

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular & Supplementary Winter Examination-2023

Course: B. Tech. Branch: Electronics /Electronics & Comm/Electronics & Telecom

Semester: VII

Subject Code & Name: Satellite communication (BTEXPE702C/BTETPE702C)

Max Marks: 60

Date: 04 /01/2024

Duration: 3 Hr.

Instructions to the Students:

1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in () in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

		(Level/CO)	Marks
Q. 1	Solve Any Two of the following.		12
A)	What is the basic operation of satellite communication system? Explain in detail.	CO2	6
B)	Explain frequency allocation for Satellite services in detail.	CO1	6
C)	What are the different types of earth stations? Explain in detail.	CO3	6
Q.2	Solve Any Two of the following.		12
A)	Explain Kepler's laws.	CO4	6
B)	Explain in brief a) orbital dynamics b) orbital characteristics	CO1	6
C)	What is the principle of satellite orbit? Explain in detail.	CO5	6
Q. 3	Solve Any Two of the following.		12
A)	What is the tracking telemetry and control (TT&C) system?	CO2	6
B)	What is power subsystem in satellite communication?	CO4	6
C)	Explain following term a) communication subsystem b) antenna subsystem	CO5	6
Q.4	Solve Any Two of the following.		12
A)	A satellite at a distance of 40000km from a point on the earth's surface radiates a power of 10w from an antenna with a gain of 17dB in the direction of the observer. Find the flux density at the receiving point, and the power received by an antenna at this point with an effective area of 10m ²	CO1	6
B)	What is SDMA. Explain in detail.	CO3	6
C)	How does rain affect satellite communication?	CO4	6
Q. 5	Solve Any Two of the following.		12
A)	What is FDMA? Explain in detail.	CO1	6
B)	Explain the following term	CO5	6

	a) CDMA b) TDMA		
C)	What are the Applications of Satellite Communication? Explain in detail.	CO2	6
	*** End ***		