

Seat
No.

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मठ - 012

Manufacturing Engineering - II (1130)

P. Pages : 2

Time : Three Hours

Max. Marks : 100

Instructions to Candidates :

1. Do not write anything on question paper except Seat No.
2. Answersheet should be written with blue ink only. Graph or diagram should be drawn with the same pen being used for writing paper or black HB pencil.
3. Students should note, no supplement will be provided.
4. All questions are compulsory.
5. Figures to the right indicate full marks.

UNIT - I

1. Solve **any two**.

- a) What are the desirable properties of a cutting tool material. List any four cutting tool material. 10
- b) How do you define tool life ? Explain the parameters that control the tool life of a single point cutting tool. 10
- c) Discuss the various forces encountered in metal cutting. 10

UNIT - II

2. Solve **any two**.

- a) What is six point location principle ? Explain it with the help of suitable sketches. 10
- b) Enlist the functions served by a fixture. Give at least four principles to be considered in the design of lathe fixtures. 10
- c) Write short notes on : 10
 - i) Diamond pin used for radial location.
 - ii) C-clamp.

UNIT - III

3. Solve **any two**.

- a) What is clearance ? How it is applied ? Explain the reasons behind the application of clearance. 10
- b) What are the various design consideration for drawing die. 10
- c) Write short notes on : 10
- i) Pilots. ii) Bending terminology.

UNIT - IV

4. Solve **any two**.

- a) Explain briefly the following terms with reference to CNC programming. 10
- i) co-ordinate function ii) feed function
- iii) Speed function iv) Tool function
- v) Preparatory function.
- b) What is APT programming ? Explain in brief the various statements used in APT program. 10
- c) Explain with a block diagram, the principle of computer numerical control for machine tools. Mention also the application for which they are used. 10

UNIT - V

5. Solve **any two**.

- a) Explain the principle of EDM with a neat sketch give advantages, disadvantages and application of EDM process. 10
- b) What are the functions served by the electrolyte in ECM ? Describe the factors that should be considered in selecting an electrolyte in ECM. List few electrolytes used in ECM. 10
- c) Write short notes on : 10
- i) AJM ii) EBM
