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**Time : 1½ Hours****AUTOMOBILE****Subject Code****(NSQF)**

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**Total No. of Questions : 3****(Printed Pages : 6)****Maximum Marks : 30**

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*INSTRUCTIONS :* (i) Answer each question on a fresh page.

(ii) Write the question number and subquestion number clearly.

(iii) All questions are compulsory.

(iv) Figures to the right indicate full marks.

1. (A) Choose and write the *correct* alternatives from the options given below : 3

(1) Relative change of viscosity with temperature is called .....

- (a) viscosity index
- (b) chemical stability
- (c) physical stability
- (d) pour point

(2) A flywheel of an engine can be properly removed by using .....

- (a) universal clutch holding tool
- (b) flywheel puller
- (c) torque wrench
- (d) tappet wrench

- (3) In ..... chassis engine is fitted outside the driver's cabin.
- (a) bus chassis
  - (b) semi-forward
  - (c) full forward
  - (d) engine at centre
- (4) Air filter is cleaned by ..... .
- (a) chemical
  - (b) air
  - (c) oil
  - (d) water
- (5) The function of ..... is to convert low voltage into high voltage in ignition system.
- (a) spark plug
  - (b) current regulator
  - (c) cut out relay
  - (d) ignition coil
- (6) Coolant should be changed by loosening drain plug given on the ..... .
- (a) radiator
  - (b) reservoir tank
  - (c) thermostat valve
  - (d) oil sump

- (B) Answer the following questions in *one* sentence : 3
- (1) What does the minimum and maximum marks on the dipstick indicate ?
  - (2) List any *two* assistance provided by customer service.
  - (3) Define clearance volume.
- (C) Answer the following questions in *two* sentences : 4
- (1) Explain Bench vice.
  - (2) State any *two* functions of front axle.
2. (A) Choose and write the *correct* alternatives from the options given below : 3
- (1) The total piston displacement is also known as .....
    - (a) clearance volume
    - (b) swept volume
    - (c) compression ratio
    - (d) stroke
  - (2) A grease gun is a common workshop tool used for .....
    - (a) cooling
    - (b) lubrication
    - (c) painting
    - (d) washing

- (3) In ..... system the fuel tank is mounted at the highest position from where fuel drops into the carburetor float chamber.
- (a) gravity system
  - (b) pressure system
  - (c) vacuum system
  - (d) pump system
- (4) Oil level in the engine is checked by .....
- (a) oil filler cap
  - (b) measuring cup
  - (c) hydrometer
  - (d) dipstick
- (5) Rolling resistance depends upon .....
- (a) direction of wind
  - (b) slope of the road
  - (c) material of the road surface
  - (d) driving habits
- (6) The air filter is changed after every .....
- (a) 50,000 kms
  - (b) 10,000 kms
  - (c) 1,00,000 kms
  - (d) 5,000 kms

- (B) Answer the following questions in *one* sentence : 3
- (1) Write the full form of IHP related to engine.
  - (2) Name the special tool which is used to apply specific torque for nut or bolt.
  - (3) State any *two* aspects of customer service.
- (C) Answer the following questions in *two* sentences : 4
- (1) What precautions has to be taken during washing ? (any *two*)
  - (2) Explain the following innovations made in automobile :
    - (a) Sensitive air bag system
    - (b) Tyre pressure monitoring system.
3. (A) Answer the following questions in *one* sentence : 3
- (1) Why separators are placed between positive and negative plates in the battery ?
  - (2) Name any *two* types of universal joint.
  - (3) Write any *two* points on how clogged fuel filter affects the engine.
- (B) Answer the following questions in *two* sentences : 4
- (1) Classify the engine according to the following :
    - (a) Arrangement of cylinders
    - (b) Type of ignition
  - (2) Define the terms “Sprung weight” and “Dipping” related with suspension system.

(C) Draw the given image of final drive and label (A) and (B).

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