

# 17618

**21819**

**3 Hours / 100 Marks**

Seat No.

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- Instructions* –
- (1) All Questions are *Compulsory*.
  - (2) Answer each next main Question on a new page.
  - (3) Illustrate your answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Assume suitable data, if necessary.
  - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

**Marks**

1. a) Attempt any THREE of the following: 12
- (i) List any four equipments used for denting and painting along with their purpose.
  - (ii) State safety precautions to be taken while using:
    - 1) Torque wrench
    - 2) Arbor press
    - 3) Valve grinder
    - 4) Cylinder boring machine
  - (iii) Write weekly maintenance schedule for light motor vehicle.
  - (iv) What is 'Engine Tune-up'? State its necessity.

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- b) **Attempt any ONE Of the following:** **6**
- (i) A dealer of commercial vehicles require to maintain 100 vehicles per month. Draw a layout of workshop required to carry maintenance and sell of these vehicles. Also state facilities and major equipment's required.
  - (ii) State and describe general servicing procedure for major assemblies and components.
2. **Attempt any FOUR of the following:** **16**
- a) State the importance of:
    - (i) Work order
    - (ii) Activity file
  - b) Compare preventive maintenance with Breakdown maintenance.
  - c) What is meant by phasing and calibration of fuel injection pump?
  - d) Write the procedure for compression testing of multi-cylinder petrol engine.
  - e) For the fault 'Battery does not charge while engine is running', give probable causes and suggest suitable remedies.
  - f) Describe how fan belt tension is checked and adjusted.
3. **Attempt any FOUR of the following:** **16**
- a) What are the reasons due to which cylinder head is inspected?
  - b) What are the types of cylinder bore wear? How cylinder bore wear is checked?
  - c) Describe how servicing of CRDI injector is performed.
  - d) Write the causes for 'Excessive engine oil consumption'.
  - e) Describe the procedure for testing of thermostat.

- 4. a) Attempt any THREE of the following:** **12**
- (i) Give procedure for cleaning and testing of MPFI injector.
  - (ii) Write probable causes and suitable remedies for symptom 'Engine overheating'.
  - (iii) Describe how will you check engine oil level and condition of oil.
  - (iv) Give causes and remedies for symptom 'Clutch Drag'.
- b) Attempt any ONE of the following:** **6**
- (i) Describe the procedure for checking and servicing of piston and piston rings.
  - (ii) Describe the procedure of frame repairs.
- 5. Attempt any FOUR of the following:** **16**
- a) Describe how clutch free play is adjusted.
  - b) How backlash in differential gears is checked and adjusted?
  - c) Write causes and remedies for a symptom 'Shaky propeller shaft'.
  - d) How wear of friction lining of clutch plate is checked ? Write procedure to replace friction lining.
  - e) How will you check run out of gear box main-shaft.
  - f) It is found that brake drum is scored and rusted , how it can be reconditioned.

17618

[ 4 ]

**Marks**

**6. Attempt any FOUR of the following:**

**16**

- a) Write the procedure for adjustment of mechanical type service brakes.
  - b) It is observed that “steering is hard”, give probable causes and suitable remedies for them.
  - c) How hydraulic brakes are bled manually.
  - d) Write “Hot Retreading” procedure for tyres.
  - e) Describe procedure of “Wheel Alignment” using wheel alignment gauges.
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