



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

First Semester

PH 181 PHYSICS FOR CIVIL ENGINEERS

(Common to all Branches)

(Regulation 2004)

Time : 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. Define thermal diffusivity?
2. What are three ways of heat loss or heat gain through windows?
3. What are the ideal characteristics of refrigerant?
4. What is the principle of artificial ventilation?
5. What is the role of sound absorbers in a good acoustical building?
6. Mention different types of glare.
7. What are composite materials?
8. What are the properties of metallic glasses?
9. Define epicenter?
10. Mention the different types of body waves?

Part - B (5 x 16 = 80 marks)

11. (i)What is meant by fenestration and what are the advantages? (5)
(ii)Find an expression to determine the thermal conduction through compound media, when bodies are in series and in parallel.(11)
12. a) Explain the functions of a refrigeration cycle and what the different types of compressors used in it are.
OR
b) Describe the wind effect and stack effect responsible for pressure difference in a building.
13. a) What is meant by day light factor? Describe about the role of artificial sky in building lighting design.

OR

b) Describe different types of sound absorbers used in designing a building with good acoustical properties.

14. a) What are ceramic materials? Discuss the various properties and applications in the construction engineering.

OR

b) Write short note on structural composites and laminar composite materials.

15. a) Discuss different ways of fire accident that can occur in multistory building and ways to prevent and first aid activities to be taken.

OR

b) What are the different types of earth quake hazards? Explain how will you estimate the magnitude and locate epicenter.