



R20 Regulation

Subject code:305FA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Supplementary Examinations, December 2024

PRINCIPLES OF ELECTRONIC COMMUNICATIONS (IT)

Maximum Marks: 70

Date:06.01.2025

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)		CO	Bloom Tx
1	Define modulation and classify?	1	L1
2	What is meant by multiplexing and write its applications?	1	L1
3	Define Phase modulation?	2	L1
4	What are the advantages of digital communications?	2	L1
5	Describe the modulation and data rate used in caller ID.	3	L1
6	What is the main purpose of a LAN? What is the upper limit on the number of users on a LAN?	3	L1
7	What is the name of the centre of gravity of the earth?	4	L1
8	What is the major application of fiber-optic cable?	4	L1
9	What is handoff?	5	L1
10	What are the functions of Mobile Station?	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		CO	Bloom Tx
11	Draw and describe the various frequency ranges in the electromagnetic spectrum with its applications. [10M]	1	L2
OR			
12	A) An amplifier has an input of 3mv and an output of 5v. What is the gain in decibels? [5M] B) Explain the concept of frequency translation with suitable example. [5M]	1	L2
13	A) Mention advantages of ASK. [5M] B) What do you understand by modulation index? What is its significance? [5M]	2	L2
OR			
14	A) What is the need for amplitude limiter in FM receiver? Explain in detail? [5M] B) What are the salient features of broadcast radio receivers? Explain in detail? [5M]	2	L2

15	A) State the general operation of a cordless telephone.? [5M] B) Describe internet telephony? [5M]	3	L2
	OR		
16	Discuss the topology, encoding and transmission media used in Ethernet LANs? [10M]	3	L2
17	A) Discuss the advantages and disadvantages of satellite communications. [5M] B) Write some GPS applications. [5M]	4	L2
	OR		
18	A) Explain types of fiber optic cables. [5M] B) Mention some applications of fiber optic. [5M]	4	L2
19	Discuss AMPS block diagram? Explain the AMPS transmitter and receiver sections? [10M]	5	L2
	OR		
20	A) Detail notes about GSM – system overview, physical and logical channels? [5M] B) Explain why IEEE 802.16 is a MAN technology? [5M]	5	L2