No. of Printed Pages : 3

BME-010

B.Tech. MECHANICAL ENGINEERING (COMPUTER INTEGRATED MANUFACTURING)

00128

Term-End Examination

June, 2015

BME-010 : TOOL ENGINEERING AND MANAGEMENT

Time : 3 hours *Maximum Marks : 70*

Note : *Answer any **seven** questions. Use of calculator is allowed. Marks for sub-divisions of questions are as indicated.*

1. (a) What are the different types of machine tools ? Discuss about special purpose machine tool.

(b) Differentiate between the following :

(i) Broaching and Milling

(ii) Blanking and Punching *5+5=10*

2. State some of the important characteristics of the following tool materials : $4 \times 2\frac{1}{2} = 10$

(a) High carbon steel

(b) High speed steel

(c) Carbide tools

(d) Ceramic tools

3. List out the various types of Jigs. Explain the principle of Indexing Jig with a neat sketch. *10*

4. What are the pilots used in tool engineering ? How do you classify the pilots ? Explain in detail each one of them. *10*

5. Describe the fundamentals of press operations. Draw a simple cutting die and show all the parts. *10*

6. Explain laying out centre hole. Discuss the various steps involved in laying out centre hole using centre head. *10*

7. Define tool management system. What is the need and importance of tool management system ? Explain the benefits of tool management system. *10*

8. (a) State the functions and requirements of guideways of machine tool.

   (b) State the functions of the spindle of machine tool. *5+5=10*

9. Explain set-up planning and set-up time for machining. Describe the significance and constraints in set-up planning. *10*

10. Write short notes on any ***four*** of the following : $4 \times 2\frac{1}{2} = 10$

(a) Tool Handling System

(b) Moulding Box

(c) Multi-point Cutting Tool

(d) Diamond Tool

(e) Chip Control in Machining Operations