Register Number:……..

KUMARAGURU
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B.E DEGREE EXAMINATIONS: APRIL / MAY 2023

(Regulation 2018)

Sixth Semester

MECHANICAL ENGINEERING

U18MEE0011**:** Automobile Engineering

COURSE OUTCOMES

CO1: Explain the vehicle structures, lubrication, cooling and emission control systems.

CO2: Summarize the various fuel injection, ignition and electrical systems of an automobile.

CO3: Describe the working principle of various components in transmission systems.

CO4: Discuss the various steering mechanisms and suspension systems.

CO5: Compare the conventional and antilock braking systems.

CO6: Discuss the usage of various alternate energy sources in automobiles.

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	Discuss the 6×4 representation in the axle.	CO1	[K_2]
2.	Define mist lubrication and its applications.	CO1	[K_2]
3.	Outline the purpose of the distributor in the ignition system.	CO2	[K_2]
4.	Define stoichiometric air-fuel ratio.	CO2	[K_2]
5.	State the functions of the release bearing.	CO3	[K_2]
6.	Outline the use of selector fork in the gearbox.	CO3	[K_2]
7.	Define Castor, Camber, and KPI.	CO4	[K_2]
8.	Name the suspension component that controls the steer of the wheels.	CO4	[K_2]
9.	Summarize the types of braking systems.	CO5	[K_2]
10.	Discuss the composition of industrial LPG.	CO6	[K_2]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.	a)	Explain in detail the working of full pressure lubrication system with neat sketch	8	CO1	[K_2]
	b)	Discuss in detail the classification of automobile chassis according to its driving systems.	8	CO1	[K_2]
12.		Explain in detail the working of TCI system with neat sketch	16	CO2	[K_2]
13.		Explain in detail the working of automatic transmission with neat sketch.	16	CO3	[K_2]
14.	a)	Discuss in detail the nomenclature of tyres and wheels.	8	CO4	[K_2]
	b)	Compare the leaf and independent suspension systems.	8	CO4	[K_2]
15.	a)	Explain the working of ABS with neat sketch.	8	CO5	[K_2]
	b)	Outline the working of electric vehicles with its components.	8	CO6	[K_2]
16.	a)	Compare the disk and drum brakes used in automobiles.	8	CO5	[K_2]
	b)	Interpret the effects of alternative energy sources on global warming.	8	CO6	[K_2]

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