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BIME-033

DIPLOMA – VIEP – MECHANICAL ENGINEERING (DMEVI)

Term-End Examination

00052

December, 2017

BIME-033 : MACHINE TOOLS

Time : 2 hours *Maximum Marks : 70*

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

1. (a) What are the different operations performed on a lathe ? Explain how the work is centred. 7

(b) Enumerate the safety guidelines and precautions to be followed while working on a lathe machine. 7

2. (a) Describe the working of a bench drilling machine with a neat sketch. 7

(b) Discuss the problems faced in a drilling operation, with their causes and possible remedies. 7

3. (a) What are the different types of milling methods ? Explain any one method with a neat sketch. 7

(b) Distinguish between buffing and burnishing. 7

4. (a) Explain the parts and angles of a milling cutter with a neat diagram. 7

(b) What is an Abrasive ? How are abrasives classified ? Explain briefly the following abrasives : 7

(i) Silicon carbide

(ii) Aluminium oxide

5. (a) Draw a block diagram of a planer machine showing its parts. Also explain its working principle. 7

(b) Explain the working of a power saw machine with a neat sketch. 7

6. (a) Explain briefly the main elements of a broaching tool with the help of a neat sketch. 7

(b) What are the advantages and limitations of a broaching machine ? Explain. 7

7. (a) Explain the working of Quick Return mechanism with a neat sketch. 7

(b) Describe the main features of CNC machines which distinguish them from conventional machine tools. 7

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

(a) Knurling

(b) DNC Machine

(c) Lapping

(d) Dividing Head

(e) Gear Hobbing

(f) Broach Geometry