

B.Tech. Degree IV Semester Examination, April 2008**ME 406 MANUFACTURING PROCESS***(2006 Schemes)*

Time: 3 Hours

Maximum Marks: 100

PART A(Answer *All* questions)

(8 x 5 = 40)

- I
- Describe briefly the loam moulding process.
 - Compare Top riser and Side riser.
 - What are the common defects in castings? How the defects are prevented?
 - List the main advantages of centrifugal casting. What are the limitations of the process.
 - What is meant by angle of bite in rolling? On what factors its value depends.
 - With the help of a single sketch explain a "Board drop hammer".
 - Write notes on gas cutting of metals.
 - Describe briefly thermit welding.

PART B

- II
- What is the significance of pattern layout? Draw a sketch of an engineering component and incorporate allowances for pattern layout. (10)
 - Compare both pressurized and unpressurized gating systems. (5)
- OR**
- III
- Explain original Caine's method of design of risers. How it has modified in recent times? (10)
 - Explain the various colour codes in foundry. (5)
- IV
- Discuss various operations undertaken in Fettling shop. (8)
 - Describe investment casting process briefly and indicate binder composition. (7)
- OR**
- V
- Enumerate shell moulding including binder chemistry, resin coating, moulding technique and applications. (8)
 - Outline the general principles of casting design. (7)
- VI
- Describe with neat sketches, wire drawing process. (7)
 - Describe with neat sketches, the production of parts by rotary swaging. (8)
- OR**
- VII
- With suitable sketches describe various forging operations. (8)
 - Write notes on forging defects. (7)
- VIII
- Explain the following welding techniques:
- | | | |
|-------------------------|---------------------------|------|
| i) Electroslag welding | ii) Electron beam welding | |
| iii) Laser beam welding | | (15) |
- OR**
- IX
- Comment on 'welding distortion' and methods of controlling it. (15)

