SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech IV Year I Semester Supplementary Examinations June-2024
FIBER OPTIC COMMUNICATIONS
(Electronics & Communications Engineering)

Time: 3 Hours   **Max. Marks: 60**

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

1	a	Describe the characteristics of multimode Graded Index fiber with neat sketch.	CO1	L1	6M
	b	Illustrate the impact of group delays in optical communication.	CO2	L2	6M

OR

2		Explain the Elements of Optical Communication System with neat sketch.	CO1	L3	12M

UNIT-II

3	a	Illustrate on light source materials in detail.	CO3	L2	6M
	b	List the advantages and disadvantages of LED.	CO3	L1	6M

OR

4	a	Derive the expressions for LASER modes and threshold conditions.	CO3	L4	6M
	b	Explain in detail the various characteristics of Light Source.	CO3	L2	6M

UNIT-III

5	a	Illustrate how noises are entered into photo detector.	CO3	L2	6M
	b	Deduce the equation for S/N ratio of an optical fiber.	CO3	L4	6M

OR

6	a	Explain the principle behind the operation of an PIN photo diode.	CO3	L2	6M
	b	Elaborate about any one type of Preamplifier in detail.	CO3	L3	6M

UNIT-IV

7	a	Explain the Rise Time Budget analysis with basic elements.	CO4	L2	6M
	b	Sketch the optical multiplexing and explain each block.	CO5	L3	6M

OR

8	a	Describe about power budget with examples.	CO4	L4	6M
	b	Explain in detail about Optical amplifier with an example.	CO5	L4	6M

UNIT-V

9		Explain in detail about wave length routed networks.	CO5	L3	12M

OR

10	a	What is optical Network? Explain the elements of optical network.	CO5	L2	6M
	b	Describe about the optical CDMA network using coded sequence pulse.	CO6	L3	6M

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