

H.P. BOARD OF DEPARTMENTAL EXAMINATION
DEPARTMENTAL EXAMINATION OF IAS/HAS OFFICERS OF
HIMACHAL PRADESH
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DEC

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.No.I. Explain the functions of any five in the Motor vehicle:

(1x5= 5)

- a) Mounting Pin.
- b) Head Gasket
- c) Crown Wheel.
- d) Battery
- e) Axle shaft
- i) Speedometer
- g) Turbo charger
- h) Tube less Tyres.

Q.No.II. Attempt any five questions:

(2x5=10)

- a) Difference in front and rear wheel drive
- b) What is the function of Engine foundation?
- c) What are the functions of a shackle pin?
- d) Explain Blow by
- e) Explain briefly working of engine cooling system.
- f) Function of rotary Pump.
- g) How are the wheel and tyres designated?
- h) Define ABS in brake system.

Q.No.III. Answer any ten questions by selecting the correct choice:

(1x10=10)

(i) The motion of the cam is transferred to valves through:

- (a) Camshaft Pulley.
- (b) Pistons
- (c) Rocker arms.
- d) Valves stems.

(ii) The size of an engine cylinder is referred to in terms of its:

- (a) Diameter and bore.
- (b) Bore and length
- (c) Bore and stroke
- (d) None of above.

(iii) The oil pump is driven by the

- (a) Crankshaft via driven belt.
- (b) Camshaft
- (c) Alternator shaft
- (d) Crankshaft directly.

(iv) The Piston compression rings are made of

- (a) bronze
- (b) aluminium
- (c) Cast iron
- (d) Steel.

(v) Which part of the automobile tyre is subjected to greatest flexing action

- (a) Bend
- (b) Side wall
- (c) Shoulder
- (d) Tread

(vi) In an operating engine, the hottest part of piston is the

- (a) Head
- (b) Ring grooves
- (c) Skirt
- (d) Pin bosses.

(vii) The negative terminal post on top of battery is

- (a) Larger than the terminal post
- (b) Smaller than the terminal post.
- (c) Of the same size
- (d) None of above.

(viii) The power actually developed inside the engine cylinder is called:

- (a) Brake power
- (b) Frictional power
- (c) Indicated power.
- (d) None of above.

(ix) 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.

(x) The brake shoes are curved to conform to the inner diameters of the:

- (a) Pedal.
- (b) Wheel
- (c) Brake drums
- (d) Tyre

(xi) The painting of automobiles is done to:

- (a) Prevent rust from growing on the body of vehicle.
- (b) Improve its external appearance
- (c) Retain the characteristics of steel for long.
- (d) all of these.

(xii) Which is not the common component between a Petrol and Diesel engine:

- (a) Crank shaft
- (b) Connecting rods
- (c) Ignition coil.
- (d) Cam shaft.

PART-B

Q.No.IV As per provision of the Motor vehicle Act, define any five of the following:

(1x5= 5)

- (a) Gross vehicle Weight.
- (b) Articulated vehicle.
- (c) Maxi cab.
- (d) Stage carriage
- (e) Route permit
- (f) Tourist vehicle
- (g) Transport vehicle
- (h) Contract carriage.

Q.No.V. What is role of any two authorities:

(2.5x2= 5)

- (a) State Transport Authority.
- (b) Motor Accident Claims Tribunal.
- (c) Registering & Licensing Authority.

- Q.No.VI.** (a) What is the difference between Stage Carriage and Contract carriage: (2.5x2= 5)
(b) What is temporary permit.
- Q.No.VII** (a) Explain No fault liability. (2.5x2= 5)
(b) What is the duty of driver in case of accident and injury to a person.
- Q.No.VIII** Explain procedure laid down in Motor Vehicle Act for obtaining Driving license of Light Motor Vehicle and Heavy Motor Vehicle and validity thereof. (5)
- Q.No.IX.** What are the essential documents/tools required to be kept Always with vehicle during operation. (5)
- Q.No.X.** Why Insurance of vehicle is necessary and what is effect of non-Insurance of Motor vehicle? (5)

Which of the Motor vehicles can be exempted from Insurance and by whom?