FIRST SEMESTER EXAMINATION 2025 -26

MECHANICAL MAINTENANCE

PAPER-I

STD : XII MARKS: 40

DATE : 08/10/2025 ROLL No. : _ 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.

Answer the following (Any Four) **(4)**

1) Fill in the blanks with appropriate words from those given below

(a) The _____ is fastened to the saddle and hung over the front of the bed.
(saddle, apron, cross slide)

b) _____ drilling machine is a heavy duty, precision type machine.
(Gang, Automatic, Radial)

State 'True' or 'False' and correct it, if false.

(c) Glazing is the term related to cutter.

(d) The sleeve fits in the spindle hole and holds the smaller taper sized drill shank.

Match the Pairs:

"A"	"B"
(e) Steady Rest	(i) It is attached to the saddle.
(f) Follower Rest	(ii) Single point cutting tool.
	(iii) To support the free end of a long work piece

2) Answer the following in about 8 to 10 lines each (Any Two) **(6)**

(a) List the required properties of a cutting fluid.

(b) Drilling is always followed by reaming. Why?

(c) What do you mean by glazing and loading of a grinding wheel.

3) **Answer the following in about 8 to 10 lines each (Any Two)** (6)

(a) List the function of cutting fluids.

(b) What are the various types of drill?

(c) Sketch the different types of grinding wheel.

4) **Answer the following (Any Three)** (6)

(a) Enlist different types of lathe operations performed on lathe machine. Explain any two with neat sketch.

(b) Write a short note on gang drilling machine.

(c) What do you mean by grain, grade and structure of grinding wheels?

(d) What are the functions of preventive maintenance?

5) **Answer the following in about 5 to 6 lines each (Any Three)** (6)

(a) State the precaution to be taken while working on lathe machine.

(b) Enlist different operations performed on drilling machine. Explain any two with neat sketch.

(c) Write a short note on tool and cutter grinder with neat sketch.

(d) State the advantages of preventive maintenance.

6) **Answer the following (Any Two)** (12)

(a) Explain taper turning operation by swivelling the compound rest with neat sketch.

(b) Explain radial drilling machine with neat sketch.

(c) Explain Centreless grinding machine with neat sketch.