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BME-051

DIPLOMA IN MECHANICAL ENGINEERING (DME)

00615 **Term-End Examination**

December, 2014

BME-051 : MANUFACTURING PROCESSES - I

Time : 2 hours *Maximum Marks : 70*

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

1. (a) How is a lathe specified ? State the various operations that can be carried out on a lathe. 7

(b) What are the different types of cutting fluids ? How does cutting fluid improve the tool life ? Explain. 7

2. (a) Explain briefly the construction of a radial drilling machine. Discuss how the requisite motions are obtained. 7

(b) What are the various drill holding devices ? Explain any two in detail. 7

3. (a) Differentiate between up-milling and down-milling. What are the various operations that can be performed on a milling machine ? 7

(b) Classify the boring machines. Describe the main constructional features of Horizontal boring machine. 7

4. (a) How is the length of stroke and the ram position adjusted in a shaper ? What is the function of a clapper box in a mechanical shaper ? 7

(b) Differentiate between the working principles of Shaper and Planer. Give some applications of both. 7

5. (a) Explain the constructional features of a standard double housing planer with the help of a block diagram. 7

(b) Explain the common mechanisms used for quick return of table in a planer. 7

6. (a) What are the various types of patterns ? Explain with the help of neat sketches. 7

(b) Specify three pattern making materials. Give their applications. 7

7. (a) Specify the various types of sands used in casting. Give the uses of each type. 7

(b) What are the various casting defects ? Also give their remedies. 7

8. Write short notes on any ***four*** of the following : $4 \times 3\frac{1}{2} = 14$

(a) Eccentric Turning

(b) Twist Drill

(c) Slotting Machine

(d) Melting Furnace

(e) Pattern Allowances