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3 (Sem-3/CBCS) CSC HC 3

2021

(Held in 2022)

COMPUTER SCIENCE

(Honours)

Paper : CSC-HC-3036

(Computer Networks)

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Choose the correct answer of the following questions : 1×7=7

- (a) Bluetooth is an example of—
- (i) personal area network
 - (ii) local area network
 - (iii) virtual private network
 - (iv) wide area network.

Contd.

(b) Network congestion occurs —

- (i) in case of traffic overloading
- (ii) when a system terminates
- (iii) when connection between two nodes terminates
- (iv) in case of transfer failure.

(c) The structure or format of data is called :

- (i) Syntax
- (ii) Semantic
- (iii) Struct
- (iv) Formatting.

(d) Which transmission media provides the highest transmission speed in a network ?

- (i) Coaxial cable
- (ii) Twisted pair cable
- (iii) Optical fiber
- (iv) Electrical cable.

(e) CRC stands for —

- (i) Cyclic Redundancy Check
- (ii) Code Repeat Check
- (iii) Code Redundancy Check
- (iv) Cyclic Repeat Check.

(f) Which of the following is not a function of Network layer ?

- (i) Routing
- (ii) Internetworking
- (iii) Congestion control
- (iv) Error control.

(g) Transport layer protocol deals with —

- (i) application to application communication
- (ii) process to process communication
- (iii) node to node communication
- (iv) man to man communication

2. Define the following terms : **(any four)**

2×4=8

- (i) Repeaters
- (ii) Hubs
- (iii) Switches
- (iv) Router
- (v) Gateways
- (vi) Bridges

3. Answer the following questions : **(any three)**

5×3=15

- ✓(a) Discuss the OSI reference model.
- (b) Write different multiplexing techniques.
- (c) What is pulse code modulation ?
- ✓(d) Briefly explain Network switching techniques.
- ✓(e) Describe connection-oriented virtual circuit switching.

4. Answer the following questions : **(any three)**

10×3=30

- (a) Explain the error detection and error correction techniques.
- (b) Explain error recovery protocol.
- ✓(c) Write the routing algorithm.
- ✓(d) Discuss error and flow control.
- ✓(e) Explain Three-way handshake techniques.
- (f) State and explain the DNS protocol.