

SECOND SEMESTER DIPLOMA EXAMINATION IN AUTOMOBILE
ENGINEERING—MARCH, 2014

AUTOMOBILE POWER PLANT

[Time : 3 hours

(Maximum marks : 100)

PART—A

(Maximum marks : 10)

Marks

I Answer the following questions in one or two sentences. Each question carries 2 marks.

1. State the function of Gasket.
2. Write what you mean by taper piston.
3. List two functions of carburettor.
4. State the use of the helical groove in the plunger of a fuel injection pump.
5. List the components in water cooling system of a multi cylinder engine. (5×2=10)

PART—B

(Maximum marks : 30)

II Answer *any five* of the following. Each question carries 6 marks.

1. Draw a typical petrol engine piston and briefly explain its constructional features.
2. Explain the constructional features of a poppet valve with the help of a sketch.
3. Draw the sketch of AC mechanical fuel pump and explain its working.
4. Draw any two direct injection type combustion chambers and list two of its advantages.
5. Explain construction and working of a Edge type oil filter.
6. Explain how the pressure system is used for engine lubrication.
7. Explain the construction of bellows type thermostat valve. (5×6=30)

PART—C

(Maximum marks : 60)

(Answer *one* full question from each unit. Each question carries 15 marks.)

UNIT—I

- III (a) Write brief description about :
- | | | |
|-------------------|-------------------------------|---|
| (i) main journals | (iii) counter weights | |
| (ii) crank pins | (iv) oil holes in crank shaft | 8 |
- (b) Distinguish between the chain drive and gear drive employed in cam shaft drive system of an engine. 7

OR

		Marks
IV	(a) Write brief description about : (i) valve seat (iii) valve spring (ii) valve guide (iv) valve lock	8
	(b) Define the terms : (i) valve lead (iii) valve overlap (ii) valve lag	7

UNIT—II

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| V | (a) Explain the construction and working of simple carburettor. | 8 |
| | (b) Draw and explain the float circuit of a carburettor. | 7 |

OR

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|----|---|---|
| VI | (a) Draw the sketch of piston type acceleration pump used in carburettor and explain its working. | 8 |
| | (b) Describe the purpose of choke valve in carburettor with the help of a sketch. | 7 |

UNIT—III

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| VII | (a) Compare the constructional features of single hole and multi hole type fuel injection nozzles. | 8 |
| | (b) Draw a swirl chamber type combustion chamber used in diesel engines and list two of its advantages. | 7 |

OR

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| VIII | (a) Draw and explain the operation of an injection nozzle using in diesel engine. | 8 |
| | (b) Describe heater plugs and inlet manifold heaters employed in diesel engines. | 7 |

UNIT—IV

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|----|---|---|
| IX | (a) Compare natural and forced circulation system employed in water cooling of an engine. | 8 |
| | (b) Describe positive crank case ventilation system. | 7 |

OR

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| X | (a) Draw and explain the method of By-pass oil filtering system. | 8 |
| | (b) Describe the working of oil pressure regulator. | 7 |
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