(6 pages) **Reg. No. :** .....

Code No. : 6449 **Sub. Code : ZCSM 33**

M.Sc. (CBCS) DEGREE EXAMINATION, NOVEMBER 2022.

Third Semester

Computer Science — Core

ADVANCED COMPUTER NETWORKS

(For those who joined in July 2021 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. ———— is determining how packets are routed from source to destination.

(a) Transport layer (b) Network layer

(c) Application layer (d) Data link layer

2. Which transmission media provides the highest transmission speed in a network?

(a) Coaxial cable (b) Optical fiber

(c) Twisted pair cable (d) Electrical cable

3. Protocols in which the sender sends one frame and then waits for an acknowledgement before proceeding for next frame are called as

(a) Simplex protocol

(b) Simplex stop and wait protocols

(c) Unrestricted simplex protocol

(d) Restricted simplex protocols

4. Data link layer is responsible for ————

(a) Error control (b) Framing

(c) Flow control (d) All the above

5. If any frame is manipulated or lost, all subsequent frames have to be sent again is called

(a) Go-Back-N ARQ (b) ALOHA

(c) Selective repeat (d) Sonet

6. ———— is the network layer protocol.

(a) SMTP (b) HTTP

(c) IP (d) TCP

7. ———— are the transport layer protocols used in networking.

(a) TCP and FTP (b) TCP and UDP

(c) UDP and HTTP (d) HTTP and FTP

8. Two identifiers are needed to define the processes at the transport layer

(a) Logical address (b) Physical address

(c) Port address (d) IP address

9. When displaying a web page, the application layer uses the

(a) FTP protocol (b) HTTP protocol

(c) SMTP protocol (d) TCP protocol

10. Caesar cipher uses ———— to encrypt.

(a) C = (P+3) mod 26 (b) C = (p+3) mod 25

(c) C = (p+4) mod 26 (d) C = (p+4) mod 25

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11. (a) Describe the protocol hierarchies with neat diagram.

Or

(b) Write the difference between connection oriented and connectionless service.

12. (a) Examine Hamming error correcting code with example.

Or

(b) Illustrate a simplex stop-and-wait protocol for an noisy channel.

13. (a) Describe Broadcast-Routing algorithm.

Or

(b) Illustrate IP address formats.

14. (a) Describe crash recovery.

Or

(b) Write about the transport service primitives.

15. (a) Illustrate the architecture of the Email system.

Or

(b) Write about substitution ciphers.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Explain OSI reference model.

Or

(b) Explain Guided transmission media.

17. (a) Illustrate error detecting code with example.

Or

(b) Explain sliding window protocol using selective repeat.

18. (a) Examine the principles of the network layer in the internet.

Or

(b) Write in detail about IPV6.

19. (a) Generalize the services provided by the transport layer.

Or

(b) Illustrate UDP?

20. (a) DNS (Domain Name System) explain.

Or

(b) What are the basics of computer network simulation? Explain.

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