

Dept. of Communications & Electronics
First Exam, Summer Semester: 2009/2010

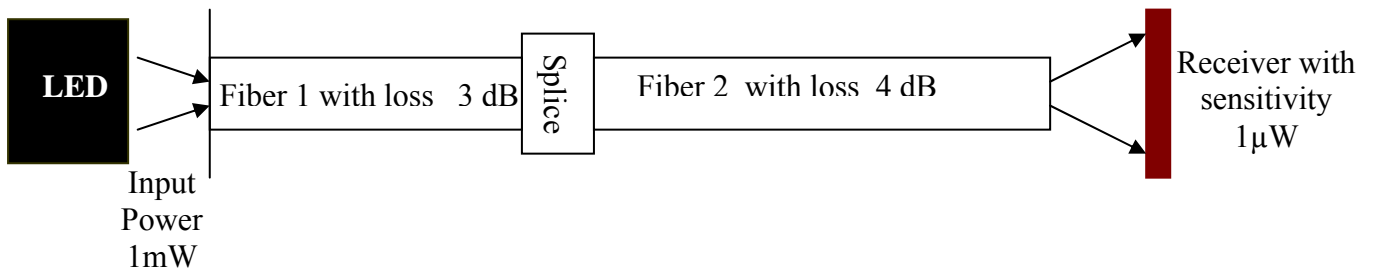
Course Title: Optical Communications
Course No: (650535)
Lecturer: Dr. Abdel-Rahman Al-Qawasmi

Date: 19/7/2010
Time Allowed: 1 Hours
No. of Pages: 1

(يرجى كتابة الاسم والرقم الجامعي على ورقة الاسئلة والاجابة)

Question 1

(4marks)



- 1- Compute the maximum allowed loss (dB) in splice so the system will properly work.
- 2- Compute the power at the input of the second fiber.
- 3- Compute the efficiency of the system in dBm.

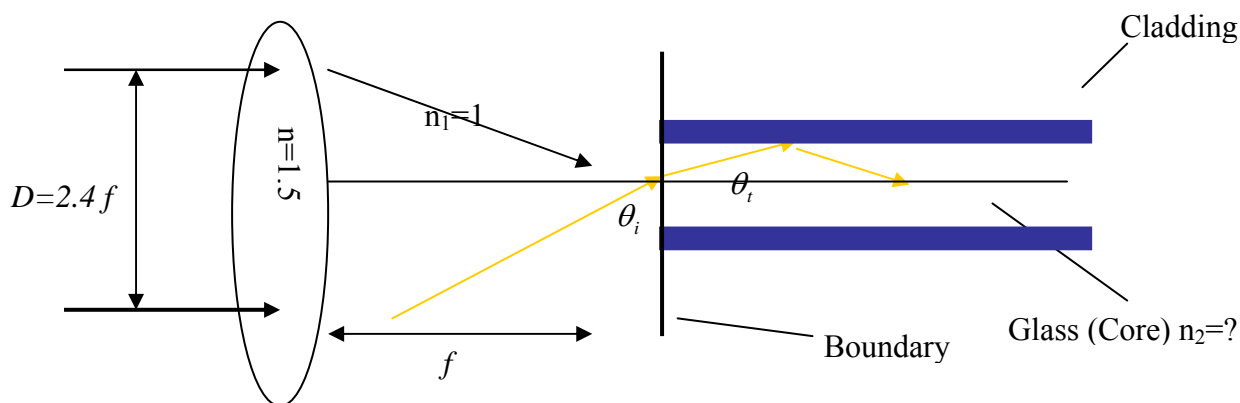
Question 2

(2marks)

Find the energy of one photon (in eV,) where the light wavelength $\lambda = 0.83 \mu m$ and $h = 6.626 \times 10^{-34} J \times s$ (Planck's constant).

Question 3

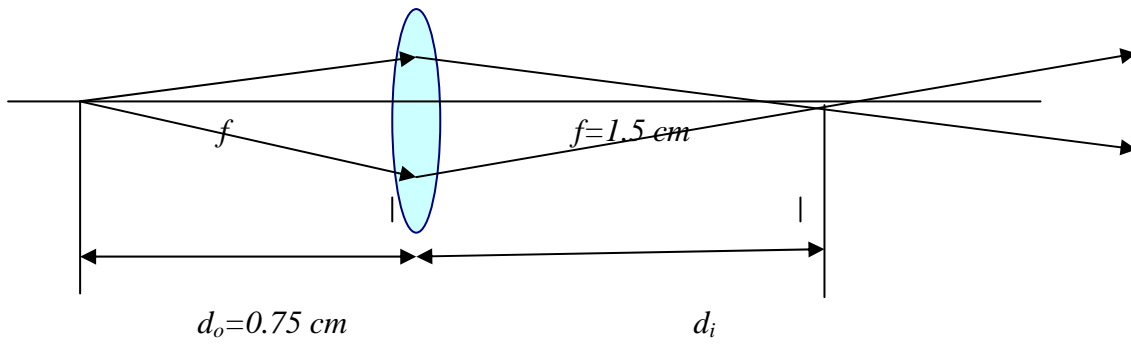
(2marks)



- 1- Find the refractive index of the fiber if the incident angle $\theta_i = 45^\circ$ and the transmitted angle $\theta_t = 32^\circ$
- 2- If $R_1=R_2$ (Curvatures of spheres) then compute the focal length.

Question 4

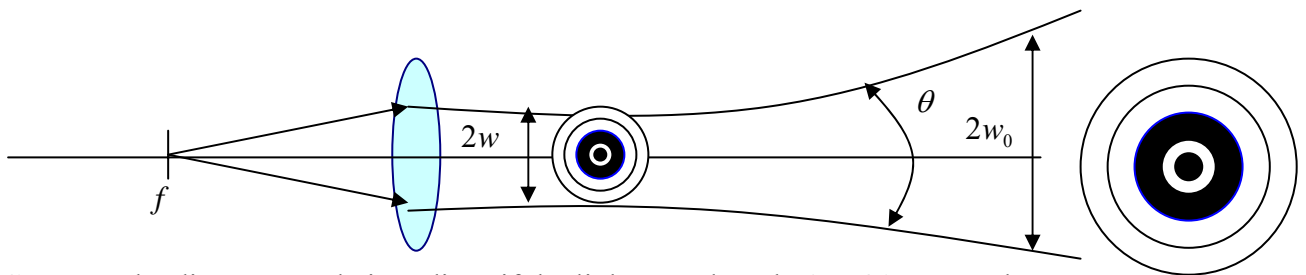
(2marks)



Compute the Magnification and Image distance.

Question 5

(2marks)



Compute the diverges angle in radians if the light wavelength $\lambda = .815 \mu\text{m}$ and $w = 1\text{mm}$