

**DIPLOMA IN MECHANICAL ENGINEERING
(DME)**

Term-End Examination

June, 2015

00543

BME-051 : MANUFACTURING PROCESSES - I

Time : 2 hours

Maximum Marks : 70

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

1. (a) What types of work holding devices are generally used in a lathe ? Give the typical applications of each type. 7
- (b) What are the various methods used for taper turning on a lathe ? Explain any one method for taper turning. 7
2. (a) Explain the constructional features of a drilling machine with a neat sketch. Differentiate between counter boring and counter sinking. 7
- (b) (i) Sketch a twist drill and name its different parts.
- (ii) Define cutting speed and feed in drilling. 5+2=7

3. (a) How is a horizontal boring machine specified ? Describe the main parts and working of the planer type horizontal boring machine. 7
- (b) What are boring tools ? Describe about the solid forged boring tools. 7
4. (a) Sketch and describe the working of automatic table feed mechanism of a shaper. 7
- (b) Describe the method of tool setting on a shaper for the following operations : 7
- (i) Vertical cutting
- (ii) Angular cutting
5. (a) Explain the similarities and dissimilarities between planer and shaper. 7
- (b) What are the common work-holding devices used on planers ? Give their applications. 7
6. (a) Explain the difference between two-piece pattern and loose-piece pattern with neat sketches. What are the situations in which a single-piece pattern is advantageously used ? 7
- (b) What is meant by core prints ? Explain how they are to be provided. Describe the allowances given on pattern for shaking and distortion. 7

7. (a) Distinguish between green sand mould and dry sand mould from the point of view of (i) Process, (ii) Application. 7
- (b) Describe the various causes of casting defects and their remedies. 7
8. Write short notes on any *four* of the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Specification of Lathe
 - (b) Cutting Fluids
 - (c) Storage of Patterns
 - (d) Gating System
 - (e) Moulding Sands
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