

Roll No

MTDE-301(C)
M.E./M.Tech., III Semester
Examination, December 2016
Opto Electronics

Time : Three Hours

Maximum Marks : 70

- Note :** i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) How is absorption in semiconductors take place? Explain about absorption and emission spectra.
b) Explain about band to band recombination. What is Auger recombination?
2. a) With the help of suitable diagram explain the principle working of Heterojunction Lasers.
b) Discuss the working principle of electro optic modulator.
3. a) Determine the laser rate equations and explain.
b) Discuss the principle working of Acousto-optic modulator.
4. a) Discuss the principle working of Heterojunction photodiodes.
b) Explain the characteristic and applications of BCCD's and JCCD's.

5. a) Discuss about half tone processing.
b) Explain about digital optical computing of Nonlinear devices.
6. a) Discuss about digital optical computing of optical phase conjugate devices.
b) Discuss about shadow casting system.
7. a) Explain about Kerr gates and Logic gates.
b) Explain about free space optical interconnects and wave guide interconnects.
8. Write short notes on any two of the following:
 - a) Q switching
 - b) Stark effect
 - c) POSC multiprocessor
