

**DIPLOMA IN MECHANICAL ENGINEERING
(DME)**

Term-End Examination

00795

December, 2014

BME-059 : MANUFACTURING PROCESS – III

Time : 2 hours

Maximum Marks : 70

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

1. (a) Explain the working of universal milling machine and draw any one component which can be machined on a horizontal milling machine. 5
- (b) Differentiate between compound and differential indexing methods with suitable examples. 5
2. (a) Explain the following terms : 6
 - (i) Machinability Index
 - (ii) Surface finish
 - (iii) Optimum cutting speed
- (b) Describe Broaching and Broaching tool geometry with a neat diagram. 4

- 3. (a) Explain the following press operations : 6**
- (i) Blanking
 - (ii) Notching
 - (iii) Piercing
- (b) Differentiate between Clearance and Piercing clearance. 4
- 4. (a) What is the purpose of clamping ? Explain any two clamping devices with a neat diagram. 5**
- (b) What are the types of Milling Jigs ? Explain any one with neat sketch. 5
- 5. (a) Explain the advantages and disadvantages of electric discharge machining (EDM). 5**
- (b) Explain the working of ultrasonic machining with neat sketch. State its advantages and disadvantages. 5
- 6. (a) Explain, with a neat diagram, the working of gear hobbing machine. 5**
- (b) Explain the following in reference to gear : 5
- (i) Addendum
 - (ii) Dedendum
 - (iii) Backlash
 - (iv) Clearance
 - (v) Pitch circle

7. (a) What are the important properties of plastics ? Give the applications of thermosetting and thermoplastic plastics. 5
- (b) Describe the principle and working of compression moulding machine. 5
8. (a) Explain the working of mechanical press with neat sketch. 5
- (b) What is punch ? Describe the working of punches, with suitable examples. 5
9. (a) Give the functions of the following parts : 5
- (i) Stripper plate
 - (ii) Bolster plate
 - (iii) Guide post
 - (iv) Pilots
 - (v) Shear
- (b) Compare the Injection moulding and Compression moulding processes. 5
10. Write short notes on any *two* of the following : 5+5
- (a) Milling cutter
 - (b) High speed press
 - (c) Gear shaping cutter
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