

III B.Tech I Semester Supplementary Examinations, February 2008  
MANUFACTURING TECHNOLOGY  
(Mechatronics)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions  
All Questions carry equal marks

\*\*\*\*\*

1. (a) Describe various tools used in foundry with neat sketches.  
(b) Describe various types of sands used in foundry. [10+6]
2. (a) Explain the process of making Moulds by Jolt-Squeezing machines.  
(b) Describe Oil Fired tilting type Crucible Furnace with a neat sketch. [8+8]
3. (a) Compare the hot rolling and cold rolling process.  
(b) Explain the theory of rolling and rolling forces. [8+8]
4. (a) What is deep drawing? Explain its applications.  
(b) Explain hydrostatic extrusion process with a neat sketch. [8+8]
5. (a) Sketch and explain various forging operations used in practice. Mention their applications.  
(b) Sketch and explain the sequence of operations involved in making connecting rod by upset forging. [8+8]
6. (a) Sketch and explain about various welding joints used in practice and mention their relative advantages.  
(b) Differentiate between A.C and D.C arc welding. [10+6]
7. (a) Describe the construction and working principle of sine bar. Why sine bar cannot be used to measured angles greater than  $45^\circ$ .  
(b) Describe the possible effects in accuracy of measurement due to
  - i. temperature variation
  - ii. elastic deformation. [8+8]
8. (a) What is a comparator? Classify various comparators used in practice.  
(b) How the accuracy of pitch of a plug screw gauge can be measured. [8+8]

\*\*\*\*\*