

02663 DIPLOMA IN MECHANICAL ENGINEERING
(DMEVI)

Term-End Examination

December, 2012

BIME-033 : MACHINES TOOLS

Time : 2 hours

Maximum Marks : 70

Note : Attempt *any five* questions only.

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1. (a) What factors govern the classification of lathes ? 7
(b) Explain the compound rest taper turning method in lathe. 7
 2. (a) Sketch and explain the construction and working of the tailstock of a lathe. 7
(b) What are the steady and follower rests ? Why are they used ? 7
 3. (a) Sketch geometry of a twist drill and name its different parts. 7
(b) List the devices commonly used for holding the work on a drilling machine. 7

4. (a) Explain the principle parts of the boring machine. 7
(b) What is 'Reaming' ? Sketch a reamer and show its different parts. 7
5. (a) What are the indexing or dividing heads ? What are their functions ? 7
(b) How is cam milling operation done on a milling machine ? Explain. 7
6. (a) How is a grinding wheel specified ? Explain with an example. 7
(b) Compare the tolerances obtainable in the following processes : 7
(i) Lapping
(ii) Honing
7. (a) Compare the shaper and planer in terms of the operation, and type of work. 7
(b) Describe four main features of CNC machine. 7
8. Write a short notes on **any four** of the following :
(a) Multi spindle drilling operation $3\frac{1}{2} \times 4 = 14$
(b) Clapper box of a shaper
(c) Milling cutters
(d) Pull broaching
(e) DNC
(f) Machining centre
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