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Reg. No. :

**Code No. : 20330 E Sub. Code : SMCS 52/
SMSE 52**

B.Sc. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2021

Fifth Semester

Computer Science / Software Engineering — Core

**DATA COMMUNICATION AND COMPUTER
NETWORKS**

(For those who joined in July 2017-2019 onwards)

Time : Three hours

Maximum : 75 marks

PART A — ($10 \times 1 = 10$ marks)

Answer ALL questions.

Choose the correct answer :

1. A _____ is a set of rules that govern data communications.
 - (a) Protocol
 - (b) Message
 - (c) Network
 - (d) Internet

2. In _____ mode, each station can both transmit and receive, but not at the same time.
- (a) Half-duplex (b) Simplex
(c) Full- duplex (d) All of these
3. A _____ cable is made of glass or plastic and transmits signals in the form of light.
- (a) Fiber-optic (b) Coaxial
(c) Twisted-Pair (d) Wireless
4. _____ means that the signal changes its form or shape.
- (a) Distortion (b) Noise
(c) Attenuation (d) Both (a) and (b)
5. Circuit switching takes place at the _____ layer.
- (a) Physical (b) Network
(c) Session (d) Application
6. How many types of major components present in telephone network?
- (a) 3 (b) 4
(c) 5 (d) 6

7. In a single-bit error, only _____ bit in the data unit has changed.
- (a) 2 (b) 1
(c) 3 (d) 4
8. A _____ means that 2 or more bits in the data unit have changed.
- (a) Burst error
(b) Single-Bit Error
(c) Redundancy
(d) None of these
9. In DNS, _____ server that stores a file about the zone for which it is an authority.
- (a) Primary (b) Secondary
(c) Temporary (d) Third party
10. Which among the following are delivered by transport layer in process-to-process delivery mechanism?
- (a) Frames (b) Datagrams
(c) Packets (d) All of these

PART B — ($5 \times 5 = 25$ marks)

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

Each answer should not exceed 250 words.

11. (a) Write short notes on the components of Data Communications.

Or

- (b) Define Internet. Explain the brief history of Internet.

12. (a) Determine about Analog and Digital Data.

Or

- (b) Describe the various types of Data transmission modes.

13. (a) Explain about Dial-Up Modem.

Or

- (b) Discuss the concept of Cable TV Networks.

14. (a) Discuss about Error Control.

Or

- (b) Write short notes on IEEE standards.

15. (a) List out the backbone networks and its functionalities.

Or

- (b) Describe about User Datagram Protocol.

PART C — ($5 \times 8 = 40$ marks)

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

Each answer should not exceed 600 words.

16. (a) Summarize the TCP/IP protocol suite.

Or

- (b) Write brief notes on categories of network.

17. (a) Explain the various unguided media used for Wireless transmission.

Or

- (b) Discuss about Transmission Impairment in Physical Layer.

18. (a) Explain in detail about Circuit Switched Network.

Or

- (b) Explain the various technology used in Digital Subscriber Line (DSL).

19. (a) Explain about Error Detection.

Or

(b) Describe the concept of Gigabit Ethernet.

20. (a) Discuss in detailed about Bluetooth and its architecture.

Or

(b) Discuss briefly about DNS.
