

17/10/13.

--	--	--	--	--	--	--	--	--	--	--

B.E. (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV/ DEC 2013

GEO-INFORMATICS ENGINEERING BRANCH
SECOND SEMESTER

PH9162 - 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 radiation quantities?
2. What do you mean by luminescence?
3. What is the condition for Mie scattering?
4. Define azimuth angle.
5. Mention few types of defects in a lens.
6. What are the advantages of using the eyepiece?
7. Why the value of gravity is varying from equator to poles?
8. What is the advantage of Geo-stationary orbits?
9. What is the advantage of optical preamplifiers?
10. What is photopic vision?

Part - B (5 × 16 = 80 Mark)

11. (a) Derive the expression for Rayleigh scattering.
12. (a) Derive an expression for Plancks black body radiation.
(OR)
(b) i. Obtain the expression for Stephens - Boltzmann law (12)
ii. Write a note on spectral quantities. (4)

13. (a) With necessary diagram explain photographic processes.

(OR)

- (b) Derive an expression for the minimum spherical abberation.

14. (a) Explain in detail about the gravitational potential and find out the gravitational potential of a solid sphere at a point inside and out side of the sphere.

(P T O)

(OR)

(b) With neat diagrams, explain the various types of satellites

15. (a) What is photomultiplier tube (PMT)? Explain the construction and working of PMT with neat diagram. How the dark current will affect the measurements?

(OR)

(b) Write short notes on: (8+8)

- i. Avalanche Photodiodes
- ii. Photovoltaic detectors