

# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## January 2024 Semester End Main Examinations

**Programme: B.E.**

**Semester: VII**

**Branch: Electronics and Telecommunication Engineering**

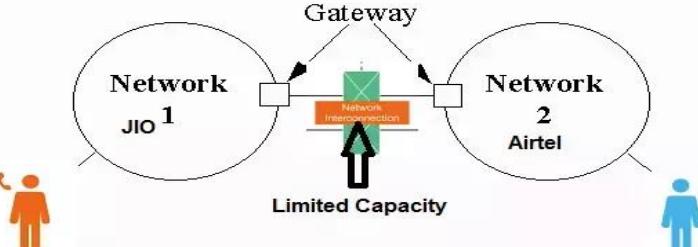
**Duration: 3 hrs.**

**Course Code: 19ET7PCSTN**

**Max Marks: 100**

**Course: Sustainable Telecommunication Networks**

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may be suitably assumed.

			<b>UNIT - I</b>	<i>CO</i>	<i>PO</i>	<b>Marks</b>
1	a)	Discuss the feasible solutions proposed for Telecommunications Sustainability.	<i>CO1</i>			<b>08</b>
	b)	Analyze the strategies adopted by Airtel to sustain their operations	<i>CO2</i>	<i>PO1,7</i>		<b>06</b>
	c)	Explain any three drivers of sustainability	<i>CO1</i>			<b>06</b>
			<b>UNIT - II</b>			
2	a)	Evaluate various measures used to make wireless networks more energy efficient and briefly describe the effectiveness of two of these methods.	<i>CO4</i>	<i>PO7</i>		<b>08</b>
	b)	Define the term 'GREEN' in telecommunication networks and discuss the various levels involved in achieving this environmental sustainability within these networks.	<i>CO1</i>			<b>06</b>
	c)	Analyze energy efficiency in the context of Telecommunication networks and the ways to reduce energy consumption of telecommunication networks.	<i>CO4</i>	<i>PO7</i>		<b>06</b>
			<b>UNIT - III</b>			
3	a)	Analyze the <b>Fig 3a</b> with proper justification for your analysis	<i>CO3</i>	<i>PO7</i>		<b>08</b>
	b)	 <p><b>Fig 3a</b></p>	<i>CO3</i>	<i>PO7</i>		<b>06</b>
	c)	Analyze and outline the essential requirements for a Mobile Number Portability request.	<i>CO3</i>	<i>PO7</i>		<b>06</b>
		Evaluate and articulate the powers and responsibilities entrusted to the Department of Telecommunications (DoT).	<i>CO1</i>			<b>06</b>

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

		<b>OR</b>			
4	a)	Analyze and categorize the various forms of Interconnection Usage Charges (IUC)?	CO3	PO7,11	<b>08</b>
	b)	Interpret the regulations governing Mobile Number Portability (MNP)?	CO2	PO1	<b>06</b>
	c)	Discuss the principles set by TRAI for Efficient Interconnection Price Structure.	CO3	PO11	<b>06</b>
<b>UNIT - IV</b>					
5	a)	Analyze the following cases and indicate which user would receive highest radiation. Cell phone A has SAR value that is higher than a single measurement for cell phone B.	CO4	PO7	<b>08</b>
	b)	Assess the safety consideration of living or working on the top floor of a building that has a mobile phone base station antenna and provide an explanation for potential health concerns	CO4	PO7	<b>06</b>
	c)	Analyze and elucidate the impact of radiation exposure on human body.	CO2	PO7	<b>06</b>
<b>UNIT - V</b>					
6	a)	Analyze and categorize the different pricing approaches in the Telecom Sector.	CO3	PO11	<b>08</b>
	b)	Differentiate the Business Model of mobile network operators from those of other industries.	CO1		<b>06</b>
	c)	Analyze the marketing and pricing strategies of JIO.	CO3	PO11	<b>06</b>
<b>OR</b>					
7	a)	Explain the price equation in detail with the proposed framework block diagram.	CO3	PO11	<b>08</b>
	b)	Discuss the three transformation goals of Vodafone	CO1		<b>06</b>
	c)	Compare and contrast the revenue model with that of a business model, highlighting their distinct characteristics and interrelationships.	CO3	PO11	<b>06</b>

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