| Seat No.: | | Enrolment No. | |
|-------------------------------------|------------|--|----------|
| | | GUJARAT TECHNOLOGICAL UNIVERSITY M.E -II st SEMESTER-EXAMINATION – JULY- 2012 | |
| Subject code: 1722701 | | | 12 |
| • | | Name: Optical Networks | |
| Time: 10:30 am – 13:00 pm Total Mar | | ks: 70 | |
| Instr | | <u>-</u> | |
| | | empt all questions. | |
| | | ke suitable assumptions wherever necessary. | |
| 3. | Figu | ures to the right indicate full marks. | |
| Q.1 | (a) | | 07 |
| | (b) | networks? Draw and explain a wavelength routing network. What are the conditions to get total internal reflection of light ray in optical fiber? Explain the concept of propagation of light rays in optical fiber by total internal reflection. | 07 |
| Q.2 | (a) | What are different components of chromatic dispersion? Explain. | 07 |
| | (b) | Draw and explain a directional coupler. | 07 |
| | | OR | |
| | (b) | Write a short note on Erbium Doped Fiber Amplifier (EDFA). | 07 |
| Q.3 | (a) | Give benefits of SONET/SDH over PDH. | 07 |
| | (b) | What are different elements of a SONET infrastructure? Explain with necessary network diagram. | 07 |
| 0.2 | () | OR | 0= |
| Q.3 | (a) | Explain GFP frame structure in detail. Draw and explain architecture of a Storage Area Network. | 07 07 |
| | (b) | Draw and explain architecture of a Storage Area Network. | U/ |
| Q.4 | (a) | Classify different protection schemes in optical networks with explanations. | 07 |
| | (b) | Give benefits and limitations of optical layer protection technique. OR | 07 |
| Q.4 | (a) | Write a short note on chirped fiber bragg grating for chromatic dispersion compensation. | 07 |
| | (b) | Why designing networks is harder than designing point-to-point links? | 07 |
| Q.5 | (a) | Briefly explain different OADM architectures. | 07 |
| | (b) | What are the important parameters used to characterize the suitability of a switch for optical networking applications? OR | 07 |
| Q.5 | (a) | Write key functions of an Optical Crossconnect (OXC) in a large optical network. | 07 |
| | (b) | Write a short note on PIN photodiode. | 07 |
