

**DIPLOMA IN MECHANICAL ENGINEERING
(DME)**

00309

Term-End Examination

June, 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 principle and types of Milling. Also sketch any one milling machine. 5
- (b) Define indexing and indexing plate. Explain the function of indexing head as a milling machine attachment for grinding, giving suitable example. 5

2. (a) Describe the following : 6
 - (i) Cutting fluid
 - (ii) Machinability
 - (iii) Tool life
- (b) Explain Broaching and list out types of broaching machines with a neat and labelled diagram of any one. 4

- 3.** (a) Describe press working and its application with suitable examples. 5
- (b) Differentiate between Progressive and Compound die. 5
- 4.** (a) Differentiate between Jigs and Fixtures and enlist the advantages of both. 5
- (b) Explain 3-2-1 principle of location with neat sketch. 5
- 5.** (a) What is the principle and process mechanism of Electric Discharge Machining (EDM)? 5
- (b) What are the functions of an electrolyte in ECM? 5
- 6.** (a) With a neat diagram, explain the following terms in gears : 5
- (i) Addendum
- (ii) Dedendum
- (iii) Backlash
- (iv) Circular pitch
- (v) Module
- (b) Describe the process of gear generation in milling machine. 5
- 7.** (a) What are the various types of plastics ? Give applications of each type. 5
- (b) Describe the principle and working of injection moulding machine. 5

8. (a) Explain the working principle of Laser beam machining. What are its advantages? 5
- (b) Describe in brief the locating devices and their types. Explain any one with a neat sketch. 5
9. Differentiate between the following : 5+5
- (a) Injection moulding and Compound moulding
- (b) Gear Milling and Gear Hobbing
10. Write short notes on any *two* of the following : 5+5
- (a) Milling cutter
- (b) Gear shaping cutter
- (c) Abrasive slurry used in EDM
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