

TED (10)–3005

Reg. No.

(REVISION—2010)

Signature

SECOND SEMESTER DIPLOMA EXAMINATION IN AUTOMOBILE
ENGINEERING—OCTOBER, 2012

AUTOMOBILE POWER PLANT

[Time : 3 hours

(Maximum marks : 100)

Marks

PART—A

I Answer *all* questions in one or two sentences. Each question carries 2 marks.

1. State the use of rocker arm in an engine.
2. List two functions of piston rings.
3. State the use of separators in fuel tank.
4. Define the term 'pour point' of lubricating oil.
5. List the components of a radiator.

(5x2=10)

PART—B

II Answer *any five* questions. Each question carries 6 marks.

1. Draw sketch of a typical compression ring used in petrol engine and list three important functions of piston ring.
2. Explain the use of vibration damper in crankshaft pulley.
3. Explain various mixture strength requirement of petrol engine with the help of diagram.
4. The lubrication of fuel injection pump is done by diesel fuel itself in certain areas. Explain.
5. Describe the working of oil pressure gauge with necessary sketch.
6. Explain the working of vane pump employed for engine lubrication with a sketch.
7. Explain the construction and operation of 'wax thermostat' valve.

(5x6=30)

PART—C

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

UNIT – I

- III (a) Draw the valve timing diagram of a four stroke petrol engine and explain. 8
- (b) Write short note on : (i) Push rod (ii) Valve guide (iii) Roller tappet. 7

OR

- | | Marks |
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| IV (a) Draw cam shaft used for a four cylinder engine and briefly explain the use of each part. | 8 |
| (b) Write short note on : (i) Piston skirt (ii) Gudgeon pin (iii) Oil control ring. | 7 |

UNIT – II

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| V (a) Describe the fuel supply system of petrol engine. | 8 |
| (b) Explain the method of operation of membrane type acceleration pump. | 7 |

OR

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| VI (a) Explain the constructional features of a baffle type and wave cancellation type mufflers. | 8 |
| (b) Compare heavy duty and light duty type air cleaners. | 7 |

UNIT – III

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| VII (a) Describe individual pump and nozzle system used in diesel fuel system of an engine. | 8 |
| (b) Describe the working of fuel feed pump with the help of a sketch. | 7 |

OR

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| VIII (a) Draw and explain air cell type pre combustion chamber using in diesel engines and list two of its merits and demerits. | 8 |
| (b) Draw and explain the operation of delivery valve in fuel injection pump. | 7 |

UNIT – IV

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| IX (a) Describe the thermo-syphon system employed in water cooling of an engine. | 8 |
| (b) State two reasons of (i) high oil pressure (ii) excessive oil consumption. | 7 |

OR

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| X (a) Describe the arrangement of air cooling in single cylinder engine and list three factors affecting heat dissipation. | 8 |
| (b) Draw the drive arrangement of oil pump in engines. | 7 |