Roll No. | | | | | | | | |

B.E. (Full Time) End Semester DEGREE EXAMINATION, APRIL / MAY 2011

Second Semester
Civil Engineering

PH9161 – PHYSICS FOR CIVIL ENGINEERING

(Regulation 2008)

Time : 3 Hours | Answer ALL Questions | Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What is seismology?
2. Mention four common fir hazards that could arise from residential buildings?
3. What is the role of matrix in FRP in composites?
4. What are metallic glasses?
5. The total area of glass window pane is 0.6 m^2. Calculate how much heat is conducted per minute through the glass window pane if thickness of glass is 10mm, the temperature of inside is 30°C and of the outside is 4 °C. The thermal conductivity of glass is 1.2 $W.m^{-1}.k^{-1}$.
6. What is the principle behind natural ventilation?
7. What are the ideal characteristics of refrigerant?
8. What is meant by fenestration? Why do we require in building?
9. Mention the sound level for the following (i)auditorium (ii)industries (iii) hospital and (iv) class rooms.
10. What is meant by average day light factor?

Part – B (5 x 16 = 80 marks)

11. a) i) Explain the heat flow through compound media in series and in parallel. (12)

    ii) Heat is conducted through a glass slab of two layers of thermal conductivity 0.02 and 0.04 $W.m^{-1}.k^{-1}$. The thickness of each layer is 1 cm. If the temperature of the two outer surface is 373k and 273k, respectively. Find the temperature of the interface. (4)

12. a) Discuss the various hazards due to fire and the precautionary measures one has to take to meet the situation.

    OR

    b) Discuss the various hazards due to flood and cyclone and what precautionary measures one has to take to meet the situation.

13. a) Explain in detail the different ceramic fabrication techniques.

    OR

    b) Give a detailed account of structural composite materials.

[P.T.O]

14. a) Discuss the different types of sound absorbing materials and methods used in design of acoustical building.

OR

b) Discuss the day light design of windows and mention the uses of models.

15. a) Discuss the requirements of air conditioning systems for different types of buildings.

OR

b) Discuss the preventive measures for the fire caused by air conditioning systems.