

**ID. No. 24443**

**B.Tech. 7th Semester F. Scheme (Electronics &  
Communication Engg.-III) Examination, May-2014**

**OPTICAL COMMUNICATION**

**Paper-ECE-415-F**

*Time allowed : 3 hours ] [ Maximum marks : 100*

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*Note : (i) Question No. 1 is compulsory.*

*(ii) Two questions will be from each of the four section. Attempt one question from each of four section.*

1. (a) Discuss advantages of optical fiber communications over coaxial cable. 5
- (b) What do you mean by fiber connectors. 5
- (c) Explain optical gain, how we calculate it. 5
- (d) What is PIN photodiodes. 5

**Section-A**

2. Discuss optical communication system with block diagram. 20
3. Explain Electromagnetic spectrum used for optical communication. 20

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**Section-B**

4. What is attenuation. Differentiate couplers and connectors and also explain them. 20
5. What is absorption. Differentiate absorption and attenuation. 20

**Section-C**

6. Explain Internal and external quantum efficiency and how we calculate it. 20
7. Name different light sources how laser is coupled to fiber. 20

**Section-D**

8. How we determine impulse and frequency response of PIN photodiodes. 20
9. Explain noise in PIN photodiodes and also discuss multiplication process. 20