

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

Term-End Examination

December, 2016

00103

BIME-033 : MACHINE TOOLS

Time : 2 hours

Maximum Marks : 70

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

1. Draw the block diagram of a lathe machine and indicate its various parts. Also explain the parts briefly. 14

2. (a) Explain various types of 'lathe centres' and their applications with diagrams. 7

(b) Clearly distinguish between Turret and Capstan lathe. 7

3. How do you classify the different types of drilling machines ? Explain the working principle of a radial drilling machine with neat sketch. 14

4. (a) What are the different operations performed on a drilling machine ? Describe any one of them. 7
- (b) Explain the terms cutting speed, feed rate and depth of cut with reference to the drilling machine. 7
5. (a) Explain briefly the following milling processes with neat sketches : 7
- (i) Up Milling
- (ii) Down Milling
- (b) What are the work holding devices used on milling machines ? Explain any one of them with a neat sketch. 7
6. (a) Explain the process of centreless grinding with a neat sketch. 7
- (b) What are the factors considered for selection of grinding wheels ? What are the materials used for grinding wheels ? 7
7. (a) Explain the advantages and limitations of numerical control machine tools. 7
- (b) Explain the principle of horizontal broaching machine with a neat sketch. 7

8. Write short notes on any *four* of the following : $4 \times 3 \frac{1}{2} = 14$

- (a) DNC Machines
 - (b) FMS
 - (c) Buffing
 - (d) Indexing Method
 - (e) Reaming Process
 - (f) Deep Hole Boring
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