

Seat No. : _____

NL-121

November-2017

B.C.A., Sem.-V

CC-303 : Data Communication & Networking

Time : 3 Hours]

[Max. Marks : 70

1. (a) (1) What is Data Communication ? Explain the characteristics of it in detail. **4**
(2) What is Standard ? Explain the categories of it. **3**

OR

- (1) Give the difference between Analog Signal and Digital Signal.
(2) Write a short-note on Frequency Shift Keying in modulation technique.
(b) (1) Explain the use of Pulse Code Modulation (PCM) in analog signal, digital transmission. **4**
(2) Discuss Simplex, Half-Duplex and Full-Duplex data communication. **3**

OR

- (1) What is Protocol ? Explain the characteristics of it.
(2) Define the following terms :
(a) Amplitude
(b) Bit rate
(c) Modem.

2. (a) (1) Explain Statistical TDM in detail. **4**
(2) Write a short-note on Error Classification. **3**

OR

- (1) Explain Cyclic Redundancy Check with suitable example.
(2) Explain the types of Errors in detail.
(b) (1) Explain Sliding Window error recovery method in detail. **4**
(2) Discuss the concept of parity checks. **3**

OR

- (1) Discuss Longitudinal Redundancy Check with example.
(2) Discuss Go-back-n error recovery method.

3. (a) (1) Discuss Twisted Pair with its types in detail. 4
 (2) Discuss Bus Topologies in detail. 3
- OR**
- (1) Discuss Mesh and Star topologies in detail.
 (2) Discuss Message Switching technique in detail.
- (b) (1) Explain Cellular (Mobile) Telephones in detail. 4
 (2) Explain Co-axial Cable in detail. 3
- OR**
- (1) Discuss Datagram approach and Virtual circuit approach.
 (2) Write a short-note on Optical Fibre.
4. (a) Discuss OSI network model with all its layers and functions of it. 7
- OR**
- (1) What is Ethernet ? Explain the types of it in detail. 4
 (2) Write a short-note on CSMA/CD. 3
- (b) What FDDI ? Discuss the properties and operation of FDDI in detail. 7
- OR**
- (1) Discuss ISDN architecture. 4
 (2) Discuss Virtual LAN in detail. 3
5. Answer the following : 14
- (1) One computer sending a message to another computer over a wire is called _____.
- (a) Transmission medium (b) Modem
 (c) Transceiver (d) Multiplexer
- (2) _____ is used to regenerate the digital signal.
- (a) Repeater (b) Modem
 (c) Amplifier (d) None of these
- (3) In _____ communication mode, both the devices can transmit data at the same time.
- (a) Simplex (b) Half-duplex
 (c) Full-duplex (d) None of these
- (4) The _____ is the number of cycles a signal completes in one second.
- (a) Period (b) Frequency
 (c) Amplitude (d) Phase

- (5) Multiplexing _____.
- (a) divides one line into multiple channels.
 - (b) combines many channels into one line.
 - (c) is same as demodulating.
 - (d) None of these.
- (6) In _____, the medium is divided into a number of channels, each with a frequency bandwidth.
- (a) FDM
 - (b) TDM
 - (c) WDM
 - (d) STDM
- (7) As a signal travels through any medium, its strength decreases due to _____.
- (a) noise
 - (b) delay distortion
 - (c) attenuation
 - (d) retransmission
- (8) Frequency band used for signal from earth to satellite is known as _____.
- (a) uplink
 - (b) downlink
 - (c) up-downlink
 - (d) None of these
- (9) In case of _____, a direct physical connection path is established between two computers.
- (a) circuit switching
 - (b) message switching
 - (c) packet switching
 - (d) None of these
- (10) In _____, if a node fails, the whole network cannot function.
- (a) tree topology
 - (b) mesh topology
 - (c) ring topology
 - (d) star topology
- (11) NAK is a _____ acknowledgement.
- (a) positive
 - (b) negative
 - (c) neutral
 - (d) None of these
- (12) A transceiver connects a _____ to _____.
- (a) Computer, Computer
 - (b) Network, Network
 - (c) Ethernet, Ethernet
 - (d) Computer, Ethernet
- (13) Generally, a _____ is used to divide a network into segments.
- (a) repeater
 - (b) bridge
 - (c) router
 - (d) gateway
- (14) The Infrared communication is an example of _____.
- (a) wireless communication
 - (b) wired communication
 - (c) ethernet
 - (d) None of these

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