

**DIPLOMA IN MECHANICAL ENGINEERING  
(DME)**

00210

**Term-End Examination**

**June, 2014**

**BME-051 : MANUFACTURING PROCESSES - I**

*Time : 2 hours*

*Maximum Marks : 70*

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**Note :** Answer any **five** questions. All questions carry equal marks.

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1. (a) List and describe any two of the commonly used attachments on lathe. 6
- (b) Draw the single point cutting tool and also mention the different angles provided on it. 5
- (c) Explain feed, cutting speed and depth of cut in turning. 3
2. (a) Explain the taper elements with a figure and also give the equation for conicity. 5
- (b) Explain any three turning operations with neat sketches. 6
- (c) A shaft 1200 mm long has a taper of 1 : 300 for a length of 600 mm. The maximum diameter is 80 mm. Determine the minimum diameter and the amount of set-over. 3

3. Sketch a Radial type drilling machine and mark all parts on it. Make a list of operations that can be performed on drilling machine. Describe trepanning. 14
4. (a) What are the different types of boring machines ? Explain any one type with a neat sketch. 8
- (b) Why is boring required rather than drilling ? Explain any boring operation which is used in automobile industry. 6
5. (a) What are the differences between Shaper and Slotter machines ? Explain with the help of figures. 8
- (b) What are the different types of Ram drive mechanisms which are used in Slotting machine ? Explain any one type of Ram drive mechanism. 6
6. (a) Write down the differences between Planing and Shaping machines. Draw the different tools which are used in Planer. 8
- (b) How can you specify the following machines ? 6
- (i) Shaper
  - (ii) Slotter
  - (iii) Planer

7. (a) What is the difference between up milling and down milling ? Explain briefly. 5
- (b) Sketch a vertical milling machine and label all the parts. List the different operations performed on milling machine. Explain any two operations. 9
8. (a) What are the different types of mould sand testings ? Explain them briefly. 7
- (b) What are the different types of pattern making allowances ? Explain why these allowances are required in moulding. 7
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