Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

B.E/B.TECH DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL/MAY 2025

Fifth Semester

Mechanical Engineering

CME380 – Automobile Engineering

Regulations - 2021

Duration : 3 Hrs ***Maximum : 100 Marks***

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

Q.No	*Questions*	*BLT*	*CO*	*Marks*
1.	List any four types of Vehicle Layout.	L1	1	2
2.	Elucidate upon the monocoque construction.	L2	1	2
3.	What is requirement of a sparkplug?	L1	2	2
4.	Outline the cardinal function of a turbocharger.	L2	2	2
5.	State any two benefits of an overdrive.	L1	3	2
6.	List out the functions of a slip Joint.	L1	3	2
7.	Define caster and chamber.	L1	4	2
8.	Compare between a live and dead axle.	L2	4	2
9.	What are the safety precautions to be considered for hydrogen operated vehicles?	L1	5	2
10.	What are the advantages of compressed natural gas as a fuel in I.C Engine?	L1	5	2

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

Q.No			*Questions*	*BLT*	*CO*	*Marks*
11.	a		Illustrate and sketch various types of frames used for passenger cars. Explain the salient features of anyone of them.	L2	1	16
			Or			
	b		Explain the construction and function of the IC engine components with neat sketch.	L2	1	16
12.	a		Discuss with neat sketch the working of electronically controlled gasoline injection systems for SI engines.	L2	2	16
			Or			
	b	i	Compare the EURO and BS emission norms.	L2	2	8
		ii	Explain the need of a fuel system in a diesel engine.	L2	2	8
13.	a		Choose a gear box for automatic transmission and explain its working with the help of a simple sketch.	L3	3	16
			Or			
	b		Justify the need of a differential system and explain its working with the help of a simple sketch.	L3	3	16

14.	a	With aid of a simple sketch, explain the constructional details and working principle of a MacPherson strut with coil spring suspension.	L3	4	16
		Or			
	b	Explain the working of a hydraulic braking system with the help of a neat sketch.	L3	4	16
15.	a	Compare the performance, emission and cost of any two alternative fuels with conventional fuels for automobiles.	L3	5	16
		Or			
	b	Compare a hybrid vehicle and electric vehicle in terms of its cost and performance.	L3	5	16