

FIRST SEMESTER EXAMINATION 2024-25

MECHANICAL MAINTENANCE

PAPER-2

STD : XII

DATE : 26/10/2024

ROLL No. : _____

MARKS: 40

TIME : 2 ½ hrs

Instructions:

- (1) All questions are compulsory.
- (2) Figures to the right indicate full marks.
- (3) Illustrate your answers with neat sketches wherever necessary.
- (4) Use of drawing instruments, mathematical tables etc. is permitted.
- (5) Assume suitable data, if necessary.

Q.1 Answer the following (any four)

(4)

Fill in the blanks with appropriate words from those given below.

- (a) _____ is used in petrol engine to vaporize and to produce homogeneous air fuel mixture.

(carburetor, fuel injector, nozzle)

- (b) _____ is used to obstruct the foreign matter entering in to the pump
(strainer, foot valve, impeller)

State True or False and correct it if False:

- (a) Pump is a mechanical device to increase the pressure energy of a liquid.....
(b) Heat engine in which the combustion of fuel takes place in the engine cylinder is known as external combustion engine.....

Match the pairs:

'A'

'B'

- | | |
|-------------------|--------------------|
| (a) Petrol engine | 1. Fuel injector |
| (b) Diesel engine | 2. Spark plug |
| | 3. cooling jackets |

Q.2 Answer the following in about 8 to 10 lines each (any two)

(6)

- (a) Give the classification of an I.C Engine.
- (b) What are advantages of doing maintenance.
- (c) Define clearance and swept volume with neat sketch.

Q.3 Answer the following in about 8 to 10 lines each (any two)

(6)

- (a) Explain the working principles of centrifugal pump with neat sketch
- (b) Enlist the principle parts of I.C Engine and Explain any four of them.
- (c) Give classification of Air compressor.

Q.4 Answer the following (any three)

(6)

- (a) Explain any four pipe fitting with neat sketch.
- (b) What is importance of Flywheel in I.C Engine.
- (c) Give application of compressed air.
- (d) Draw neat sketch of different types of impellers.

Q.5 Answer the following in about 5 to 6 lines each (any three)

(6)

- (a) Describe the working of Air compressor with the help of neat sketch.
- (b) Why does knocking occur in an IC engine, Explain with neat sketch?
- (c) What are the functions of Air Vessel?
- (d) Give classification of centrifugal pump.

Q.6 Answer the following (any two)

(12)

- (a) Differentiate between SI and CI engine.
- (b) Differentiate between centrifugal pump and reciprocating pump.
- (c) Explain simple carburetor with neat sketch.