PART C — (5 × 8 = 40 marks)

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

Each answer should not exceed 600 words.

16. (a) Analyze the categories of Network.

Or

(b) Neatly sketch and explain various layers in the OSI model.

17. (a) Distinguish between serial and parallel transmission.

Or

(b) Tabulate various categories of coaxial cables.

18. (a) Narrate the three phases of virtual switched network.

Or

(b) Write a brief note on DSL.

19. (a) Briefly explain about error correction and detection techniques.

Or

(b) Summarize the goals of fast Ethernet.

20. (a) Explain in detail about connecting devices to connect LANs.

Or

(b) Write in detail about user datagram protocol.

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Reg. No. : ....

Code No. : 20103 E   Sub. Code : SMCS 52/
SMSE 52/
AMCS 52

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2023

Fifth Semester

Computer Science/Software Engineering - Core

DATA COMMUNICATION AND COMPUTER NETWORK

(For those who joined in July 2017-2020 onwards)

Time : Three hours   Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which topology requires a multipoint connection?
   (a) Bus   (b) Star
   (c) Mesh   (d) Ring

2. Which is an open wireless technology standard for exchanging data over short distance using short wavelength radio transmissions?
   (a) Ethernet   (b) Satellite
   (c) E-Mail   (d) Bluetooth

3. Which is not a guided media?
   (a) coaxial cable   (b) twisted pair cable
   (c) radio wave   (d) fiber optic cable

4. Frequency of failure and network recovery time after a failure are measures of the _____ of a network.
   (a) Performance   (b) Security
   (c) Reliability   (d) Feasibility

5. The _____ address uniquely defines a host on the internet.
   (a) IP   (b) port
   (c) specific   (d) physical

6. _____ provides full transport layer services to applications.
   (a) UDP   (b) ARP
   (c) TCP   (d) none of the above

7. GSM stands for _____
   (a) Geographic Symmetric Message
   (b) Global System for Mobile Communication
   (c) Geo Satellite Message
   (d) Geo Synchronized Message

8. Slotted ALOHA is a _____ algorithm.
   (a) connection   (b) collision
   (c) throughput   (d) all of these

9. A _____ error means that two or more bits in the data unit have changed.
   (a) Single-bit   (b) Burst
   (c) Two-bit   (d) Three

10. A digital signature is
    (a) Scanned signature
    (b) Encrypt signature
    (c) Handwritten signature
    (d) Signature in binary

PART B — (5 × 5 = 25 marks)

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

Each answer should not exceed 250 words.

11. (a) Classify and explain different transmission modes.

    Or

    (b) Summarize the concept of network criteria.

12. (a) Compare and contrast between analog and digital signal.

    Or

    (b) Enumerate pros and cons of optical fiber.

13. (a) List and explain phases of circuit-switched network.

    Or

    (b) Give a brief note on datagram network.

14. (a) Distinguish between the flow and error control.

    Or

    (b) Mention the functions of MAC and LLC layers.

15. (a) Explain in detail about Bluetooth architecture.

    Or

    (b) Write short notes on DNS.