

Reg. No. :

Code No. : 30520 E Sub. Code : SMCA 62

(CBCS) DEGREE EXAMINATION, APRIL 2022

Sixth Semester

Computer Applications — Core

COMPUTER NETWORKS

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

Identify the networks consist of many connections between individual pairs of machines

- a) Point-to-point (b) Broadcast
- c) Packet (d) Frames

A cable television network is example for

- a) LAN (b) WAN
- c) MAN (d) SAN

Name the software responsible for deciding which output line an incoming packet should be transmitted on

- a) Routing (b) Segmentation
- c) Protection (d) Swapping

A TCP packet is called a _____

- a) user datagram (b) segment
- c) datagram (d) frame

The e-mail _____ function refers to moving messages from the originator to the recipient.

- a) Transfer (b) Reporting
- c) Composition (d) Displaying

The art of breaking ciphers, called _____

- a) cryptanalysis (b) plain text
- c) cipher text (d) key

3. Optical fibers are made of
 - (a) Cables (b) Resistors
 - (c) Glass (d) Diodes
4. The OSI _____ layer is implemented mainly by hardware.
 - (a) Physical (b) Presentation
 - (c) Application (d) Session
5. At the _____ level, the trailer usually contains bits used for error detection.
 - (a) Network (b) Session
 - (c) Transport (d) Datalink
6. In which ARQ, when NAK is received, all frames sent since the last frame acknowledge are retransmitted
 - (a) Go Back n (b) Stop-and-wait
 - (c) Selective-repeat (d) Selective-reject

Page 2 Code No. : 30520 E

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain the principles of metropolitan area network.

Or

- (b) Give a fundamental idea of home networks.

12. (a) Describe the characteristics of twisted pair.

Or

- (b) Write note on micro wave transmission.

13. (a) Mention the basic strategies for dealing with errors.

Or

- (b) Explain the simplex stop-and-wait protocols.

14. (a) Discuss the optimality principle.

Or

- (b) Describe approaches used to control congestion in virtual circuit subnets.

15. (a) Give brief note on basic functions supported by e-mail systems.

Or

- (b) What is meant by Kerckhoff's principle?

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Examine the features of WAN.

Or

- (b) What are Design issues of the layers? Explain.

17. (a) Write note on geostationary satellites.

Or

- (b) Explain the principles guided transmission media.

18. (a) Discuss the simplex protocol for a noisy channel.

Or

- (b) Write note on pure ALOHA and slotted ALOHA.

19. (a) How hierarchical routing and broadcast routing algorithms works? Explain.

Or

- (b) Explain the features of transmission control protocol.

20. (a) Write note on AES.

Or

- (b) Describe the principles of digital signatures.