R18 Regulation *Subject code:* 2O6FA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech VI Semester Regular/Supplementary Examinations, June 2022

PRINCIPLES OF ELECTRONIC COMMUNICATIONS

(INFORMATION TECHNOLOGY)

Maximum Marks: 70 Date:22.06.2022 Duration: 3 hours

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 Define Modulation.
2 What is the voltage gain of an amplifier that produces an output of 750 mV for a 30-μV input?
3 Define ASK, FSK and PSK.
4 Compare PAM and PPM.
5 List any three applications with respect to satellite communications?
6 What is the role of photo diode in OFC?
7 What is an Ethernet switch?
8 Define the terms MAN and WAN.
9 Name two popular PAN technologies.
10 What are services offered by GSM?

Part-B

Answer All the following questions. (5X10M=50Marks)

11 Explain the concept of frequency translation with suitable example. [10]

OR

12 Describe the various frequency ranges in the electromagnetic spectrum with its applications. [10]

13 Explain the working of QPSK modulator and demodulator. [10]

OR

14 A) The input to an FM receiver has an S/N of 2.8. The modulating frequency is 1.5 kHz. The maximum permitted deviation is 4 kHz. What are (a) the frequency deviation caused by the noise? and (b) the improved output S/N? [6]

B) Discuss about the spectra of PWM. [4]

15 Discuss and compare various types of networks. [10]

OR

16 Explain the working of Ethernet and Token ring with neat diagram. [10]

17 A) Explain how light is propagated through a fiber-optic cable. [6]

B) Name the three basic types of fiber-optic cables and state the two materials from which they are made. [4]

OR

18 Explain the Working of GPS with neat diagram. [10]

19 Discuss the features, benefits, applications, and operation of the wireless technologies Bluetooth and ZigBee. [10]

OR

20 Detail notes about GSM – system overview, physical and logical channels. [10]