

**DIPLOMA IN MECHANICAL ENGINEERING
(DME)**

Term-End Examination

June, 2016

00290

BME-059 : MANUFACTURING PROCESS – III

Time : 2 hours

Maximum Marks : 70

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

1. (a) Draw a block diagram of a column and knee type vertical milling machine and explain the functions of its various parts. 7
- (b) Explain with a neat sketch about climb up and climb down milling. 7
2. (a) Briefly describe different types of Broaching machines. 7
- (b) Explain the various types of work holding devices used in milling machines. 7

3. (a) Discuss Cold roll forming process. 7
- (b) Explain with neat sketches the forming tools used on Press brake for bending of the following : 7
- (i) Acute angle
- (ii) 90° angle
- (iii) Radius
- (iv) Offset bendings
4. (a) Briefly describe the difference between a Jig and a Fixture. 7
- (b) Explain with a neat sketch the principles of location in a fixture. 7
5. (a) Explain the working principle of Electro discharge machining and also give its application in an industry. 7
- (b) Describe the advantages of Photochemical machining. 7
6. (a) Briefly describe the most commonly used cutting tools for manufacture of gears, with neat sketches. 7
- (b) Write about gear shaping process with sketches. 7

7. (a) Describe in brief the various types of plastics. 7
- (b) Explain the working principle and application of the Injection moulding machine. 7
8. Write short notes on the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Types of Milling Cutters
- (b) Types of Drill Bushes used in Drill Jigs
- (c) Types of Broadening Tools
- (d) Types of Clamps used in Fixtures
-