

**B.Tech. MECHANICAL ENGINEERING
(COMPUTER INTEGRATED
MANUFACTURING)**

Term-End Examination

00346

December, 2014

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. What do you understand by operation sequencing ? Explain in detail. 10
2. Define the basic elements of tool geometry. What do you understand by tool signature ? Illustrate with the help of example and figure. 10
3. What is clamping ? List out the various types of clamps with appropriate use. State the principle of clamping. 10
4. Discuss in detail, the working of turning and grinding fixtures. 10

5. List out the various types of blanking and piercing dies ? Describe the principle of sheet metal working. 10
6. (a) What are the various types of hand tools used in foundry ? Explain.
- (b) Explain the important types of mechanical tools used in foundry. 5+5
7. What is the purpose of laying out the work piece ? Describe the layout tools with neat sketches. 10
8. What is test and proof circle ? Where and how do you use these circles ? Also list out the recommended order of laying out the lines. 10
9. Explain the design criteria for selection of material for machine tool structure. 10
10. (a) What are the limitations of conventional CNC machine ? Explain.
- (b) State and explain various types of STEP-NC machines. 5+5
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