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(November)

COMPUTER SCIENCE

(General)

Course : 501

(Data Communication and Networking)

Full Marks : 48

Pass Marks : 19

Time : 2 hours

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

1. Choose the correct option : 1×5=5

(a) In networking terminology, UTP means

(i) unshielded twisted pair

(ii) ubiquitous Teflon port

(iii) uniformly terminating port

(iv) unshielded T-connector port

(b) End-to-end connectivity is provided
from host-to-host in the

(i) network layer

(ii) transport layer

(iii) session layer

(iv) presentation layer

(c) Which topology requires multipoint connection?

(i) Mesh

(ii) Star

(iii) Bus

(iv) Ring

(d) A decrease in magnitude of current voltage, a power of signal in transmission between points is known as

(i) attenuation

(ii) ALOHA

(iii) amplitude

(iv) carrier

(e) What is the full form of TDM?

(i) Transmission-data multiplexing

(ii) Time-division multiplexing

(iii) Time-data multiplexer

(iv) Time-demultiplexing medium

2. Answer the following :

3×5=15

(a) What is the difference between half-duplex and full-duplex transmission modes?

- (b) What is the difference between network layer delivery and transport layer delivery?
- (c) What is the relationship between period and frequency?
- (d) What is the difference between FDM and WDM?
- (e) Discuss the concept of redundancy in error detection and correction.

3. Answer any *four* of the following : 7×4=28

- (a) Identify the five components of a communication system.
- (b) Explain various layers and their functions in the OSI model.
- (c) Define constellation diagram and its role in analog transmission.
- (d) Discuss the concept of redundancy in error detection and correction.
- (e) What is DSL? What are the services provided by the telephone companies using DSL?