

TED (15) 5045 (Revision – 2015)

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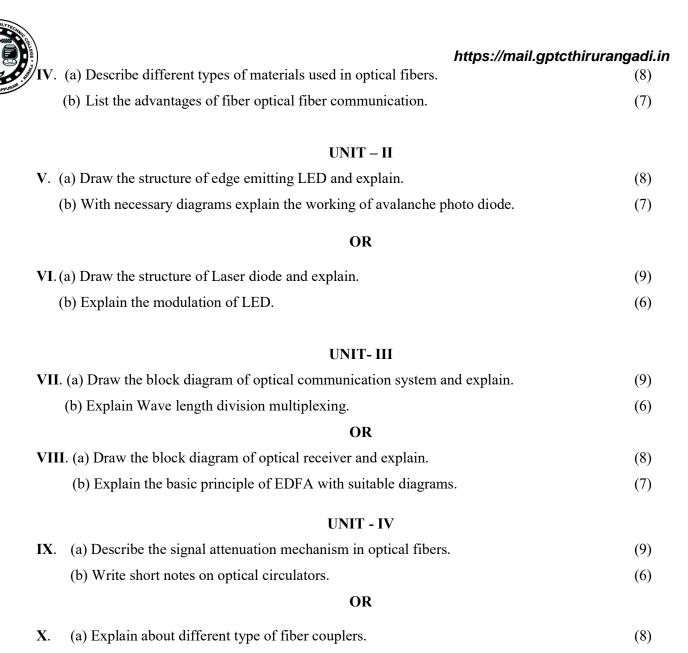
(6)

DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/ MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2022

OPTICAL COMMUNICATION	
Maximum Marks: 100]	[Time: 3 Hours]
PART-A (Maximum Marks: 10) I. (Answer <i>all</i> questions in one or two sentences. Each question carries	2 marks)
1. State the principle of total internal reflection.	
2. Define Numerical aperture.	
3. Draw the simple energy band diagram for a PIN diode.	
4. List the types of optical amplifiers.	
5. Mention the need for an optical isolator.	$(5 \times 2 = 10)$
PART-B (Maximum Marks: 30) II. (Answer any five of the following questions. Each question carrie	es 6 marks)
1. State absorption, scattering, and dispersion in fibers.	
2. Write short notes on acceptance angle.	
3. Compare direct band gap and indirect band gap semiconductors.	
4. Explain the principle of photo detection.	
5. Draw the block diagram of optical transmitter and explain.	
6. Write short notes on Raman amplifier.	(5 (20)
7. List the requirement of a good connector.	$(5 \times 6 = 30)$
PART-C (Maximum Marks: 60) (Answer <i>one</i> full question from each Unit. Each full question ca	rries 15 marks)
UNIT – I	
III. (a) Explain different types of optical fibers based on their refractive index	and number
of modes.	(9)

OR

(b) Describe meridional rays and skew rays.



(7)

(b) Explain different splicing techniques used in OFC system.