Q.P CODE: USCS402   (TIME :2 ½ Hrs.)   TOTAL MARKS :75

N.B:-

1. All questions are compulsory.
2. Answers to the same question must be written together.
3. Numbers to the right indicate full marks.
4. Draw neat labeled diagrams wherever necessary.
5. Use of non-programmable calculators are allowed.

Q1) Attempt the following (ANY FOUR) (Each of 5 marks)   [20M]

a. Explain the types of Transmission modes for data flow.

b. Discuss the advantages and disadvantages of different network topologies.

c. Elaborate the TCP/IP Model.

d. Write short note on:

    i) Direct Sequency Spread Spectrum (DSSS)

    ii) Delta Modulation

e. Define Multiplexing Technique and explain different types of TDM?

f. Define Transmission Media. Explain their types.

Q2) Attempt the following (ANY FOUR) (Each of 5 marks)   [20M]

a. Elaborate the various functions of the Data Link Layer.

b. If the 7-bit Hamming code word received by a receiver is 0111000.

    Assume the even parity state whether the received code is correct or

    wrong. If wrong locate the wrong bit.

c. Explain the architecture of Bluetooth with all its layer.

d. How does a single bit error differs from Burst error?

e. i) Briefly Describe Cellular System with suitable diagram.

    ii) Differentiate between Hard Handsoff and soft Handsoff.

f. Explain the following:

    i) Stop-and-wait ARQ

ii) Go-Back-N-ARQ

Q3) Attempt the following (ANY FOUR) (Each of 5 marks)   [20M]

a. Differentiate between IPV4 and IPV6 Protocol?

b. A Classless address is given as 167.199.170.82/27. Find the number of
   addresses in the block, the first address, and the last address.

c. Write short note on:

   i) DNS   ii) SSH

d. Find the class of each address:

   i) 227.12.14.87   ii) 193.14.56.22

   iii) 14.23.120.8   iv) 252.5.15.111

e. Discuss the three-way handshaking in TCP for connection establishment with
   suitable example.

f. Write short note on UDP and TCP and their uses.

Q4) Attempt The Following (Any Five) (Each Of 3 Marks)   [15M]

a. Write short notes on:

   i) Digital and Analog Data   ii) Periodic and non-Periodic Signals

b. Define Switching technique. Differentiate between Circuit Switching and
   Packet Switching.

c. what is WIMAX? Explain the various layers in IEEE 802.16.

d. Write short note on:

   i) ALOHA   ii) Polling

e. Find the class of each address:

   i) 00000001 00001011 00001011 1110111   A

   ii) 11000001 10000011 00011011 11111111   C

   iii) 10100111 11011011 10001011 01101111   D

   iv) 11110011 10011011 11111011 00001111   E

f. Write short note on:

   i) WWW   ii) TELNET