6TH SEM./ ELECT & ETC/EE(I & C)/ ETC & COMM./ E&TC/ 2023(S)

TH-1 Advance Communication Engineering

Full Marks: 80 Time- 3 Hrs

Answer any five Questions including Q No.1& 2
Figures in the right hand margin indicates marks

1. Answer **All** questions 2 x 10
   a. State the Kepler's laws. (Any two)
   b. What do you mean by Doppler effect?
   c. Write down the function of transponder.
   d. Define critical and acceptance angle.
   e. State the difference between single mode and multi mode.
   f. Write down the application of optical fiber.
   g. What is modem? Draw the block diagram of MODEM.
   h. Define frequency reuse.
   i. What is WAP?
   j. Define half and full duplex.

2. Answer **Any Six** Questions 6 x 5
   a. What is RADAR? Explain the working of pulse radar.
   b. Compare GEO, LEO and MEO.
   c. Explain the working of Direct broadcasting system
   d. With neat diagram explain the working of optical fibre communication system.
   e. Explain the working of Electronic Telephone system.
   f. Suppose the original data is 1011001.
      1) Calculate the data to be transmitted using hamming code.
      2) Suppose 6th bit is inverted then detect the error bit.
   g Write down the difference between cell splitting and cell sectoring.

3 With neat diagram explain architecture of GSM system. 10

4 Define LED and classify it as per its construction. Explain each types of LED. 10

5 Draw the block diagram of MTI radar and explain the function of each block. 10

6 Discuss the features, advantages, disadvantages of TDMA and CDMA. 10

7 Describe the architecture and features of GPRS. 10