

Time: Two (02) Hours

Total 06 Questions
Answer Four (04) questions

1.
 - a. What is EDM?
 - b. Explain the process of EDM.
 - c. What are the possible materials for the workpiece? Give reasons.
 - d. What are the possible materials for the tool? Give reasons.
 - e. Name five critical process parameters for EDM.
 - f. What are the limitations of EDM?

(100 marks)

2.
 - a. Describe the extrusion process.
 - b. Name the three main types of extrusion and describe them briefly.
 - c. What are the main types of defects that you can see in the extrusion process?
 - d. Consider the extruded part shown in Fig. Q2.

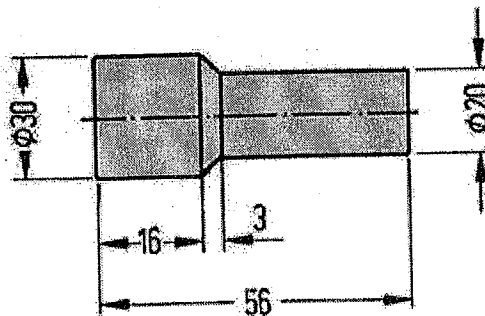


Fig. Q2

- i. What is the volume of the finished item?
- ii. What is the most suitable method of extrusion for this part?
- iii. How many stages of extrusion needed?
- iv. What is the most suitable initial stock?

(100 marks)

3.

- a. What are the applications of the forging process?
- b. How is the forging process differing from the extrusion process?
- c. What factor determines the number of stages in forging?
- d. Compare the hot forging process with cold forging process. Give examples for the two cases.
- e. What are the defects in upset forging?
- f. Fig. Q3 shows a part for forging. Describe the calculation steps to determine the blank size, force etc.

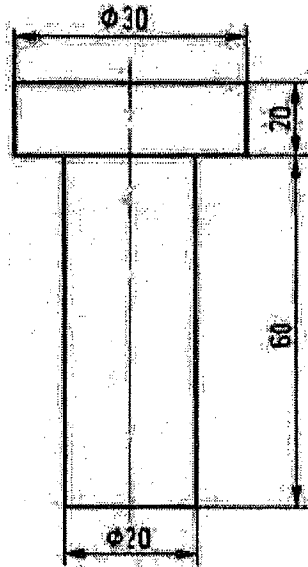


Fig Q3

(100 marks)

4.

- a. What is wire drawing?
- b. What are the applications of wire drawing?
- c. What are the materials that can be used for wire drawing? What are the common material properties of these materials?
- d. What determines the number of stages?
- e. Explain why the drawing speed is important.
- f. What is tandem drawing?

(100 marks)

5. A Group Technology Cell has five machines. From – To data for machines are as follows.

		From				
To	Machines	1	2	3	4	5
	1	0	10	80	0	0
	2	0	0	0	85	0
	3	0	0	0	0	0
	4	70	0	20	0	0
	5	0	75	0	20	0

- Determine the sequence of machines according to/from ratio.
- Construct a flow diagram.
- Where do the parts enter the cell and exit the cell? How many parts in each place enter and exit?
- Management decided to add an additional machine to increase the output of the cell. What type of machine to be used? Give reasons to your answer.

(100 marks)

6.

- What are the basic components of FMS?
- What are the flexibilities can you achieve from a FMS?
- What are the different types of layouts possible in FMS?
- What are the factors affecting the layout of the FMS?
- What are the goals of JIT?
- What is Kanban?

(100 marks)

