

GANPAT UNIVERSITY
B. TECH SEM. VII ELECTRONICS & COMMUNICATION ENGINEERING
CBCS REGULAR EXAMINATION NOVEMBER/DECEMBER-2013
2EC706[ELECTIVE III(A)] OPTICAL SWITCHING AND NETWORKS

TIME: 3 HOURS

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) Define optical cross connect. Discuss about different scenarios for optical cross connect deployment. 7
- (B) Describe WDM wavelength routing network. 5

OR

- Que.-1** (A) What is wavelength assignment in optical network? Discuss about different Wavelength Assignment schemes with example. 7
- (B) Discuss about all optical network node combining optical cross connect with electrical core cross connect. 5

- Que.-2** (A) Discuss about Optical Networks Evolution. 6
- (B) Describe Node Architecture of IP over WDM for traffic grooming. 5

OR

- Que.-2** (A) Why Optical line terminal is used in optical network? Draw and explain block diagram of optical line terminal. 6
- (B) Describe three wavelength routing schemes with example of small optical network containing six nodes. 5

- Que.-3** (A) Write short note on Reconfigurable OADM Architectures. 6
- (B) What is Optical Multicasting? Draw and explain Opaque Switch Architecture. 6

SECTION-II

- Que.-4** (A) Discuss about point to point WDM (PWDM) ring architecture. 4
 (B) What is the impact of traffic changes on a network using serial OADMs? 6
 Discuss this with the help of necessary drawing .
 (C) What is fixed routing? 2

OR

- Que.-4** (A) Discuss about hubbed WDM ring architecture. 4
 (B) Describe Parallel, Serial and Modular version of parallel architectures of Optical Add Drop Multiplexers. 6
 (C) Define traffic grooming in optical network. 2

- Que.-5** (A) Give the difference between slotted network and unslotted network. 6
 Describe slotted network in detail.
 (B) Describe share per link wavelength convertible switch architecture. 5

OR

- Que.-5** (A) Describe Node Architecture of SONET over WDM for traffic grooming. 6
 (B) Describe share per node wavelength convertible switch architecture. 5

- Que.-6** (A) Write short note on contention resolution in optical packet switched networks. 6
 (B) Describe a switch with dedicated converters at each output port for each wavelength. 4
 (C) What is fixed-alternate routing? 2

End of Paper