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Roll No

MEVD-301(A)
M.E./M.Tech. III Semester
 Examination, December 2017
Opto-Electronics Integrated Circuits
 (Elective - IV)
 Time : Three Hours

Maximum Marks : 70

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

1. a) Discuss about the one dimensional planar wave guide.
 b) Discuss about the wave guide modes and mode cutoff condition.
2. a) Discuss the principle working of two dimensional wave guides.
 b) Explain the steps of vacuum deposition and solution deposition used in fabricating optical wave guide.
3. a) Discuss about epitaxial growth of III-V compound semiconductor materials.
 b) Explain about ion exchange and ion-implanted wave guides.
4. a) Discuss about surface scattering and absorption losses in optical wave guides.
 b) Discuss how to measure waveguide losses.

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5. Discuss the principle working of following couplers.
 - a) Prism coupler
 - b) Grating coupler
 - c) Fiber to wave guide coupler
 - d) Directional couplers
6. a) Discuss about the electro optic and acousto-optic effects used in light modulators.
 b) Discuss about waveguide modulators and switches.
7. a) Discuss the principle working of distributed feedback lasers.
 b) Discuss the principle working of integrated optical detectors.
8. Write short notes on any two of the following:
 - a) Shaping of waveguides by wet and dry etching techniques
 - b) Photonic switching
 - c) Optical integrated circuits

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