B.E. / B. Tech (Part Time) DEGREE EXAMINATION, April/ May.2014.

CIVIL ENGINEERING BRANCH

FIRST SEMESTER

PTPH 8101 – PHYSICS FOR CIVIL ENGINEERING
(Regulation 2013)

Time : Three Hours Maximum : 100 marks

Answer ALL questions.

PART A – (10 x 2 = 20 Marks)

1. Explain the steady state of heat flow.
2. Explain briefly the factors affecting the thermal performance of the building.
3. What is cooling load?
4. What are different types of air filters?
5. How is the noise produced in a building?
6. What is glaring of light? How is this affects?
7. What is metallic glass?
8. What are the applications of High Aluminium ceramics?
9. What are P and S waves?
10. What are fire-proofing materials?

PART B – (5 x 16 = 80 Marks)

11. Drive the expressions for the flow of heat through compound media both bodies in series and parallel.

12. (a) Explain in detail the design and the measurements for natural ventilation in a Building.

OR

(b) Discuss in detail the centralized air conditioning systems for different types of buildings.

13. (a) What are the mechanism involved in the sound absorption? Explain in detail the sound measurements and the noise insulation in the buildings.

OR

(b) Explain in detail the principles and techniques involved in the artificial lightings

14. (a) Discuss in detail the synthesis, characterization and the applications of the shape memory alloys.

OR

(b) Explain in detail the preparation, properties and applications of Fibre reinforced plastics (FRP).

15. (a) Write in detail about the earth quake and explain the principle and techniques involved in the seismography.

OR

(b) Discuss in detail the cyclone and the flood hazards. What are the safety measures?