



**R18 Regulation** **Subject code: 206EB**  
**TKR COLLEGE OF ENGINEERING AND TECHNOLOGY**  
(Autonomous, Accredited by NAAC with 'A+' Grade)  
**B.Tech VI Semester Supplementary Examinations, July 2024**

**PRINCIPLES OF ELECTRONIC COMMUNICATIONS**  
(Open Elective)  
(CSE)

**Maximum Marks: 70**

Date:22.07.2024 Duration: 3 hours

- Note:**
1. This question paper contains two parts A and B.
  2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
  3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
  4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20 Marks)

- |    |   |
|----|---|
| 1  | Define modulation and classify?                           |
| 2  | What is meant by multiplexing and write its applications? |
| 3  | Define Phase modulation?                                  |
| 4  | Write the advantages of digital modulation schemes.       |
| 5  | Explain the operation of a bridge                         |
| 6  | Explain the operation of a NIC.                           |
| 7  | Define ascending orbit and descending orbit.              |
| 8  | State the two main disadvantages of fiber optical cable.  |
| 9  | Discuss about infrared wireless technology.               |
| 10 | What are the functions of Mobile Station?                 |

Part-B

Answer All the following questions. (10MX 5=50Marks)

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|----|--|
| 11 | Draw and describe the various frequency ranges in the electromagnetic spectrum with its applications. [10M]  |
| OR |  |
| 12 | A. An amplifier has an input of 3mv and an output of 5v. What is the gain in decibels?<br>B. Explain the concept of frequency translation with suitable example. [5M+5M] |
| 13 | What is PCM? Illustrate the PCM transmitter and receiver with a diagram. [10M]   |
| OR |  |
| 14 | A. Discuss about the spectra of PWM and PPM signals.<br>B. Compare the characteristics of AM with FM. [5M+5M]  |
| 15 | A. Explain the operation of a paging system using a block diagram.<br>B. State the general operation of a cordless telephone. [5M+5M]                                    |
| OR |  |
| 16 | Discuss about Ethernet LANs in detail. [10M]   |
| 17 | A. Explain about satellite sub systems.  |

	B. Write some applications of sub systems. [5M+5M]
	OR
18	Explain about fiber optic communication system and write down the applications? [10M]
19	Draw the block diagram of a RFID tag and explain. [10M]
	OR
20	A. Discuss the basic forms of UWB wireless and also different types of UWB modulations. B. Discuss WCDMA in detail. [5M+5M]