



PRESIDENCY UNIVERSITY, BENGALURU  
SCHOOL OF ENGINEERING

Max Marks: 30

Max Time: 55 Mins

Weightage: 15 %

Set A

TEST 3

II Semester 2016-2017

MEA108: Workshop Practice

20 April 2017

**Instructions:**

- i. Write legibly
- ii. Scientific and non programmable calculators are permitted

**Part A**

(2 Q x 4 M= 8 Marks)

1. Write the mechanism and features of metal cutting process?
2. What are the desired properties of cutting fluid and name any two cutting fluid.

**Part B**

(1 Q x 10 M= 10 Marks)

3. Explain briefly any five Lathe operations with suitable sketches.

**Part C**

(2Q x 6 M= 12 Marks)

4. A diamond-cutting tool when machined with other diamond work piece material at a cutting speed of 50 m/min lasted for 100 minutes. Determine the life of the tool when the cutting speed is increased by 25%. At what speed the tool is to be used to get a tool life of 180 minute. Assume  $n = 0.26$
5. From a raw material of 100 mm length and 10 mm diameter, a component having length 100 mm and diameter 8 mm is to be produced using a cutting speed of 31.41 m/min and a feed rate of 0.7 mm/revolution. How many times we have to re-sharpen or regrind, if 1000 workpieces are to be produced. Assume  $n = 1.2$  and  $C = 180$ .



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Set B

TEST 1

II Semester 2016-2017

Course: ME A 108 Workshop Practice

28 February 2017

Instructions:

- i. Write legibly
- ii. Scientific and non-programmable calculators are permitted

Part A

(3 Q x 2 M= 6 Marks)

1. Define the term 'Manufacturing' and mention the five categories of manufacturing process.
2. Briefly explain different types of production techniques with suitable example.
3. Define the term quality and how does it aid in increasing the brand value of a product.

(2 Q x 5 M= 10 Marks)

4. Explain the following terms briefly.
  - a. Accuracy
  - b. Precision
  - c. Tolerance
  - d. Reliability
  - e. Quality control
5. Define the term fits and limits. Explain different types of fits with a neat sketch.

Part C

(2 Q x 7 M= 14 Marks)

6. Let the size of bolt and nut are as follows.

$$\text{Bolt: } 17.55 \begin{matrix} +0.018 \\ +0.024 \end{matrix}$$

$$\text{Nut: } 18.50 \begin{matrix} +0.018 \\ -0.013 \end{matrix}$$

- a) Find the type of tolerance given for bolt and nut.
- b) Find the type of fit between bolt and nut.
- c) Specify the best manufacturing process for bolt and nut.

7. Explain briefly Interchangeability with an example. Do you think Interchangeability helps in reducing the number of rejects? Justify.