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B.E. / B.Tech. (Full Time) DEGREE END SEMESTER EXAMINATIONS, NOV/ DEC 2011

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 is meant by "black body" radiation?
2. State Kirchhoff's law of thermal radiation.
3. What is mie scattering?
4. What do you mean by coefficient of reflection?
5. What are the uses of photochemical reactions?
6. What do you mean by a "speed" of a photographic film?
7. Define looking angle.
8. What are the different type of satellites?
9. What are donar impurities?
10. Mention few detectors for IR radiation.

Part - B (5 × 16 = 80 Mark )

11. Derive an expression for Planck's black body radiation
12. (a) From the fundamental theory of dipoles derive the expression for Rayleigh scattering  
(OR)  
(b) Discuss the optical absorption of diatomic and triatomic molecules.
13. (a) Describe the photographic processes inside a photographic film.  
(OR)  
(b) What do you mean by false color? How is it used in IR image processing techniques?
14. (a) Derive the gravitational potential energy at points inside and outside of a massive hollow sphere.

(OR)

(b) Describe any two satellites and mention their uses.

15. (a) Describe the construction and working of photomultiplier tube.

(OR)

(b) Write notes on:

(8+8)

- i. Charge coupled devices.
- ii. Avalanche photodiode.