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B.E /B.Tech. Degree End Semester Examinations, April / May 2012

Second Semester

PH 9161 PHYSICS FOR CIVIL ENGINEERING

(Regulation 2008)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART – A ($10 \times 2 = 20$ Marks)

1. What is meant by fenestration and why do we require it?
2. Explain the natural convection and forced convection.
3. What are the requirements of a ventilation system?
4. How will you classify natural ventilation?
5. Define discomfort glare.
6. Define day light factor.
7. What are composite materials?
8. Mention different types of fault that occur along the tectonic plates.
9. Explain (i) P-wave, (ii) S-wave and (iii) Rayleigh wave.
10. Write a note on reinforced plastics (FRP)

PART – B ($5 \times 16 = 80$ Marks)

11. (i) Derive an expression for the thermal conductivity of steam pipe using radial flow of heat and the value of temperature of the cylindrical shell between layers.

(ii) Describe an experiment to determine the value of K of the material of a rubber tube using radial flow of heat.
12. (a) Explain in detail the functioning of a refrigeration cycle with its pressure –enthalpy diagram.

(OR)

- (b) Write short note on (i) Fan coil system with its block diagram. (8 Marks)
(ii) Designing of natural ventilation. (8 Marks)

13. (a) Describe about various types of sound absorbers with their physical characteristic features.

(OR)

- (b) Write short note on (i) Effect of window shape and size on day light. (8 Marks)
(ii) Potential hazards on noise level. (8 Marks)

14. (a) Give a detailed account on SMA materials and their applications.

(OR)

- (b) Describe slip casting process in detail and mention different ceramic forming processes.

15. (a) Discuss the various earthquake hazards and explain the disaster mitigation after earthquake.

(OR)

- (b) Discuss the various hazards due to fire in a multistory building and guidance on preventive measure, first aid and other ways to minimize damages.