

Total No. of Questions : 8]

SEAT No. :

P2320

[Total No. of Pages : 2

[5870] - 1025

T.E. (Mechanical /Automobile)

MACHINING SCIENCE AND TECHNOLOGY

(2019 Pattern) (Semester - I) (302045 - B) (Elective - I)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates :

- 1) All questions are compulsory i.e. Solve Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.

Q1) a) Demonstrate the lapping process with neat sketch. [8]

b) Classify in details different grinding machines with sketches? [9]

OR

Q2) a) Demonstrate the honing process with neat sketch. [8]

b) Categorized the various abrasives and types of bonds. [9]

Q3) a) Analyze the concept of degrees of freedom with 3-2-1 principle of location with sketch. [9]

b) Selection procedure for the Box type of Jig, explain in detail with sketch. [9]

OR

Q4) a) Categorized the various elements of Jigs and Fixtures with sketches. [9]

b) Analyze the design considerations in fixtures. [9]

Q5) a) Analyze the various methods of process planning. [8]

b) Materials selection process and evaluation methods of materials, explain in detail. [9]

P.T.O.

OR

**Q6) a)** Process selection factors and Process selection methods, explain in details. [8]

b) Factors involved in Production equipment selection and various documents required in the Process planning, explain in detail. [9]

**Q7) a)** Formulate the importance of word address format in CNC programming. [9]

b) Generate CNC part programming for G-75 Grooving cycle (Canned cycle) on Lathe Machine with neat sketch. [9]

OR

**Q8) a)** Explain the various types of G-Codes and M-Codes used in CNC part programming. [9]

b) Explain with example, the various steps in developing CNC part program with sketch. [9]

