Indian Institute of Technology, Delhi

Laser systems and applications (PHL 752)

Minor 2

Duration : 1Hr

Marks : 20

1. (a) Draw the schematic diagram (with all components) of Er-doped Fiber Amplifier (EDFA)
   (b) Explain the design, construction and configuration of high-power fiber lasers.
   (c) Explain schematically how a fiber is fabricated from a glass preform feed.
   (d)Name the typical glass host for the following (a) conventional telecommunication fibers (Passive), (b) high refractive index contrast Photonic crystal fibers, (c) IR/far IR fibers

   2x4=8

2. Show the design of basic gas laser construction and draw the energy level diagrams (incl. Laser wavelength transitions along with assignments) of (a) He-Ne and (b) Ar-ion laser transitions.