

Reg. No. :

Question Paper Code : 21136

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Second Semester

Civil Engineering

PH 8201 – PHYSICS FOR CIVIL ENGINEERING

(Regulations 2017)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define heat gain and heat loss.
2. Write at least two advantages of fan coil systems.
3. The intensity of sound during heavy traffic is 10^{-4} Wm^{-2} . Calculate the intensity level in decibel.
4. How noises are measured?
5. Define hemispherical transmittance and reflectance.
6. What is meant by day light factor?
7. What are the types of fibre reinforced plastics?
8. What are ferromagnetic ceramics?
9. Define the two types of surface waves.
10. List the methods of flood prevention.

PART B — (5 × 16 = 80 marks)

11. (a) Explain the factors affecting the thermal performance of buildings.

Or

- (b) Describe the principle, construction and working of chilled water plant with neat diagram.

12. (a) Discuss the factors, reverberation, resonance, echelon effect focussing and reflection that affect the acoustics in hall and the remedies for them.

Or

- (b) Describe in detail about sound insulation measurements.

13. (a) Describe relations between radiant and luminous characteristics of radiation.

Or

- (b) Write detailed note on effect of window shape and size on day light calculations.

14. (a) How are metallic glasses prepared? Explain how the melt spinner device can be used to produce metallic glasses.

Or

- (b) Explain thermal, mechanical, electrical and chemical properties of ceramic materials.

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

Or

- (b) Discuss in detail about fire hazards and guidance on preventive measures.