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(Revision-2021)

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DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/ COMMERCIAL PRACTICE, APRIL - 2024

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	……. of the automobile supports its body, engine and transmission system.	M1.01	R
2	…… lubrication system is used for two stroke cycle engines.	M1.04	R
3	The system that transmits the power developed by the engine to the drive wheels is known as……	M2.01	R
4	Central gear of an epicyclic gear set is called ……	M2.02	R
5	Clutch is located between gear box and ……..	M2.02	R
6	The system which separates wheel/axle assembly from the body.	M3.01	R
7	Write any one type of steering gear mechanism.	M3.02	R
8	The electric motor converts electric energy into …… energy.	M4.01	R
9	BS IV stands for…….	M4.07	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 the basic components of I.C engine.	M1.01	R
2	Why is cooling necessary for I.C engines?	M1.03	U
3	What are the methods of governing I.C engines?	M1.08	U
4	What are the components of transmission system?	M2.01	R
5	What are the functions of clutch?	M2.02	U
6	Name any three steel springs used in automobile suspension system.	M3.01	R
7	Define camber, caster, king pin inclination.	M3.02	U
8	Draw section of a wheel and marks dimensions.	M3.03	U
9	What are the classifications of brake in automobile?	M3.04	R
10	Draw the layout of hybrid electric vehicle.	M4.05	U

PART C
Answer all questions. Each question carries seven marks

(6 x 7 = 42 Marks)

		Module outcome	Cognitive level
III	Explain with neat sketch the functions and materials of connecting rod.	M1.01	U
	OR		
IV	Explain air cooling system with neat sketch.	M1.02	U
V	Compare battery coil ignition system and magneto ignition system.	M1.06	U
	OR		
VI	Explain with neat sketch working of a simple carburetor.	M1.05	U
VII	Draw the layout and mark the parts of transmission system in automobile.	M2.01	R
	OR		
VIII	Explain the working of single plate clutch with a neat sketch.	M2.02	U
IX	Explain the working of fluid coupling with neat sketch.	M2.02	U
	OR		
X	Compare between semi floating, three quarter floating and full floating axles.	M2.03	U
XI	Describe toe in and toe out with neat layout.	M3.02	U
	OR		
XII	Draw the layout and mark the components of hydraulic braking system.	M3.04	R
XIII	Draw the layout of regenerative braking system and mark the components.	M4.04	R
	OR		
XIV	Draw the line diagram and explain the working of Plug – in Hybrid Electric Vehicles.	M4.06	U

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