

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/
COMMERCIAL PRACTICE, APRIL - 2025**

AUTOMOBILE ENGINEERING

[Maximum marks: 75]

[Time: 3 Hours]

PART A

I. Answer all the following questions in one word or one sentence. Each question carries 1 mark.

(9 x 1 = 9 Marks)

		Module outcome	Cognitive level
1	Name the types of cylinder liners used in IC engine.	M1.01	R
2	List the two basic types of valve mechanism used in IC engine.	M1.01	R
3	State the function of a thermostat in cooling system.	M1.03	R
4	State the function of a clutch used in automobile.	M2.02	R
5	Identify the function of a slip joint in propeller shaft.	M2.03	R
6	Show the basic principle of ackerman steering system.	M3.02	R
7	List any two function of wheel.	M3.03	R
8	Define the concept of Electronic Brake force Distribution (EBD)	M3.04	R
9	Define the term certificate of registration as per IMV Act.	M4.08	R

PART B

II. Answer any eight questions from the following. Each question carries 3 marks.

(8 x 3 = 24 Marks)

		Module outcome	Cognitive level
1	List any six classifications of automobiles.	M1.01	R
2	Draw the layout of fuel system of a petrol engine.	M1.05	R
3	Show the elements of a transmission system in an automobile.	M2.01	R
4	Compare the fluid coupling and torque convertor.	M2.02	U
5	Define semi floating rear axle.	M2.03	R
6	List any six functions of the suspension system.	M3.01	R
7	Draw the camber and caster of wheels.	M3.02	R
8	Differentiate between tubed tyres and tubeless tyres.	M3.03	U
9	Define the Anti-lock Braking System (ABS).	M3.04	R
10	Identify the current challenges in electric vehicle design.	M4.06	R

PART C

Answer all questions. Each question carries seven marks.

(6 x 7 = 42 Marks)

		Module outcome	Cognitive level
III	Compare air cooling and water cooling system. OR	M1.02	U
IV	Explain working of CRDI with figure.	M1.05	U
V	Explain construction and working of lead acid battery with neat sketch. OR	M1.07	U
VI	Describe the various governing system of IC engine.	M1.08	U
VII	Explain working of a single plate clutch with sketch. OR	M2.02	U
VIII	Describe working of a constant mesh gear box with figure.	M2.02	U
IX	Discuss the working of a differential with sketch. OR	M2.03	U
X	Explain three quarter floating and full floating rear axle.	M2.03	U
XI	Describe recirculating ball steering system with figure. OR	M3.03	U
XII	Explain working of air brake system with sketch.	M3.04	U
XIII	Explain strategy for controlling hybrid fuel cell system. OR	M4.03	U
XIV	Compare the emission standard – BS IV & VI.	M4.07	U
