

Question Paper Code : 70176

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

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Second Semester

Civil Engineering

PH 3201 — PHYSICS FOR CIVIL ENGINEERING

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State any two organic and inorganic thermal insulating materials.
2. Distinguish between Predicted Mean Vote (PMV) model and adaptive model.
3. State the principle of natural ventilation.
4. How the Air Conditioning (AC) systems can be protected against fire?
5. How sunglasses help to reduce glare?
6. Compare day lighting with artificial lightings.
7. List out any four properties of fiber reinforced metals (FRM).
8. Summarize the few applications of high aluminium ceramics.
9. Define P wave and S wave.
10. Distinguish between Class D and Class K fires.

PART B — (5 × 16 = 80 marks)

11. (a) Deduce a mathematical expression for the transmission of heat through two bodies arranged in (i) series and (ii) parallel.

Or

- (b) Discuss the factors affecting the thermal performance of buildings.

12. (a) Describe the window type air conditioner and packaged terminal air conditioner systems.

Or

- (b) Explain in detail the different types of air conditioning systems for buildings.
13. (a) Discuss the impact of noise in multistoried buildings and its preventive measures to reduce the impact sound.

Or

- (b) Explain supplementary artificial lightings in detail.
14. (a) Explain in detail the preparation and properties of metallic glasses.

Or

- (b) Explain thermal, mechanical, electrical and chemical properties of ceramic materials.
15. (a) Explain deterministic seismic hazard analysis and probabilistic seismic hazard analysis.

Or

- (b) Discuss the different types of fire extinguishers and mention few fire preventive measures taken during the fire hazard.

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