

GANPAT UNIVERSITY
M.TECH. SEM. II -ELECTRONICS & COMMUNICATION ENGINEERING
REGULAR EXAMINATION, MAY/JUNE-2013
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

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|--------------|----------|---|---|
| Que-1 | A | Write short note on WDM network evolution. | 6 |
| | B | Explain the protection mechanism in Ring interconnection and Dual homing. | 6 |
| OR | | | |
| Que-1 | A | Discuss about traffic engineering, network engineering and network planning. | 6 |
| | B | What are the different scenarios for optical cross connect deployment? Draw and explain it. | 6 |
| Que-2 | A | Draw and explain different reconfigurable OADM architectures. | 6 |
| | B | Write short note on storage area networks. | 5 |
| OR | | | |
| Que-2 | A | What is the role of optical line terminal in WDM network? Discuss this with necessary drawing. | 6 |
| | B | Compare the synchronous and asynchronous multiplexing. | 5 |
| Que-3 | A | Explain the mathematical programming model of routing algorithm for light path topology design. | 6 |
| | B | Define section, line and path in SONET? Give details about Line overhead and Path overhead bytes. | 6 |

SECTION-II

- Que-4** A Discuss different contention resolution methods in optical packet switched networks. 6
B How Relative Capacity Loss and Distributed Relative capacity loss in Routing and Wavelength Assignment algorithms are different from each other? Discuss it with necessary example. 6
- OR**
- Que-4** A Discuss different burst scheduling algorithms. 6
B Give differences between optical packet switching and optical burst switching. 6
- Que-5** A What is the impact of traffic changes on a network using serial Optical Add/Drop Multiplexers? 6
B Draw and explain 1:N protection switching . 5
- OR**
- Que-5** A What is the difference between 1+1 OMS and 1+1 OCh protection schemes? Draw and explain both. 6
B Describe slotted optical packet switched networks . 5
- Que-6** A Write short note on Wavelength Assignment heuristics. 6
B Discuss different Mesh protection schemes. 6

END OF PAPER