

**KERALA GOVERNMENT CERTIFICATE EXAMINATION IN AUTOMOBILE
ENGINEERING - APRIL 2024**

AUTOMOBILE ENGINEERING - 1

(Maximum Marks : 60)

(Time : 3 Hours)

PART-A

(Maximum Marks : 20)

- I. Answer the following questions by choosing the correct answer from the options given below. Each question carries 1 mark.

Q. No.	Question	Module
1	Connecting rod connects the crankshaft and the (a) Cylinder head (b) Cylinder block (c) piston (d) Camshaft	M1
2	The gear ratio of camshaft and crankshaft is (a) 1:1 (b) 1:2 (c) 1:6 (d) 1:8	M1
3	The most commonly used Valve in an automobile engine is (a) poppet valve (b) rotary valve (c) Sleeve Valve (d) none of these	M1
4	The carbon from the cylinder head is removed with (a) Water (b) Scraper (c) Caustic soda (d) Soap	M1
5	Piston rings are removed from the piston with the help of (a) Piston ring expander (b) Piston ring compressor (c) Valve spring compressor (d) Torque wrench	M1
6	The most widely used fuel supply system for car (a) Gravity system (b) Petroil system (c) Vacuum System (d) Pump system	M2
7	The drive for the mechanical fuel pump is taken from the (a) crankshaft (b) camshaft (c) distributorshaft (d) Countershaft	M2
8	The fuel feed pump in a diesel engine is mounted (a) On the fuel tank (b) On the Injection pump (c) On the injectors (d) Inside the fuel tank	M2
9	The compression ratio in an automotive diesel engine is Usually (a) 7:1 (b) 10:1 (c) 15:1 (d) 22:1	M1

10	The engine component that stores energy during power stroke and supplies it to crankshaft during idling stroke is (a) Crankshaft (b) Piston (c) Crank web (d) Flywheel	M1
11	From the oil pump, the oil goes directly to (a) Oil gallery (b) Oil strainer (c) Oil filter (d) Oil cooler	M3
12	Maximum oil pressure in the lubrication system is controlled by (a) Oil filter (b) Pump rotor (c) pressure relief valve (d) Pressure switch	M3
13	The most important characteristic of lubricating oil is its (a) Viscosity (b) Physical stability (c) chemical stability (d) Resistance against corrosion	M3
14	The most commonly used lubrication system in an automobiles is the (a) Petroil system (b) Pressure system (c) Splash system (d) Dry sump system	M3
15	The clutch is located between the transmission and the (a) engine (b) rear axle (c) propeller shaft (d) differential	M3
16	The Smaller gears inside the differential casing are (a) Planet gears (b) Crown wheel (c) Sun Gears (d) Differential cage	M4
17	Another Name Steering link rod is (a) track rod (b) tie rod (c) drag link (d) pitman	M4
18	Most popular manual Steering gears for cars today is (a) rack and pinion type (b) worm and wheel type (c) cam and roller type (d) worm and nut type	M4
19	In case of Cars having rack and pinion steering, the gear rack is attached to (a) Relay rod (b) Pitman arm (c) Cross shaft (d) tie rod	M4
20	The central part of a propeller shaft is made from a (a) Steel Shaft (b) gun metals shaft (c) Steel tube (d) cast iron rod.	M4

(20x1=20)

PART – B
(Maximum Marks : 40)

II. Answer *any eight* questions from the following. Each question carries **5** marks.

Q. No.	Question	Module
1	List the classification of engine based on number and arrangement of cylinders.	M1
2	Compare petrol and diesel engines.	M1
3	Draw a neat sketch of typical valve and mark various parts.	M1
4	List the components of water cooling system.	M2
5	Explain simple carburetor with figure.	M2
6	Explain AC mechanical fuel pump with the help of figure.	M2
7	Draw single plate clutch and mark the parts.	M3
8	Explain sliding mesh gearbox with figure.	M3
9	Sketch the differential and mark the parts.	M3
10	Explain propeller shaft with the help of figure.	M4
11	Explain rack and pinion steering gearbox with the help of figure.	M4
12	Draw the different types of stub axles.	M4

(8x5=40)
