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DEPARTMENT OF PHYSICS
Engineering Optics (PH 301)
Mid-semester Examination

Full Marks: 13

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Time: 30 Mins.

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Answer all questions.

1. Light emitting diode, laser diode, and photodiode all are semiconductor devices. They use PN junction diodes. [3]
LED works when P-N junction is in forward bias and low current
Laser diode works when P-N junction is forward biased and high current
Photodiode works when P-N junction is in reverse bias
 2. Cones are the photoreceptors responsible for photopic vision. [0.5]
 3. In vision system, spherical shape of eyeball is maintained by internal excess pressure of 2-3 cm of mercury. [0.5]
 4. In vision system, blind spot renders field measuring 6 degree horizontally and 8 degree vertically. [1]
 5. The maximum magnification offered by a simple microscope is 20-25 [1]
 6. In a compound microscope, with the increase in the magnification of eyepiece, the field of view decreases. [1]
 7. Materials used for light emitting diode (LED) will have direct band gap. [1]
 8. For imaging a phase object, the suitable microscope is Phase Contrast Microscope. [1]
 9. Fluorescence occurs when absorbed radiation is in UV region while emitted light is in visible region. [1]
 10. Red, Blue and Green are the primary colours and Cyan, Yellow, and Magenta are called the secondary colours. [3]
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