No. of Printed Pages : 4 121054/31054B/0163N

Roll No. .....

5th Sem. / ELTX. / PE

Subject : OPTICAL FIBER COMMUNICATION

Time : 3 Hrs. M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

Q.1 a) Snell's law

b) Pin diode

c) Doping

d) Attenuation

e) Optical frequency range

f) Bit rate

g) Refractive index

h) Dark current

i) Laser

j) Spontaneous emission

k) Optical connector

l) Quantum efficiency

m) Responsivity

n) Absorption

o) Dynamic response of LED

p) Fiber couplers

q) Acceptance angle

r) Dispersion

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

Q.2 i) Explain laser oscillation.

ii) What are the application of optical fiber communication system.

iii) Write a short note on optical switches.

iv) What is the role of photo diode in OFC?

v) Explain in brief about bending losses.

vi) Describe APD in detail.

vii) Write a note on fusion splicing method.

viii) Explain optical digital link.

ix) What are the properties of a good connector?

x) Explain the block diagram of optical fiber comm.

xi) What is the principle of operation of distributed feedback laser.

xii) What are the disadvantages of OFC system?

xiii) Explain in brief the performance characteristics in photo diode.

xiv) Write a short note on population inversion.

xv) Write a short note on Micro bending.

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

Q.3 Explain the operation of LED. Also explain different types of LED's and its different structures.

Q.4 Explain in detail different type of losses in OFC.

Q.5 What do you mean by Optical splicing.

Q.6 Write a note on nonlinear scattering losses.

Q.7 Define dispersion. What are its different types? How these affect the working of optical fibre communication system.