

3 (Sem-5) CSC M 3

2017

COMPUTER SCIENCE

(Major)

Paper : 5.3

(**Computer Network**)

Full Marks : 60

Time : 3 hours

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

1. Answer the following questions : 1×7=7

- (a) Name one routing algorithm which takes into account the current network load.
- (b) What is the type of communication between a computer and a keyboard?
- (c) Which layer involves the task of data encryption, data compression and data description?
- (d) Name one fragmentation related field in an IPv4 datagram.

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(Turn Over)

(2)

- (e) In which topology, there is need of a central controller or hub?
- (f) Which application layer protocol is used by electronic mails?
- (g) How many bytes does an IP address consume?

2. Answer the following questions very briefly :

2×4=8

- (a) Mention two examples of simplex communication.
- (b) What is character stuffing?
- (c) What is acknowledged connectionless service?
- (d) What is the need of routing protocols?

3. Answer any *three* from the following questions :

5×3=15

- (a) Differentiate between star topology and bus topology.
- (b) Explain one-bit sliding window protocol.
- (c) Explain how congestion is controlled in virtual circuit subnet.

(3)

- (d) What are the layers of ISO-OSI reference model? Explain the functions of any one of them.
- (e) Explain how is Telnet useful as compared to stand-alone system access.

Answer any *three* questions from Question Nos.

4 to 9 :

10×3=30

- 4. How is TCP/IP abbreviated? Explain all layers of TCP/IP reference model.
- 5. Explain Stop-and-Wait protocol in Simplex kind of communication system.
- 6. Differentiate between persistent and non-persistent CSMA. Explain CSMA/CD (CSMA with collision detection).
- 7. Explain Link State Routing Protocol with its all phases.
- 8. Explain Overprovisioning, Buffering and Traffic shaping for achieving good Quality of Service (QoS).
- 9. Explain the functions of each of the following :
Repeater; Bridge; Switch; Router and Gateway

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