

**DIPLOMA IN MECHANICAL ENGINEERING  
(DME)****Term-End Examination  
December, 2015****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) Explain the following operations with the help of a neat sketch in lathe machine
  - (i) Straight Turning,
  - (ii) Taper Turning. 4+4=8
- (b) How are lathe machines specified ? Explain with a neat sketch. 6
2. (a) Explain and differentiate between Boring and Counterboring with the help of a neat diagram. 4
- (b) With the help of a neat sketch, explain the following :
  - (i) Twist Drill
  - (ii) Centre Drill 6

- (c) Describe the various types of drilling machine tools with the help of a neat sketch. 4
3. (a) List and explain the various types of boring operations with examples. 6
- (b) With the help of a neat sketch explain the working principle of Horizontal boring machine of multiple head type. 8
4. Explain the functions of the following components of a slotting machine : 14
- (a) Column
- (b) Saddle
- (c) Rotating table
- (d) Feed mechanism
- (e) Tool head assembly
5. (a) Explain the working principle of column and knee type machine, with the help of a neat sketch. 10
- (b) Name the different types of planer tools. 4
6. (a) Differentiate between the working principle of Shaper and Planer machine. What types of surfaces can be produced on Shaper and Planer ? 6

- (b) What are the various steps involved to make a hexagonal bolt by straddle milling ? Explain with the help of a neat sketch. 8
7. (a) Explain the Green sand moulding methods in Casting. 4
- (b) What are the special patterns and how are they differ from other patterns ? 5
- (c) Describe the process of making a core. 5
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