

PURNEA COLLEGE OF ENGINEERING

OPTICAL FIBER COMMUNICATION

BRANCH-ECE

ASSIGNMENT-1

SEMESTER- 6TH

Date-03/04/2020

Q.1 A multimode step index fiber with a core diameter of 80 μm and a relative index difference of 1.5 % is operating at a wavelength of 0.85 μm . If the core refractive index is 1.48, estimate the normalized frequency for the fiber and number of guided modes

Q.2 A step index multimode fiber with a numerical aperture of a 0.20 supports approximately 1000 modes at an 850 nm wavelength.

i) What is the diameter of its core?

ii) How many modes does the fiber support at 1320 nm?

iii) How many modes does the fiber support at 1550 nm?

Q3. What do you mean by bending loss? Discuss its different types.

Q4. Write Difference between LED and LASER.