21ME54

(10 Marks)

Fifth Semester B.E./B.Tech. Degree Examination, Dec.2024/Jan.2025 **Modern Mobility and Automotive Mechanics** 

Time: 3 hrs.

Max. Marks: 100

OR  2 a. Explain the four main components of automobile. b. Write notes on: (i) Hybrid engine (ii) Modern Gt engine (ii) Module-2  3 a. With a neat sketch, explain the Cone Clutch in detail. b. Write the five differences between Gear Shifting mechanism and automatic transmin (iii)  OR  4 a. Explain the leaf spring and coil spring with neat sketch. b. Explain the requirement of good clutch and function of the clutch.  Module-3  5 a. Explain the Ackermann principle of steering with neat sketch. b. With neat sketch explain Worm and Wheel Steering Gear, with neat sketch. COR  6 a. Explain in detail EPS (Electronic Power Steering). b. Write the comparison between disc and drum brakes.  7 a. Write a note on History of Emission Norms in India. b. Explain the fuel quality standards of petrol and diesel.  OR  8 a. What are the various environmental management systems for automotive vehicles? b. Write a short note on Fuel Additives.  (iii) Module-5  9 a. Explain the Electrical Components of an EV system with block diagram.	dule.	Note: Answer any FIVE full questions, choosing ONE full question from each mo	N	
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	(10 Marks)		<b>9</b> a.	9
	(10 Marks)		b.	
OR		OR		
	(10 Marks)		<b>0</b> a.	10

b. Write a note on Battery Charging in EV system.