth and Frequency.
(b) Compare Bit Oriented versus Byte Oriented Protocol.
(c) What is meant by farming? Give an example.
(d) Mention the types of error correcting methods.
(e) A network on the internet has a subnet mask of 255.255.240.0. What is the maximum number of hosts it can handle?
(f) What are the responsibilities of network layer?
(g) How does fast retransmit in TCP occurs?
(h) What are metrics used by routing protocols?
(i) DNS uses UDP instead of TCP. If a DNS packet is lost, there is no automatic recovery. Does this cause a problem, and if so, how it is solved?
(j) Why is an application such as POP needed for electronic messaging?

PART – B

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

UNIT – I

2 (a) Discuss in detail about Internet Architecture.
(b) Describe the different components in Packet Switch.

OR

3 (a) Describe the FHSS method to spread the bandwidth.
(b) Compare Guided media against Unguided media.

UNIT – II

4 (a) Write the procedure to calculate traditional checksum.
(b) Describe PPP with a neat diagram.

OR

5 (a) Describe the algorithm to calculate 8-bit Fletcher checksum.
(b) Explain the timers and time registers in FDDI.

UNIT – III

6 (a) Compare virtual circuit and datagram subnets.
(b) Explain about multicast routing.

OR

7 (a) Explain about Datagram forwarding in IP.
(b) Explain Distance Vector Routing Algorithm. Mention the limitations of the same.

UNIT – IV

8 (a) How transport layer connection is established in TCP? Illustrate with state diagrams.
(b) With TCPs slow start and AIMD for congestion control, show how the window size will vary for transmission where every 5^{th} packet is lost. Assume the window size is 50 MSS.

OR

9 (a) Give the format of TCP header and discuss the relevance of various fields.
(b) Write the justification for having variable length for fields in the TCP header.

UNIT – V

10 (a) Explain the operations of SNMP in detail.
(b) State two applications of TELNET.

OR

11 (a) Explain in detail how email application is carried out in a network. Explain the protocols used in this application.
(b) Give a brief note on various HTTP request operations.

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B.Tech III Year I Semester (R15) Supplementary Examinations June/July 2019

COMPUTER NETWORKS

(Common to CSE & IT)

Time: 3 hours Max. Marks: 70

PART – A

(Compulsory Question)

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1 Answer the following: (10 X 02 = 20 Marks)

(a) Define computer network.
(b) What is packet switching?
(c) Specify network layer design issues.
(d) Define framing in DLL.
(e) What is the purpose of adding checksum to a frame?
(f) Define load shedding.
(g) List the performance problem in computer networks.
(h) Draw the UDP header.
(i) What is URL? What is its purpose?
(j) What is purpose of TELNET?

PART – B

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

UNIT – I

2 Write about OSI/ISO reference model by specifying each layer functionalities.

OR

3 Discuss about the guided media in physical layer.

UNIT – II

4 (a) State and explain about various design issues of data link layer.
(b) How PPP differs from HDLC? Explain.

OR

5 Illustrate about multiple access protocols.

UNIT – III

6 Explain link state routing algorithm.

OR

7 Explain OSPF interior gate way routing protocol in detail.

UNIT – IV

8 Describe TCP internet transport protocol by specifying TCP header format.

OR

9 Explain how TCP connection is established.

UNIT – V

10 Write about:

(a) Domain Name System.
(b) SNMP.

OR

11 (a) Give the architectural over view of world wide web.
(b) Write short notes on FTP.

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