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 gridding 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]**

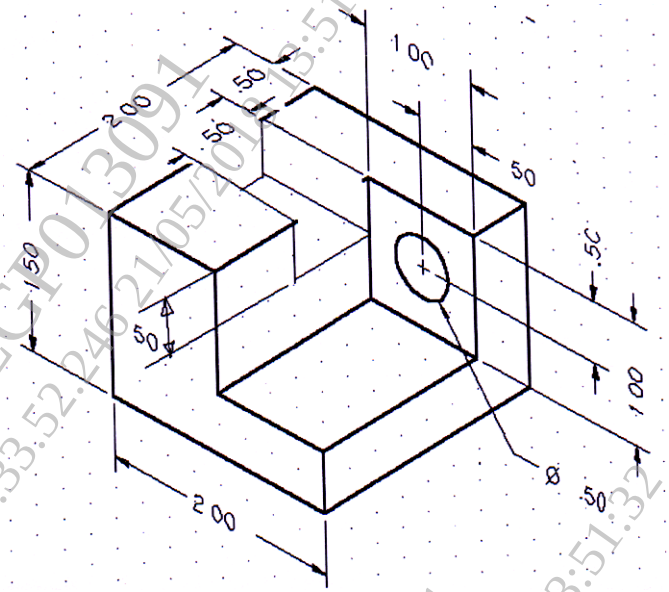
b) Explain DNC with block diagram. **[6]**

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 × 50 × 100mm for the job given in Q.9. **[8]**