

00682

**DIPLOMA IN MECHANICAL ENGINEERING
(DMEVI)**

Term-End Examination

December, 2011

BIME-033 : MACHINES TOOLS

Time : 2 hours

Maximum Marks : 70

Note : *Attempt total five questions. Question no. 1 is compulsory and four questions are to be attempt out of question no. 2 to 8. All the questions are to be answered in English language only.*

1. Write the correct answer of the following questions :

2x7=14

- (a) The size of lathe is specified by :
- (i) Height of the centres from ground
 - (ii) Swing of lathe
 - (iii) Tool post of the lathe
 - (iv) Weight of the lathe
- (b) For metal removal, single point cutting tools are used in case of :
- (i) Drilling
 - (ii) Milling
 - (iii) Shapers
 - (iv) None of the above

- (c) Which of the following operation can be performed by the drilling machine ?
- (i) Drilling
 - (ii) Reaming
 - (iii) Countersinking
 - (iv) All of the above
- (d) The operation of finishing a predrilled hole is known as :
- (i) Boring (ii) Reaming
 - (iii) Counter boring (iv) Spot facing
- (e) A planer differs from a shaper mainly as :
- (i) During cutting stroke the table is stationary while the tool is moving.
 - (ii) During cutting stroke the table is moving while the tool remain stationary.
 - (iii) Table and tool both are stationary during cutting stroke.
 - (iv) During cutting stroke the table and the tool both move.
- (f) During machining on shaper :
- (i) The cutting tool is stationary
 - (ii) Both tool and job move opposite to each other
 - (iii) Both tool and job are in motion
 - (iv) The job is stationary.

- (g) Stroke of ram of shaper is adjusted by :
- (i) Changing the pinion.
 - (ii) Changing the position of the crank pin
 - (iii) Changing the position of lead screw
 - (iv) None of the above
2. Sketch and discuss the main parts of a lathe machine. 14
3. Sketch and explain the feed drive of the engine lathe. 14
4. Draw the block diagram of a horizontal shaper and briefly describe its important parts. 14
5. Sketch a twist Drill. Write its main parts and their functions. 14
6. (a) Discuss Horizontal Boring Machine with the help of neat sketch. 7
- (b) Sketch and explain the working of a plain column and knee type milling machine. 7
7. Sketch and explain the working of an external cylindrical grinding machine. 14

8. Attempt *any four* parts of the following : **3.5x4=14**

- (a) Write the advantages and limitations of broaching process.
 - (b) Write short notes on Boring tools.
 - (c) List the advantages and disadvantages of NC machines.
 - (d) What is a machining centre ? List the main advantages of a machining centre.
 - (e) Write short notes on Hand Lapping of flat surfaces.
 - (f) External and internal cylindrical grinding processes.
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