Seat No. : _____

AG-165

April-2015

T.Y. M.Sc. (CA & IT) Integrated

Data Communication & Networking

Time : 3 Hours] **[Max. Marks : 100**

1. (a) Fill the following blanks : **10**

(1) _____ is Objective of Multiplexing Technique.

(2) _____ level of Digital signal if Digital Signal has send 4 bit per level.

(3) For correcting 4 errors _____ minimum Hamming distance require.

(4) _____ connects segment of LAN.

(5) Seven Channel, each with 300 kHz bandwidth are to be multiplexed together. _____ minimum bandwidth of the link if there is a need for a guard Band of 20 kHz between channels.

(6) _____ Switching network is working at physical layer.

(7) _____ Address space of IPV4.

(8) Process to Process communication is done by _____ layer.

(9) _____ congestion prevention policy.

(10) In selective Repeat Sliding window protocol _____ is receiver window size.

(b) Answer the following question in short : (Any **five**) **10**

(1) Write difference between OSI and TCP/IP model.

(2) Send data @@DCN##EXAM@@## using Byte stuffing where Esc is @ and # is flag.

(3) Send data 11111 0111110 111111 using Bit stuffing where flag is 01111110.

(4) IP address 190.11.10.1 is classful IP address. Write Network id and Host id

(5) Explain Stop and wait protocol.

(6) Explain slotted ALOHA

2. Explain following in short : (Any **ten**) **20**

(1) ARQ (Automatic Repeat Request)

(2) Persist method

(3) Repeater

(4) ALOHA

(5) Latency

(6) Class full IP address

(7) Port Address

(8) Token Passing

(9) Fiber Optics

(10) WDM

(11) Flooding

3. (a) Explain following in detail : (Any **three**) **18**

(1) CDMA

(2) FDM

(3) CSMA/CD

(4) TDM

(b) Explain JITTER **2**

4. (a) Explain following in detail : (Any **three**) **18**

(1) What is Transmission Impairment? Discuss in detail.

(2) Explain Go Back N sliding window protocol with example.

(3) What is error detection ? Explain CRC with example.

(4) What is Spread Spectrum? Explain FHSS in detail.

(b) Explain VUNREBLE TIME **2**

5. (a) Explain following in detail : (Any **three**) **18**

(1) What switching network? Explain Circuit Switching Network

(2) What is Transparent Bridge? Explain Self learning process of Transparent Bridge with example.

(3) What is Dynamic Routing? Explain Distant Vector Routing algorithm.

(4) What is Congestion Control? Explain Close loop technique

(b) Explain BANDWIDTH. **2**