

CBCS SCHEME

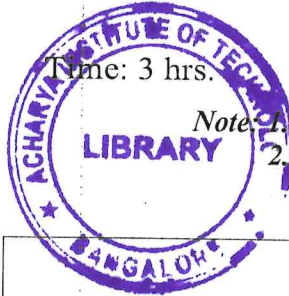
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BME654D

Sixth Semester B.E./B.Tech. Degree Examination, June/July 2026

Modern Mobility



Time: 3 hrs.

Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks, L: Bloom's level, C: Course outcomes.

Module – 1			M	L	C
Q.1	a.	With a brief explanation, give classification of an automobile with respect usage.	10	L2	CO1
	b.	Explain the main components of internal combustion with their functions.	10	L3	CO1
OR					
Q.2	a.	What are the various methods of engine cooling? Explain working of thermo-Syphon cooling system with a neat sketch.	10	L2	CO1
	b.	Sketch and explain splash lubrication system.	10	L3	CO1
Module – 2					
Q.3	a.	Explain the constructional features of automobile tyre with a neat sketch.	10	L2	CO1
	b.	Sketch and explain working of multi-plate clutch.	10	L2	CO2
OR					
Q.4	a.	Explain constant Mesh gear box and torque converter with neat sketches.	10	L2	CO1
	b.	Differentiate between the radial and conventional tyres.	10	L2	CO2
Module – 3					
Q.5	a.	Define the following and explain their effects on steering i) Camber ii) Caster iii) King pin inclination iv) Toe in – toe out.	10	L2	CO2
	b.	Illustrate the difference between disc brakes and drum brakes.	10	L2	CO2
1 of 2					

OR

Q.6	a.	Explain with a neat sketch working of power steering and its advantages and disadvantages.	10	L2	CO1
	b.	With a line diagram, explain working of air suspension.	10	L2	CO2

Module – 4

Q.7	a.	With a neat sketch explain the layout of hybrid vehicle.	10	L2	CO3
	b.	Explain the exhaust gas pollutants and their effect on environment.	10	L3	CO3

OR

Q.8	a.	What are CNG vehicles? Explain its operation, advantages and disadvantages.	10	L2	CO3
	b.	Explain the overview of emission norms in India.	10	L3	CO3

Module – 5

Q.9	a.	What is Motor? List the different types of motor and explain any two in detail.	10	L2	CO4
	b.	Explain the principle and layout of 4-wheeler electric vehicle.	10	L2	CO4

OR

Q.10	a.	Explain the construction and working i) Lead acid battery ii) Sodium based batteries.	10	L2	CO4
	b.	What is Battery Cooling? Explain the fire safety measures in EV vehicles.	10	L2	CO4
