Seat No: _____

GANPAT UNIVERSITY
M.TECH. SEM. II -ELECTRONICS & COMMUNICATION ENGINEERING
REGULAR EXAMINATION, MAY/JUNE-2012
3EC204 Optical Networks

TIME: 3 Hrs.]   **[TOTAL MARKS: 70**

INSTRUCTIONS:

1. Attempt **all** questions.
2. Answers to the two sections must be written in **separate** answer books.
3. Figures to the right indicate **full** marks.
4. **Assume** suitable data, if necessary.

SECTION-I

Que-1	A	Compare the synchronous and asynchronous multiplexing.	5
	B	What are the different classes of traffic supported by resilient packet ring? Explain each of them with appropriate priority.	7

OR

Que-1	A	Define section, line and path in SONET? Give details about Line overhead and Path overhead bytes.	5
	B	Discuss about traffic engineering, network engineering and network planning.	7

Que-2	A	Describe different types of protection techniques for point to point links.	6
	B	Write short note on routing in IP network.	5

OR

Que-2	A	Write short note on Multiprotocol label switching (MPLS) .	6
	B	Give details about node structure for Ringlet 0 in resilient packet ring.	5

Que-3	A	Explain the protection mechanism in Ring interconnection and Dual homing.	6
	B	Discuss about protection in MPLS with tunnel examples.	6

SECTION-II

Que-4 A What is the role of optical line terminal in WDM network? Discuss this with necessary drawing.   6

B What are the different scenarios for optical cross connect deployment? Draw and explain it.   6

OR

Que-4 A Draw and explain different reconfigurable OADM architectures.   6

B What is the impact of traffic changes on a network using serial Optical Add/Drop Multiplexers ?   6

Que-5 A Discuss about the node with fixed wavelength conversion capability and limited wavelength conversion capability in WDM network.   6

B Write short note on optical layer services and interfacing.   5

OR

Que-5 A Draw the block diagram and give details about wavelength routing mesh network.   6

B Explain different network management functions in detail.   5

Que-6 A Explain the mathematical programming model of routing algorithm for light path topology design.   6

B Compare PWDM, single hub and fully optical ring architecture based on number of IP router ports per node and number of wavelengths required for a ring with eight nodes.   6

END OF PAPER