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**Question Paper Code : 21441**

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2023.

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 the Principles of heat transfer.
2. Mention the uses of shading devices,
3. Classify natural ventilation.
4. Write two advantages of fan coil systems.
5. What is meant by Visual field glare?
6. Mention any two artificial light sources.
7. What is glass transition temperature in metallic glasses?
8. Recall hot isostatic pressing.
9. Define intensity of an earthquake.
10. Name the types of floods.

PART B — (5 × 16 = 80 marks)

11. (a) Explain the thermal insulation of the buildings. Discuss the factors that affect the thermal performance of buildings with example.

Or

- (b) Describe climate and design of solar radiation.

12. (a) Describe the construction and working of window type air conditioner.

Or

- (b) Discuss the basic concepts of protection of buildings against fire to be caused by A.C. Systems. Mention at least two precautions to prevent fire caused by AC systems.
13. (a) Explain the sound absorption methods and different types of sound absorbing materials used in a building.

Or

- (b) Explain the use of building models and artificial skies in estimating daylight factor and deciding on artificial lighting.
14. (a) Describe the types, properties and applications of shape memory alloys.

Or

- (b) Write note on Ferroelectric ceramics, Ferro magnetic ceramics. High alumina ceramics.
15. (a) Discuss earthquake ground motion with types, intensity magnitude.

Or

- (b) Describe about fire hazards and guidance on preventive measure. Discuss in detail fire proofing materials.
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