

**III B.Tech I Semester Supplementary Examinations, April/May 2005**  
**PRODUCTION PROCESS-I**  
**(Mechatronics)**

**Time: 3 hours**

**Max Marks: 70**

**Answer any FIVE Questions**  
**All Questions carry equal marks**

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1. (a) What are the various allowances be considered in the manufacture of patterns and explain their importance?  
(b) Describe the construction and working of cupola and explain the sequence of operations involved in the manufacture of cast-iron.
2. (a) What are the various defects found in castings and mention the methods of elimination?  
(b) Sketch and explain the sequence of operations involved in making I-sections by rolling.
3. (a) Differentiate between punching and blanking operations with neat sketches indicating the advantages.  
(b) Describe the construction and working of wire drawing and tube drawing operations.
4. (a) What are the various presses used in practice in metal forming applications? Describe their relative advantages.  
(b) Differentiate between Hot and Cold extrusion processes and mention the materials which can be extruded by the above operations.
5. (a) What are the various advantages and applications of upset forging and drop-forging?  
(b) What are the sequence of operations involved in making connecting rods by forging?
6. (a) Classify various welding operations used in practice and mention applications.  
(b) Sketch and explain TIG and MIG welding operations and mention various gases used in these methods.
7. (a) Differentiate between blow moulding and injection moulding mentioning the relative advantages.  
(b) What are the various methods used to make metallic powders and explain about sintering?
8. Answer the following:
  - (a) Manufacturing of carbide tools
  - (b) Laser welding

(c) Roll forging.

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