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16172

3 Hours / 100 Marks

Seat No.

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- Instructions* – (1) All Questions are *Compulsory*.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.
(5) 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) Describe the procedure for removal of a cylinder head of multicylinder engine.
 - (ii) Write any two uses of dial indicator guage and cylinder bore gauge.
 - (iii) What precautions should be taken while using pneumatic tools?
 - (iv) State four causes of break down maintenance.
- b) **Attempt any ONE of the following:** **6**
- (i) Draw a layout required for dealers of two wheeler. List important general tools, special tools and equipments required for the same.
 - (ii) Describe the maintenance schedule for a car on day basis or Kilometer travelled basis.

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- 2. Attempt any FOUR of the following: 16**
- a) What records are necessary in Auto garages? How do they benefit management in taking decision.
 - b) Write on preventive maintenance verses break down maintenance. (any four points)
 - c) Mention the affects of crank shaft wear and bearing failure on engine performance.
 - d) What are the causes and remedies when engine does not start?
 - e) Mention any four causes and remedies when engine emits whitish blue smoke.
 - f) State the purpose of a manifold absolute pressure (MAP) sensor used in a engine.
- 3. Attempt any FOUR of the following: 16**
- a) Write stepwise procedure to carry out leak-off test of injector.
 - b) Write the procedure for reboring of cylinder.
 - c) How will you check and adjust fan belt tension? Explain.
 - d) Describe the procedure for checking the compression of the engine.
 - e) What are the reasons of high oil consumption? (any four points)
- 4. a) Attempt any THREE of the following: 12**
- (i) What are the troubles that occur in the cooling system and give its remedies? (any four)
 - (ii) Mention the causes of low oil pressure in engine.
 - (iii) Write the procedure for find out the condition of O₂ sensor by a voltmeter.
 - (iv) What is clutch grabbing and chattering? Write it's causes.
- b) Attempt any ONE of the following: 6**
- (i) Explain. How will you carry out phasing procedure of F.I.P. on test bench.
 - (ii) Write procedure for dynamic wheel balancing.

5. Attempt any FOUR of the following: 16

- a) Write possible causes and remedies of clutch noises.
- b) Write major causes for slipping out of gear.
- c) Write the procedure for checking crown wheel and pinion back lash.
- d) Write possible causes when vehicle does not move when put in gear.
- e) Describe clutch plate reconditioning procedure.
- f) With a neat sketch explain pressure bleeding procedure for hydraulic brake system.

6. Attempt any FOUR of the following: 16

- a) Explain 'X' or diagonal method for chassis frame alignment.
 - b) Write cold retreading process for tyre.
 - c) Describe painting process after the surface is well prepared for painting.
 - d) Write procedure for checking and replacement of loose rivets.
 - e) Explain the following terms with regard to defects found in painting.
 - (i) Cracking
 - (ii) Run and sags
 - (iii) Blistering
 - (iv) Fish eye
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