

**DIPLOMA - VIEP - MECHANICAL  
ENGINEERING (DMEVI)**

**Term-End Examination**

**December, 2015**

**BIME-033 : MACHINE TOOLS**

*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) What is the working principle of a lathe ?  
What are the various types of lathe ?  
Explain briefly Engine lathe. 7
- (b) What do you mean by "Taper" ? Name the  
methods by which Taper Turning can be  
carried out on lathe and explain any one of  
them. 7
2. Explain briefly, with neat diagrams, the  
following lathe operations : 14
- (a) Threading
- (b) Knurling
- (c) Forming
- (d) Reaming

3. (a) Explain briefly with a neat sketch the principal parts of a shaper. 7
- (b) How are shapers classified ? Explain the method by which the size of a shaper is specified. 7
4. (a) Define the terms 'Drilling' and 'Drill'. Describe the operations that can be done on a Drilling machine. 7
- (b) What are the various types of drilling machines ? Explain their usage in the workshop. 7
5. (a) What is a 'Milling Machine' ? Discuss the applications of milling processes. 7
- (b) Explain briefly the following milling processes : 7
- (i) Up milling
- (ii) Down milling
6. (a) Explain briefly the main elements of a Broaching Tool with the help of a neat sketch. 7
- (b) What is the difference between 'Pull broaching' and 'Push broaching' ? 7

7. (a) What is an abrasive ? How are abrasives classified ? Explain briefly the following abrasives : 7
- (i) Silicon carbide
- (ii) Aluminium oxide
- (b) What is a 'bond' ? Name and explain the principal bonds of a grinding wheel. 7
8. (a) What is the purpose of Honing ? Give the examples of honing work. 7
- (b) Briefly explain the difference between NC, CNC and DNC machines. 7
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