Total No. of Questions : 8]

SEAT No. :

P605

[Total No. of Pages : 2

[5869]-220

S.E. (Automobile & Mechanical /Automation & Robotics)

MANUFACTURING PROCESSES

(2019 Pattern) (Semester - IV) (202050)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.No.1 or Q.No.2, Q.No.3 or Q.No.4, Q.No.5 or Q.No.6, Q.No.7 or Q.No.8.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Use of electronic pocket calculator is allowed.***
4) ***Figures to the right indicate full marks.***
5) ***Assume suitable data, if necessary.***

Q1) a) Explain any three sheet metal working operations with their working. **[6]**

b) A cup of 60 mm diameter 60 mm and height is to be drawn from 1 mm thick cold rolled steel with tensile strength 410 MPa. The corner radius is 2 mm. Calculate the following **[12]**

i) Size of blank ii) Percentage reduction

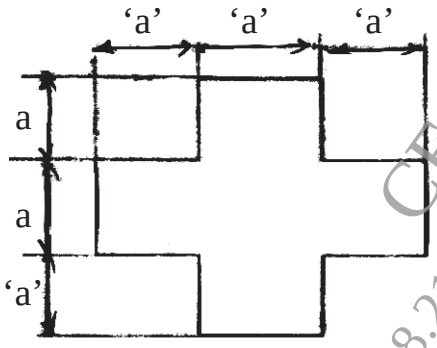
iii) Nmber of draws iv) Punch and die radius

v) Die clearance vi) Drawing pressure

OR

Q2) a) Explain combination die with schematic sketch. **[6]**

b) Design a strip layout for manufacturing a steel component as shown in figure. The thickness of component is 1.2 mm & ultimate shear strengh is 220 MPa. The dimension 'a' shown in figure is 20 mm. (all sides are 20 mm). **[12]**



P.T.O.

Q3) a) Explain TIG welding with neat sketch. **[6]**

b) Explain any 3 Welding defects along with remedies. **[6]**

c) Explain Welding Inspection briefly. **[5]**

OR

Q4) a) Discriminate between Brazing and Soldering. **[6]**

b) Explain Carbon Arc Welding neat sketch. **[6]**

c) Discriminate between TIG & MIG Welding. **[5]**

Q5) a) Explain Compression molding polymer processing with sketch. **[6]**

b) Explain Pressure forming polymer processing with sketch. **[6]**

c) Describe Ram type Injection molding with sketch. **[6]**

OR

Q6) a) Explain Vacuum forming in Plastics. **[6]**

b) Compare Thermoplastics and Thermosetting Plastics. **[6]**

c) Discuss Blow molding process with neat sketch and give any two applications of it. **[6]**

Q7) a) Explain Hand lay-up composite manufacturing process. **[6]**

b) Explain Filament winding Composite manufacturing process. **[6]**

c) Discriminate between Ceramic matrix & Metal matrix composite. **[5]**

OR

Q8) a) Compare Spray lay-up & Hand lay-up composite manufacturing process. **[6]**

b) Explain vacuum bag moldig composite manufacturing process. **[6]**

c) Compare Ceramic matrix & Polymer matrix composite. **[5]**

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