

FIRST SEMESTER EXAMINATION 2023 -24
MECHANICAL MAINTENANCE

PAPER-1

STD : XII

DATE : 04/10/2023

ROLL No. : ____

MARKS: 40

TIME : 2 ½

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

1. Three jaw chuck is called as _____.
(independent chuck, standard chuck, universal chuck)
2. Truing is the term related to _____.
(cutter, drill, grinding wheel)

Match the pairs

'A'

'B'

- | | |
|-------------|----------------------------------|
| 1. Drilling | (a) creating internal threads |
| 2. Tapping | (b) Adjustable machine tool |
| | (c) Producing a cylindrical hole |

State whether True or False and correct it if False

1. Die is used to cut internal threads.
2. While engaging back gears lock pin should be connected.

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

(6)

- (a) Explain the terms:-grit, grade, structure with respect to grinding wheel
- (b) State the function of good cutting fluids .
- (c) Which factors should be considered while selecting the grinding wheel?

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

(6)

- (a) What are the operation you can perform on drilling machine ?
Explain any two with neat sketch.
- (b) What are the different types of lathe operation.
Explain any two of them with neat sketch.
- (c) Explain the use of fuse in electrical circuit with neat sketch.

Q.4 Answer the following (any three)

(6)

- (a) What is lathe bed? Mention the type of beds with neat sketch.
- (b) What do you mean by abrasives? What are the different types of abrasives?
- (c) Explain centreless grinding with neat sketch.
- (d) Explain the advantages of doing preventive maintenance.

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

(6)

- (a) What are different shapes of grinding. Draw a neat sketch of any 2.
- (b) Write short notes on 'Four Jaw Chuck' with neat sketch.
- (c) Draw a neat sketch of any two lathe centres
- (d) Explain with neat sketch, working principle of lathe?

Q.6 Answer the following (any two)

(12)

- (a) Explain radial drilling machine with the help of a neat sketch
- (b) What are the different types of taper turning methods performed on the lathe machine?
Explain any one of them with neat sketch.
- (c) Draw a neat sketch of slotter machine and explain the parts.