

B.E. / B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV / DEC 2012

GEO INFORMATICS ENGINEERING BRANCH
SECOND SEMESTER

PH 9162 - PHYSICS FOR GEO INFORMATICS ENGINEERING

(REGULATIONS 2008)

Time: 3 hr

(Max. Mark: 100)

Answer ALL Questions

Part - A (10 × 2 = 20 Mark)

1. What are the conditions for scattering?
2. What do you mean by fluorescence?
3. How hemispherical reflectors are formed?
4. What do you mean by "latent image" in a photographic film?
5. What is infra red imaging?
6. Why vibrational spectra are in infra red region?
7. Why acceleration due to gravity varies with respect to altitudes?
8. Mention the importance of Weather Satellites.
9. What is the principle of LED?
10. What are characteristics of a good detector?

Part - B (5 × 16 = 80 Mark)

11. (a) Explain the theory of black body radiation.
12. (a) What are the defects of a lens? Explain each defect with neat diagrams.
(OR)
(b) Describe the physics of colour photographic process and explain role of filters.
13. (a) Explain the reflectance characteristics of different covers of Earth.
(OR)
(b) Explain with neat diagram, principle, construction, working of a radar and obtain the expression for radar equation.
14. (a) Obtain the expression for the gravitational field at a distance x from the centre of the massive ring of radius R .
(OR)
(b) Write the notes on
 - i. Remote sensing Satellites. (6)
 - ii. Effects of the Earth's asphericity on gravitational potential. (4)
 - iii. Weather Satellites. (6)

(P.T.O.)

15. (a) i. Describe working, construction of an avalanche diode. (8)
ii. Distinguish between PIN and Photodiode. (3)
iii. Explain photovoltaic detectors. (5)
(OR)

(b) Write a short note on :

- i. Photoconductive detectors. (6)
ii. Photo emissive detectors. (6)
iii. CCD Camera. (4)