PARUL UNIVERSITY
FACULTY OF IT & COMPUTER SCIENCE
BCA Winter 2016 – 17 Examination

Semester: III   Date: 14/12/2016
Subject Code: 05101202   Time: 10.00 am to 1.00 pm
Subject Name: Data Communication and Computer Networks   Total Marks: 60

Instructions:

1. Attempt all questions from each section.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Write separate sections on separate answer sheets.

SECTION-A

Q:1   **Do as directed.**   (10)

1. Header of a frame generally contains
   a) addresses b) sequence number c) options a & b both d) none of the above
2. _____ can be expressed as degrees.
   a) Amplitude b) Frequency c) Phase d) Wavelength
3. The data link layer takes the packets from _____ and encapsulates them into frames for transmission.
   a) network layer b) physical layer c) transport layer d) application layer
4. Radio Waves are _____.
   a) Unidirectional b) Bidirectional c) Omni-directional d) All of above
5. Amount of Constellation points in _____ signal affects data rate.
   a) Analog b) Digital c) Both d) None of above
6. _____ Propagation is used for submarine communication
   a) Surface Propagation b) Ground Propagation c) Sky Propagation d) Line-of-sight Propagation
7. Electromagnetic waves were predicted by the _____ .
   a) James Rechard b) Henrich Herts c) James Pitter d) James Clerk
8. List out Coaxial cable connectors.
9. Write down any 2 applications of Infrared and Millimeter waves.
10. What is Subnet?

Q:2   Do as directed.

(a)   List difference between OSI and TCP/IP model.   **(5)**

(b)   Calculate the highest bit rate of a regular telephone line with the bandwidth of 6000 Hz. The SNR is 3162.   **(5)**

OR

(b)   What are the different applications of Twisted pair? Discuss in detail.   **(5)**

Q:3   Do as directed.   **(10)**

(a)   Draw the IPv4 header and explain all its fields.   **(5)**

(b)   Differentiate between Guided Media and Unguided Media in detail.   **(5)**

OR

Q:3   Do as directed.

(a)   Discuss the functions of Data Link layer.   **(5)**

(b)   What is multiplexing and de-multiplexing. Explain Time division multiplexing in detail.   **(5)**

Q:1 Do as directed. (10)

1. TCP is the protocol of _____ layer.
   a) Network Layer b) Transport Layer c) Session Layer d) Presentation Layer
2. A _____ is a TCP name for a transport service access point.
   a) port b) pipe c) node d) none of the mentioned
3. The ____ translates internet domain and host names to IP address.
   a) domain name system b) routing information protocol c) network time protocol
   d) internet relay chat
4. Which one of the following protocol delivers/stores mail to receiver server?
   a) simple mail transfer protocol b) post office protocol
   c) internet mail access protocol d) hypertext transfer protocol
5. Application layer offers _____ service
   a) End to end   b) Process to process
   c) Both of the mentioned d) None of the mentioned
6. Perform Byte stuffing: P FLG Q R S ESC T U
7. What is error correction?
8. This is one of the architecture paradigm
   a) Peer to peer b) Client-server c) HTTP d) Both a and b
9. Write the formula which finds maximum distance between two antennas of Microwave communication.
10. Write the name licensing authority in India for Microwave bands?

Q:2 Do as directed.

(a) Explain Stop & Wait protocol with example. Compare it with Go- back N protocol. (5)

(b) Draw the sketch of TCP header format. (5)

OR

(b) What is count to infinity problem in Distance vector routing? (5)

Q:3 Do as directed.

(a) Write short note on UDP. (5)

(b) What is difference between TCP & UDP? (5)

OR

Q:3 Do as directed.

(a) What is Remote Procedure Call? (5)

(b) Discuss message formats of Email. (5)