

Code No: RT4104A

R13**Set No. 1**

IV B.Tech I Semester Supplementary Examinations, February - 2019

OPTICAL COMMUNICATION

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 70

*Question paper consists of Part-A and Part-B**Answer ALL sub questions from Part-A**Answer any THREE questions from Part-B*

PART-A (22 Marks)

1. a) Define and explain mode coupling. [3]
- b) Write a short note on Halide Glass fibers. [3]
- c) Define fiber splicing? Explain fusion splicing of optical fiber. [4]
- d) Define spontaneous emission. [4]
- e) Write a short note on error source. [4]
- f) Write a short note on chromatic dispersion. [4]

PART-B (3x16 = 48 Marks)

2. a) Write about the historical development of optical fiber communication. [8]
- b) Explain briefly about Skew rays. [8]
3. a) Write a short note on Scattering Losses. [8]
- b) Discuss briefly about Polarization-Mode dispersion. [8]
4. a) Write a note on single-mode fiber connectors. [8]
- b) Draw and explain V-groove and Elastic-tube fiber splicing technique. [8]
5. a) Explain internal and external quantum efficiency. [8]
- b) Write a note on external quantum efficiency. [8]
6. a) Explain briefly about laser diode -to-fiber coupling. [8]
- b) Explain briefly about analog receivers. [8]
7. a) Discuss briefly about Rise-Time budget. [8]
- b) Discuss briefly about Time-Domain Intermodal Dispersion measurements. [8]