

H.P. BOARD OF DEPARTMENTAL EXAMINATION
DEPARTMENTAL EXAMINATION OF IAS/HAS OFFICERS OF
HIMACHAL PRADESH
April-2017.

Paper: 12.

Motor Mechanism and Driving.

Time: 1.30 hours.

Maximum Marks = 50

Note:-

1. Candidate may answer the question in Hindi or English.
2. Attempt all question from Part- A and any five from Part-B.
3. Bare Act is allowed.

PART-A

Q. I. Explain the function of any five in the motor vehicle. (1X5=5)

- ☐ a) Gear
- ☐ b) Crown wheel
- ☐ c) CRDI pump
- ☐ d) Hydraulic clutch
- ☐ e) Tube less tyre
- ☐ f) Propeller shaft
- ☐ g) Front wheel drive
- ☐ h) Radiator

Q.II. Attempt any five questions. (2X5=10)

- a) What is the difference between C.I. & S.I. engine.
- b) Difference in front & rear wheel drive.
- c) Function of rotary pump.
- d) Define ABS in brake system.
- e) Functions of wheel cylinder in brake system.
- f) Function of water separator in Air Tank.

Q.III. Answer any ten questions by selecting the correct choice. (1X10=10)

- 1). Mixing of water in engine oil leads to;
- a) Milkiness of engine oil.
 - b) Engine oil turns thick.
 - c) Engine oil turns white.
 - d) None of above.

- 2). The function of Turbo Charger in an automobile is to;
- Recharge the battery.
 - Convert mechanical energy into electrical energy.
 - To boost supply of air to the engine.
 - Charge the alternator.
- 3). Which one of the following is trade name of cars in India;
- Volvo.
 - Audi.
 - Escort.
 - Skoda.
- 4). What is firing order of 5 cylinder engine;
- 4-2-5-3-1
 - 2-4-1-5-3
 - 1-3-5-2-4
 - None of above.
- 5). The temperature indicator instrument in automobile indicates Temperature of ;
- Engine piston.
 - Engine cylinder.
 - Lubricating oil.
 - Jacket cooling water.
- 6). The calorific value of diesel is;
- 36.5 MJ/Kg.
 - 51.5 MJ/Kg.
 - 45.5 MJ/Kg.
 - 42.5 MJ/Kg.
- 7). Bead wires in tyre are made of;
- Copper.
 - Aluminum.
 - Steel.
 - Zinc.
- 8). Petrol that detonates easily is called;
- High octane petrol.
 - Low octane petrol.
 - Unleaded petrol.
 - Blended fuel.

- 9). The power actually developed inside the engine cylinder is called;
- a) Brake power.
 - b) Frictional power.
 - c) Indicated power.
 - d) None of above.
- 10). During suction stroke what is drawn inside the cylinder of diesel engine;
- a) Air and fuel.
 - b) Only air.
 - c) Only fuel.
 - d) None of above.
- 11). The negative terminal post on top of battery is;
- a) Large than the terminal post.
 - b) Smaller than the terminal post.
 - c) Of the same size.
 - d) None of above.
- 12). Maximum temperature inside the I.C. engine cylinder is;
- a) 500-1000°C
 - b) 1000-1500°C
 - c) 1500-2000°C
 - d) 2000-2500°C

PART-B.

Q.IV. As per provision of the Motor Vehicle Act, define any five of the following:-

- a) Gross vehicle weight.
- b) Articulated vehicle.
- c) Motor cab.
- d) Stage carriage.
- e) Claim by a person who sustains injury.
- f) Permit.
- g) Invalid carriage.

(1X5=5)

Q.V.

- a) What is the difference between stage carriage and contract carriage.
- b) What is temporary permit.

(2.5X2=5)

Q.VI. What is the role of the following authorities:-

- a) State Transport Authority.
- b) Motor Accident Claim Tribunal.

(2.5X2=5)

Q.VII.

(2.5X2=5)

- a) What is the role of Registering and Licensing Authority.
- b) Where and how registration of motor vehicle is made. Explain the special provision for registration of motor vehicles of diplomatic officers or consular officer.

Q.VIII.

(2.5X2=5)

- a) In which cases licensing authority has power to disqualify a person from holding driving license.
- b) How is transfer of ownership of vehicle is made.

Q.IX.

(2.5X2=5)

- a) Explain no fault liability.
- b) What is the duty of driver in case of accident and injury to a person.

Q.X. Draw five symbols of mandatory traffic signs of the first Schedule of Motor Vehicle Act 1988 from the following:-

(1X5=5)

- 1) Compulsory Turn left.
- 2) Guarded level crossing.
- 3) Round about.
- 4) Side road left.
- 5) Right Reverse Bend.
- 6) Right hand curve.

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