

DIPLOMA IN MECHANICAL ENGINEERING  
(DMEVI)

01385

Term-End Examination

June, 2012

BIME-033 : MACHINES TOOLS

Time : 2 Hours

Maximum Marks : 70

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*Note : Attempt total five questions. Question no. 1 is compulsory question and four questions are to be attempted out of question no. 2 to 8.*

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1. Write the correct answer of the following questions. 2x7=14
- (a) Steady rest is
- (i) Used when a lathe is not provided foundations.
  - (ii) An additional support provided for long jobs.
  - (iii) Used in thread cutting operation
  - (iv) Used in taper turning operation
- (b) Bed of the lathe is generally made of
- (i) Cast Iron
  - (ii) Mild Steel
  - (iii) High Speed Steel
  - (iv) Gun Metal

- (c) The shaper is specified by
  - (i) Maximum height of machine
  - (ii) Maximum length of stroke
  - (iii) Weight of machine
  - (iv) All of above
- (d) In shaper the ram should move
  - (i) Slower during return stroke
  - (ii) Faster during return stroke
  - (iii) At the same speed during return stroke
  - (iv) All of the above
- (e) Cutting tool used in shaper is
  - (i) Single point
  - (ii) Multi point
  - (iii) Double point
  - (iv) None of above
- (f) Abrasive material used in grinding wheel selected for grinding ferrous alloys is
  - (i) Silicon carbide
  - (ii) Diamond
  - (iii) Aluminium oxide
  - (iv) Boron carbide
- (g) In reaming process
  - (i) Metal removal rate is high
  - (ii) High surface finish is obtained
  - (iii) High form accuracy is obtained
  - (iv) High dimensional accuracy is obtained.

2. What do you mean by machine tools ? Give the classification of machine tools in different ways. 14
3. Discuss various types of work holding devices used for an engine lathe. 14
4. Sketch and explain the working of a slotter. 14
5. Define the working principle of Milling machine ? Describe main operations performed in milling machine. 14
6. Discuss the working of a surface broaching machine with the help of neat sketches. 14
7. Sketch and explain the three methods of external cylindrical centreless grinding. 14
8. Attempt *any four* parts of the following 3.5x4 = 14
  - (a) Sketch and explain the direct Indexing of a dividing head.
  - (b) Give the applications of NC machine.
  - (c) List the main advantages and disadvantages of a machining centres.
  - (d) With the help of a neat diagram, explain the super - finishing process.
  - (e) Briefly describe the standard proceduring of specification of grinding wheels.
  - (f) Write short notes on dressing and truing of grinding wheels.