

17618

15116

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) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) 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) Write the function of following equipments.
 - (1) Wheel balancer
 - (2) Valve grinder
 - (3) Engine analyser
 - (4) Cylinder boring
 - (ii) State general safety precautions and procedure to be followed in auto workshop.

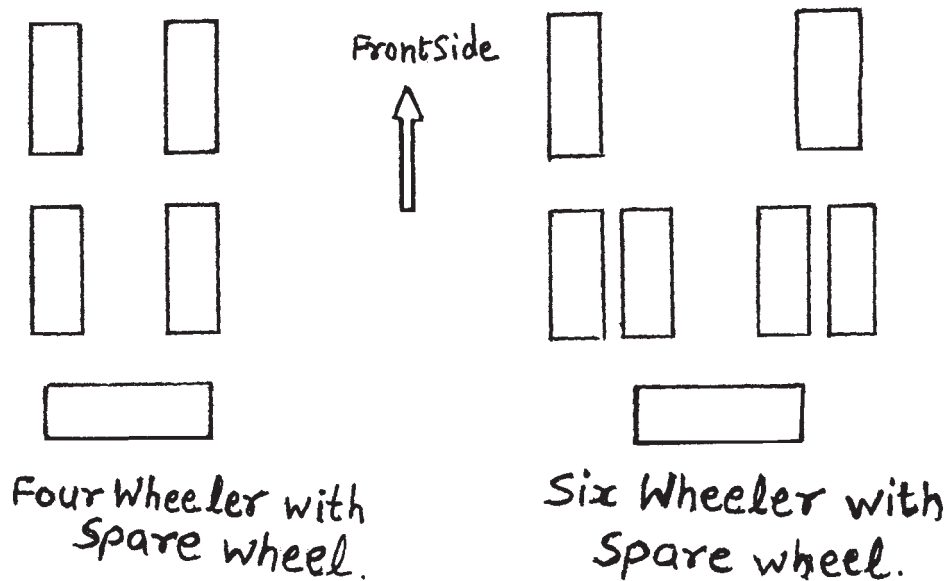
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- (iii) State the general maintenance schedule for two wheeler on the kilometers travelled basis.
- (iv) Describe the troubles, causes and remedies of cooling system.
- b) **Attempt any ONE of the following:** **6**
- (i) Draw the layout required for garage servicing different make of 20 passenger cars per day. List important generalised and specialized equipments required for the same.
- (ii) Describe preventive maintenance procedure for heavy vehicles.
- 2. Attempt any FOUR of the following:** **16**
- a) List the documents which are to be maintained in automobile workshop and show the format of history sheet.
- b) State the necessity of maintenance of Automobiles.
- c) State the various tests conducted, when engine power decreases. Describe any one test with neat sketch.
- d) Predict what will happen when water level is below minimum level mark, in radiator. State the causes and remedial action to be taken.
- e) Describe the diagnosis for excessive oil consumption.
- f) State the sequential steps for FIP phasing.
- 3. Attempt any FOUR of the following:** **16**
- a) Write the stepwise procedure to be carried out, the vacuum test of cylinder with suitable sketch.
- b) Write the steps taken during servicing and checking piston.
- c) Describe inspection procedure for cylinder liner.
- d) What is vapour lock in petrol engine? How vapour lock can be removed?
- e) State the sequential steps to align connecting rod.

- 4. a) Attempt any THREE of the following:** **12**
- (i) State the causes and remedies of low oil pressure in an engine.
 - (ii) What is engine tune up? Write the procedure for engine tune up with the help of block diagram.
 - (iii) State the procedure for cleaning and tuning of carburetor.
 - (iv) What sequential steps are necessary for adjustment of clutch?
- b) Attempt any ONE of the following:** **6**
- (i) What is calibration of FIP? How calibration is carried out in FIP test bench?
 - (ii) Describe bleeding of hydraulic brake of four wheeler with neat sketch.
- 5. Attempt any FOUR of the following:** **16**
- a) Describe the procedure of checking run out of clutch plate with sketch.
 - b) Describe common causes of troubles in the propeller shaft and rear axle.
 - c) Write four major causes and remedies of humming noise from differential.
 - d) What is necessity of bearing preload? Write its procedure.
 - e) Describe the troubles encountered in gear box.
 - f) Describe the procedure of tyre retreading.

6. Attempt any FOUR of the following:

- State the probable causes and remedies of air brake system.
- Describe repainting procedure.
- Describe causes of troubles and remedial action for steering system.
- Describe repair procedure for door and lock.
- Suggest the tyre rotation of wheel arrangement shown in Figure No. 1 and draw the same.

Fig. No. 1