Total No. of printed pages = 3

Et-605/MCS/6th Sem/2015/N

MODEM COMMUNICATION SYSTEM

Full Marks – 70

Pass Marks – 28

Time – Three hours

The figures in the margin indicate full marks for the questions.

Question No.1 is compulsory and answer any *four* from the rest.

1. Answer any *seven* questions. 7×2=14

   (a) What is Shanon-Hartley theorem ?

   (b) Why uplink frequency is greater than downlink frequency ?

   (c) What are various operating modes of a general modem ?

   (d) Mention transmission losses in a satellite communication system.

[Turn over

(e) What is lossy compression ? Mention examples of such compression schemes.

(f) What do you mean by Message switching ?

(g) How cell spliting is advantageous ?

(h) What do you mean by orbit spaning ?

(i) What is the function of transponder in a satellite communication ?

2. Describe the construction of a satellite with neat diagram and mention functionalities of each component. 5+9=14

3. (a) Draw the diagram of GSM architecture. Describe the functionality of each block. 10

(b) What do you mean by frequency recese ? What are its implications in a mobile communication system ? 4

4. How packet switching network is different from the circuit switching network ? Mention the types of packet switching and discuss each type with proper diagram. 2+2+10=14

5. What is the use of modem in digital data transmission ? Describe the types of modems and describe the features of ITU-BT V.34 modem standard. 2+4+8=14

6. Write short notes on any *two* of the following :

   (a) Modem standard V.42

   (b) Circuit switching

   (c) Dynamic channel allocation

   (d) Public key encryption. 7×2=14

7. Describe the architecture of ISDN. Mention the signalling system and briefly explain protocols of broad-band ISDN. 4+4+6=14