



Reg. No. :

Name :

First Semester M.Tech. Degree Examination, March 2013
(2008 Scheme)
(Electronics and Communication Engineering)
Telecommunication Engineering
TTC 1005 : ADVANCED OPTICAL COMMUNICATION

Time : 3 Hours

Max. Marks : 100

Instructions : 1) *Answer any five.*

2) *All questions carry equal marks.*

(5×20)

1. Compare bit error rate performance of coherent systems using PSK modulation format. Estimate the number of photons per bit required for $BER = 10^{-9}$ in each case.
 2. Prove that sensity of a coherent receiver can be enhanced by increasing the power output of a laser source used in the receiver.
 3. Distinguish between loss managed solitons and dispersion managed solitons. Compare the timing jitter occurs in DM managed soliton systems with that in loss managed systems.
 4. Explain the soliton propagation with the help of NLSE. Compare fundamental and second order soliton propagation. Deduce an expression for peak power of soliton pulse.
 5. Explain with neat sketches, the working of an EDFA. What is the noise present in EDFA ? Explain.
 6. Differentiate between FRA and FBA. Draw block schematics of these amplifiers and explain their working principles. Compare their performance.
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