

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Second Semester

Civil Engineering

PH3201 – Physics for Civil Engineering

Regulations - 2021

Duration : 3 Hrs

Maximum : 100 Marks

PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	State the principle of heat transfer.	RE	1	2
2.	Define fenestration.	RE	1	2
3.	Classify natural ventilation.	AN	2	2
4.	Write two advantages of fan coil systems.	UN	2	2
5.	Identify the absorption coefficient of material.	AN	3	2
6.	What is meant by visual field glare?	RE	3	2
7.	What are metallic glasses? Mention their key characteristics.	UN	4	2
8.	Distinguish between crystalline and non-crystalline ceramics.	AN	4	2
9.	Define the epicenter of an earthquake.	RE	5	2
10.	What are cyclones?	RE	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11.	a Derive the expression for the flow of heat through compound media when bodies are arranged in series and parallel configurations. Or	AP	1	16
	b Describe the factors with example components that affect thermal performance of buildings.	AP	1	16
12.	a Explain in detail the design considerations and measurement methods for natural ventilation in a building. Or	UN	2	16
	b Discuss the air conditioning systems suitable for different types of buildings and the measures for protection against fire hazards caused by AC systems.	UN	2	16
13.	a Explain the methods of sound absorption and the types of sound-absorbing materials commonly used in buildings. Or	UN	3	16
	b Illustrate the use of building models and artificial skies for evaluating daylight factors and choosing effective artificial lighting strategies.	UN	3	16
14.	a i Analyze the structure of fiber-reinforced plastics and fiber-reinforced metals and discuss their applications.	AN	4	10
	ii Write a short note on shape memory alloys.	UN	4	6
	Or			

	b i	Define ceramics and illustrate the slip casting and isostatic pressing manufacturing techniques with neat sketches.	AN	4	10
	ii	Write short notes on ferroelectric and ferromagnetic ceramics.	UN	4	6
15.	a	Explain the different types of seismic waves in detail and summarize the key aspects of seismology.	UN	5	16
		Or			
	b	Discuss in detail about fire hazards and provide guidance on preventive measures.	UN	5	16