 BCA (Sem-III) – Computer Networks (303) (Core VII)

2021

Time : 3 hours

Full Marks : 70

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Answer ***all*** *sections as directed.*

Section–A

(Compulsory)

1. Pick up the correct alternative for each of the following questions : 10×2=20

   (a) Which of the following connecting devices typically work at the network layer of the OSI model ?

(i) Routers

(ii) Bridges

(iii) Repeaters

(iv) Gateway

(b) Which layer is immediately below the transport layer ?

(i) Physical

(ii) Network

(iii) Application

(iv) Session

(c) As data packets moves from the upper to the lower lays, headers are :

(i) Added

(ii) Subtracted

(iii) Rearranged

(iv) Modified

(d) The packet of information at the application layer is called :

(i) Packet

(ii) Message

(iii) Segment

(iv) Frame

(e) The physical layer concerns with :

(i) Bits

(ii) Frames

(iii) Packets

(iv) None of these

(f) A set a rules that governs data communication :

(i) Protocols

(ii) Standards

(iii) Simplex

(iv) None of the above

(g) The receiver of the data controls the amount of data that are to be sent by the sender is referred to as :

(i) Flow control

(ii) Error control

(iii) Congestion control

(iv) Error detection

(h) The pattern of interconnection of nodes in a network is called :

(i) Topology

(ii) Arrangements

(iii) Connection

(iv) None of these

(i) Both stations can transmit and receive simultaneously :

(i) Simplex

(ii) Half duplex

(iii) Full duplex

(iv) None of these

(j) The connection oriented transport layer protocol is :

(i) UDP

(ii) TCP

(iii) FTP

(iv) NVT

Section–B

Answer any **four** questions : 4×5=20

2. Differentiate between analog and digital signal.

3. What is the purpose of Bridge ?

4. Explain packet switching technique.

5. Explain frequency division multiplexing.

6. The message 11001001 is to be transmitted using CRC polynomial $x^3 + 1$ to protect it from

errors. Calculate the message that should be transmitted.

7. Define the Repeater. Why are Repeaters needed ?

Section–C

Answer any **two** questions of the following :

2×15=30

8. Explain the types of network topology with suitable diagram.

9. Explain OSI reference model with diagram.

10. Explain stop and wait protocol.

11. Explain the shortest path routing algorithm.

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