PRESIDENCY UNIVERSITY, BENGALURU
SCHOOL OF ENGINEERING

Max Marks: 30 | Max Time: 55 Mins | Weightage: 15 % | **Set A**

TEST – 3

II Semester 2016-2017 | ME A 206 Production Techniques-1 | 19th April 2017

Instructions: (i) Answer all Questions.
(ii) Draw neat sketches wherever required.

Part A (2Q x 5M= 10 Marks)

1. What are the functions of Jigs and Fixtures?
2. Discuss the general guidelines for Design for manufacturing (DFM).

Part B (2Q x 6M= 12 Marks)

3. Considering any machine, explain the alignment test concept for parallelism and perpendicularity with a neat sketch.
4. Describe any two measuring instrument used for machine tool testing.

Part C (1Q x 8M= 8 Marks)

5. Why it is necessary for manufacturing engineers to have a precise knowledge of economics of manufacturing? Explain.

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TEST – 2

II Semester 2016-2017 | ME A 206 Production Techniques-1 | 22nd March 2017

Instructions: (i) Answer all Questions.
(ii) Figures are not to scale.

Part A (2Q x 5M= 10 Marks)

1. Describe drawing process with a neat sketch.
2. Explain forward and backward extrusion process with a neat sketch.

Part B (2Q x 6M= 12 Marks)

3. In a four-high rolling mill, why do we use small diameter rolls as working rolls and larger diameter rolls as back-up rolls?
4. A component shown in fig.1 below is to be machined on a CNC machine along the face ABCD. Write the positional commands, if (a) Absolute system is used & (b) Incremental system is used. Assume, path of movement of tool as O-A-B-C-D-A-O (O-origin) and '**O**' as reference point.

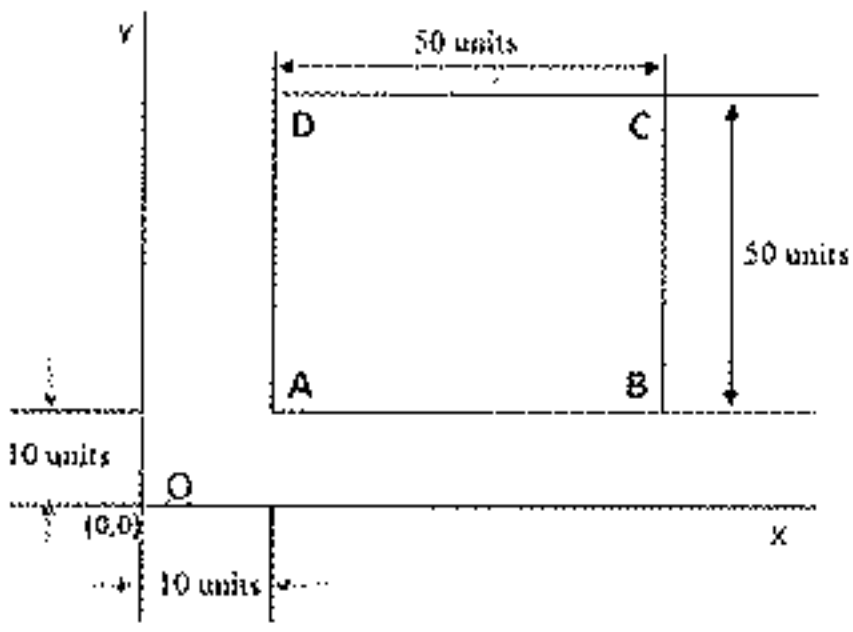

Fig. 1 for Question no.4

Part C (1Q x 8M= 8 Marks)

5. It is required to manufacture the component as shown in fig.2. Compare the consequences of manufacturing the component by extrusion and machining.

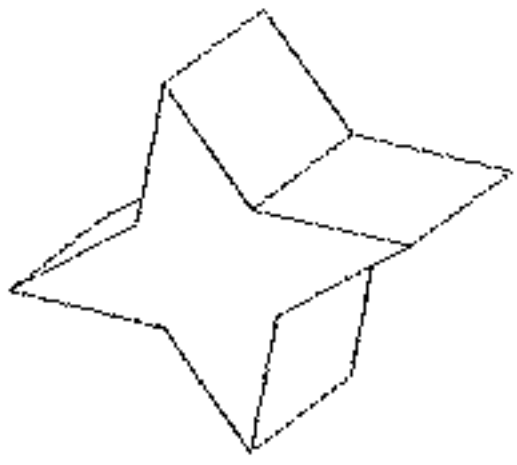

Fig.2 for Question no. 5

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Max Marks: 30 | Max Time: 55 mins. | Weightage: 15 % | **Set A**

TEST 1

II Semester 2016-2017 | ME A 206 Production Techniques -I | 22nd February 2017

Note: (i) Answer all the Questions.
(ii) All the dimensions are in mm and figures are not to scale.

Part A (2Q x 5M= 10 Marks)

1. Explain with a neat sketch, the working principle of Ultrasonic machining process.
2. Discuss in brief, the different types of chip formation.

Part B (2Q x 6M= 12 Marks)

3. Calculate the time required to drill a 25 mm diameter hole at the centre in a 60 mm thick plate. Assuming a cutting speed of 14 m/min and feed of 0.3mm/rev. Also list the process sequence used to make a job shown in Fig.(a)

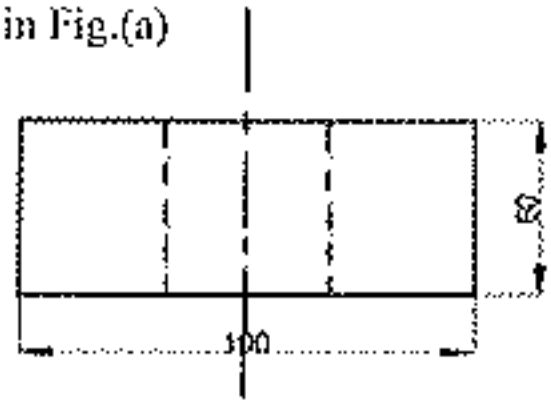

Fig. (a)

4. Identify: (a) Back rake angle (b) Side rake angle (c) Shank (d) Face (e) Nose radius (f) Flank from a single-point cutting tool as shown in Fig.(b)

Fig. (b)

Part C (1Q x 8M = 8 Marks)

5. List the various operation involved in manufacturing the component as shown in fig.(c) from a raw material of size 155 mm length and dia. 100 mm.

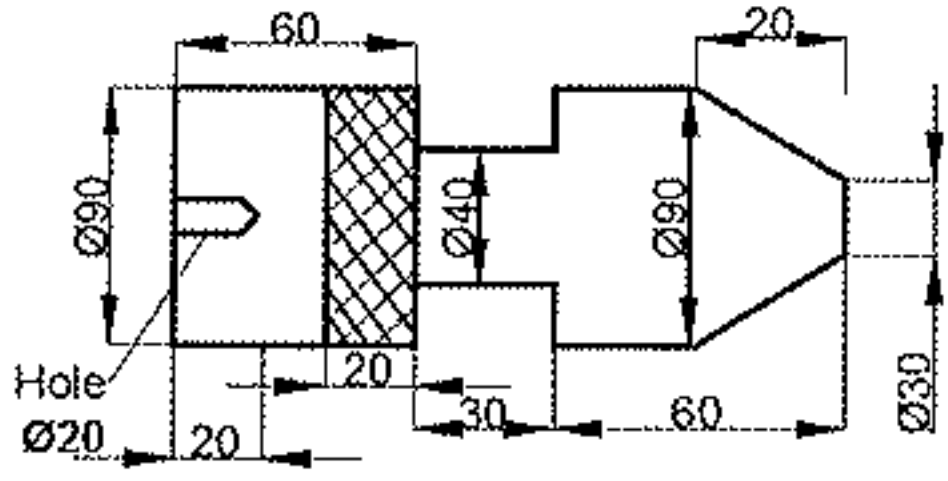

Fig. (c)