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M.Tech.(ECE) (2018 Batch) (Sem.-1)

OPTICAL NETWORKS

Subject Code : MTEC-PE1X-18-2

M.Code : 75175

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

- 1. Attempt any FIVE questions out of EIGHT questions.**
2. Each question carries TWELVE marks.

1. What is soliton? How it is used in WDM systems to manage the impairments? Explain it mathematically and also provide the diagram.
2. List and explain the recent developments in the field of optical communication. How the nonlinear effects are restricting the data rates? Explain.
3. a) Explain the need for optical amplifiers in optical network design,
b) Write short note on wavelength stabilization.
4. What are the advantages of SONET/SDH over PDH?
5. Illustrate the role of Optical Add/Drop Multiplexer (OADM) in providing cost effective means of handling traffic in optical networks. Compare the deployment of OADM with point to point WDM systems.
6. Discuss different function managements that are part of network management.
7. Analyse the issues that are faced by the network operators either during the building of newer optical networks or upgrading their networks to higher capabilities. Also discuss the choices that service providers have to make in choosing the right transmission layer.
8. a) Give two important features of GPON.
b) Compare SONET/SDH rings with TPON.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.