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525 (DCN)

[20-HBGPOW–D5S(O)21A]

BCA 5th Semester (Old) Exam., 2020 (W)

DATA COMMUNICATION AND COMPUTER NETWORK

[BCA 15]

Full Marks : 80

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. *(a)* Answer the following questions : 1×8=8

(i) Define bit rate.

(ii) What is the relationship between time period and frequency?

(iii) Define repeater and switch.

(iv) Define multiplexing.

(v) What is the maximum data rate over a gigabit LAN?

(vi) What is intranet?

(vii) Define URL.

(viii) Define bandwidth.

(b) Choose the correct option : 1×4=4

(i) In full duplex data transmission

1. data can be transmitted in one direction only
2. data can be transmitted in both directions
3. data can be transmitted in both directions simultaneously
4. None of the above

(ii) In _____ transmission, a start bit and a stop bit form a character byte.

1. asynchronous
2. synchronous
3. parallel
4. None of the above

(iii) User can get files from another computer on the internet by using

1. FTP
2. HTTP
3. UTP
4. Both (1) and (2)

(iv) A hub is used in which of the following topologies?

1. Star
2. Ring
3. Bus
4. Mess

(c) Fill in the blanks : 1×4=4

(i) In TCP/IP model of network architecture, there are _____ layers.

(ii) The checksum is usually placed at the _____ of the message.

(iii) _____ means a set of rules followed by two peers during communication.

(iv) _____ standard defines for wireless LANs.

2. Answer any *five* of the following questions : 2×5=10

(a) Define checksum.

(b) What are the three major classes of guided media?

(c) Define client-server architecture.

(d) What is infrared communication?

(e) Define the function of SMTP.

(f) Define POP3.

3. Answer any *six* of the following questions : 4×6=24

(a) How is flow control done in data link layer? Explain.

(b) What is TCP? Explain in brief the functions of TCP layers.

(c) What is an IP address? Discuss the function of domain name system.

(d) Distinguish between web server and web browser.

(e) Explain the function of search engine.

(f) Explain the history of internet.

(g) Explain the function of star topology.

4. Answer any *five* of the following questions : 6×5=30

(a) Explain in brief *(i)* unicast, *(ii)* multicast and *(iii)* broadcast.

(b) Explain how data are transmitted through a fiber-optic cable.

(c) Define network security. Explain the function of firewall.

(d) Differentiate between serial and parallel transmission.

(e) Explain the role of session layer in OSI model.

(f) Describe the frame format of IEEE 802.3.

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