

Seat No. : _____

MC-111

March-2019

BCA., Sem.-V

CC-303: Data Communication & Networking

Time : 2:30 Hours]

[Max. Marks : 70

1. (A) Write the following :

- (i) What is the meaning of Signal Propagation ? Explain with the help of an example and also explain bandwidth with example. 7
- (ii) Compare synchronous and statistical TDM. 7

OR

- (i) Compare parallel and serial transmission.
- (ii) Explain characteristics of Data communications. Also explain simplex, half duplex and full duplex communication.

(B) Do as Directed : (Any **four** out of **six**) 4

- (i) A set of rules that govern communications between the sender and receiver is called _____.
- (ii) The time required for passing energy from one point to another is called _____.
- (iii) The mechanism for transmitting analog signals in the digital form is _____.
- (iv) A _____ detects zeroes and ones and regenerates them.
- (v) _____ involves bit measurements in the middle.
- (vi) The _____ technique combines the features of ASK and FSK.

2. (A) Write the following :

- (i) Discuss the concept of Parity check with proper diagram. 7
- (ii) Explain stop-and-wait method in detail. 7

OR

- (i) Explain how CRC works.
- (ii) Explain Delta modulation with example.

- (B) Do as Directed. (Any **four** out of **six**) 4
- (i) _____ is an intelligent multiplexing technique.
 - (ii) In _____, the medium is divided into a number of channels, each with a frequency bandwidth.
 - (iii) _____ is caused because the signals at different frequencies travel at different speeds in medium.
 - (iv) The receiver sends a _____ back to the sender if everything was ok.
 - (v) The _____ defines how much data the sender can send before it must wait to receive an ack.
 - (vi) Multiplexing divides _____ line into _____ channels.
3. (A) Write the following :
- (i) What is Handoff ? How does it take place ? 7
 - (ii) Discuss circuit switching in detail. 7
- OR**
- (i) Explain different approaches of packet switching.
 - (ii) Describe the structure of Optical Fibers and the light source for the fiber.
- (B) Do as Directed. (Any **three** out of **five**) 3
- (i) STP helps eliminate _____.
 - (ii) A _____ control various cell offices in a cellular system.
 - (iii) In star topology, the center hub is called _____.
 - (iv) Message switching is also called _____ technique.
 - (v) Out of all guided media, _____ has the highest data transmission rates.
4. (A) Write the following :
- (i) Explain different layers of OSI model. 7
 - (ii) What is CSMA/CD ? How does it work ? How does a gateway work ? 7
- OR**
- (i) Explain how a message sent by an application on one host reaches to the application on another host via one or more routers using TCP/IP.
 - (ii) Discuss the development of ISDN from the days of analog telephone networks. Also define ISDN, Bridge and PicoNet.
- (B) Do as Directed. (Any **three** out of **five**) 3
- (i) The header portion of an IP diagram is _____.
 - (ii) Arp lies in the _____.
 - (iii) The BRI consists of _____.
 - (iv) Data compression happen in the _____ layer.
 - (v) A router must have at least _____ NICs.