

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2026***Second Semester***Civil Engineering****UPHT24201 - PHYSICS FOR CIVIL ENGINEERING***Regulations – 2024**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.	Identify the three types of heat transfer.	L1	1	2
2.	List the factors that influence heat gain and heat loss in classrooms.	L2	1	2
3.	Differentiate window type and packaged air conditioning systems.	L2	2	2
4.	Mention the two preventive measures to reduce the risk of fire caused by A.C. systems in buildings.	L1	2	2
5.	Calculate the sound energy absorbed in a recording studio when 165 Joules of sound energy strikes a wall with an absorption coefficient of 0.65.	L3	3	2
6.	Identify two factors that contribute to effective daylight penetration through windows in seminar halls.	L2	3	2
7.	How does the arrangement of atoms in crystalline and non-crystalline ceramics impact their behavior under mechanical stress?	L3	4	2
8.	Recall two properties of ferromagnetic ceramics and how it is useful in electronic devices.	L1	4	2
9.	Predict the role of seismic waves in natural disasters.	L3	5	2
10.	Identify the root causes of flood hazards.	L2	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 Describe the process of heat conduction through compound media with bodies arranged in series and parallel. Or b Identify the factors affecting the thermal performance of buildings with examples and list four thermal measurement methods.	L2	1	16
12.	a Infer the working principles of natural ventilation and outline the measurement techniques and design considerations for natural ventilation in buildings. Or b Explain the various air conditioning systems suitable for residential, commercial and industrial buildings with neat diagrams.	L3	2	16
13.	a Describe the methods used to measure sound insulation in buildings and analyze the impact of noise in multi-story buildings and its measurements. Or b Interpret the principle and supplementary of artificial lighting in buildings with neat sketch.	L2	3	16

14.	a	i	Differentiate fibre reinforced plastics and fiber reinforced metals.	L2	4	4
		ii	Infer the principle of shape memory effect and represent the macroscopic and microscopic explanation of shape memory effect using hysteresis curve.	L4	4	12
Or						
	b	i	Explain briefly about the working principle of isostatic pressing.	L2	4	4
		ii	Exemplify the thermal, mechanical, electrical and chemical properties of ceramic fibres.	L4	4	12
15.	a		Describe the basic principles, estimation techniques and site effects of earthquake ground motion with a neat sketch.	L2	5	16
	Or					
	b		Interpret the cause and effects of fire hazards and outline the safety precautions to prevent fires in buildings and industries.	L2	5	16
