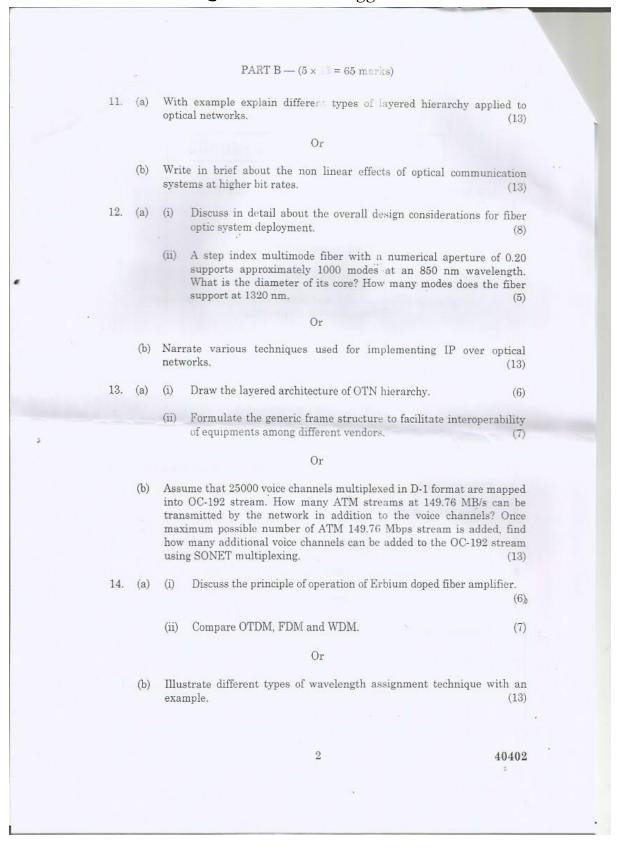
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		Reg. No. :
		Question Paper Code: 40402
	0	M.E./M.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.
		First Semester
		Communication Systems
		CU 5192 — OPTICAL NETWORKS
		(Common to Communication and Networking and Electronics and Communication Engineering)
		(Regulations 2017)
	Time	: Three hours Maximum : 100 marks
		Answer ALL questions.
		PART A $(10 \times 2 = 20 \text{ marks})$
	1.	Mention the advantages of optical fiber communication.
	2.	Draw the history of attenuation which shows the evolution of optical communication.
	3.	Define power penalty in optical networks.
	4.	Draw the switch fabric of an optical cross connect.
	5.	Determine the fiber length to delay the packet by one slot.
	6.	Mention the features of SONET.
	7.	Distinguish between dense WDM and coarse WDM.
	8.	What is the function of add/drop multiplexer?
	9.	Compare and contrast of multi protocol label switching with multi protocol lambda switching.
	10.	Name some of the protection tech ques used in second generation optical networks.

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			<ul> <li>(i) Calculate the photon lifetime τ<sub>ph</sub>.</li> <li>(ii) Calculate the number of emitted steady state photons, when t current density J is 3 × 10<sup>6</sup> A/m<sup>2</sup>.</li> </ul>	the
			<ul><li>(iii) Calculate the internal optical power density P<sub>int</sub> in mW/m<sup>2</sup>.</li></ul>	
3		(b)	Construct a scheme to multiplex N user's data in a using bit interleavi	ing 15)
	l.			