

Total No. of Questions : 10]

SEAT No. :

P4269

[Total No. of Pages : 3

[5353]-520

T.E. (Mechanical) (Semester - II)

MANUFACTURING PROCESS - II

(2015 Pattern)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10.
- 2) Figures to the right indicate full marks.
- 3) Use of electronic pocket calculator is allowed.
- 4) Assume suitable data, if necessary.

- Q1)** a) Derive an expression for Shear plane angle and shear strain. [6]
- b) Mention various tool holders used in drilling machine. Explain floating tool holder with a neat sketch. [6]

OR

- Q2)** a) Taylor's tool life equation for machining C-40 steel $VT^n = C$. Feed is 0.2mm/rev. [6]

V(m/min)	25	35
T (min)	90	20

Determine 1. n and c 2. Recommend cutting speed for 60 minutes tool life.

- b) Explain following milling operations with a neat sketch. [6]
- i) Straddle Milling
 - ii) Gang Milling
- Q3)** a) Determine machining time for rough grinding of 40mm diameter work piece having length 150mm Total stock is 0.20mm. grinding wheel traverse feed is 40mm/rev, depth of cut is 0.020mm, Cutting speed is 15m/min, $K=1.2$ [4]
- b) Explain lapping process with a neat sketch. [4]

OR

P.T.O.

Q4) a) Explain following grinding wheel nomenclature. [4]

S-D-54-L-4-R-12

b) Explain Honing process with a neat sketch. [4]

Q5) a) Explain AJM process with its advantages, limitations and applications. [8]

b) Explain variable process parameters in USM process with their effect on MRR. [8]

OR

Q6) a) Explain with a neat sketch ECM process. [8]

b) Explain with a neat sketch LBM process. Also comment on applications and limitations. [8]

Q7) a) Differentiate between NC and CNC machines. [5]

b) Explain following codes : [6]

G02, M02, G84, M06

c) What is Word address Format? Explain with an example. [5]

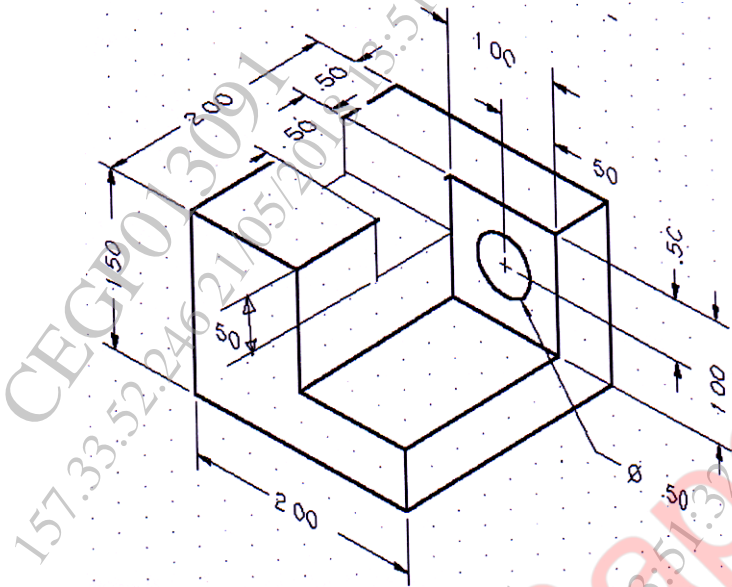
OR

Q8) a) Differentiate between open and closed loop system. [6]

b) Explain DNC with block diagram. [6]

c) Explain with a neat sketch Automatic tool Changer. [4]

- Q9)** a) Explain with a neat sketch diamond pin locator [4]
 b) Explain 3-2-1 principle for location. [6]
 c) Design and draw a drilling jig to produce 50mm diameter hole in the given component. [8]



OR

- Q10)** a) What is modular fixturing? Explain with advantages [4]
 b) List various types of clamps and explain any one with a neat sketch. [6]
 c) Design and draw a milling fixture to create a slot of $50 \times 50 \times 100$ mm for the job given in Q.9. [8]

