Code No. 5213

FACULTY OF ENGINEERING

B.E. 4/4 (Mech./Prod.) I - Semester **(Main)** Examination, December 2011

Subject : **Design for Manufacture**
(Elective – I)

Time : 3 Hours

Max. Marks: 75

Note: Answer **all** questions of Part – A. Answer any **five** questions from Part-B.

PART – A (25 Marks)

1. List out various general design principles for manufacturability.
2. How do you select right manufacturing technique?
3. What is the necessity for considering tolerances in manufacturing?
4. Briefly explain about blanking operation with a sketch.
5. What is extrusion? Also mention its salient features.
6. Write down the design principles to be considered in forging.
7. What is the working principle of Investment casting? Also mention its advantages.
8. Describe about resistance welding.
9. What are flanged connections? Give an example.
10. What are the significant features and limitations of low cost automation?

PART – B (5x10=50 Marks)

11.(a) Explain about the strength and mechanical factors in manufacturability.
(b) Differentiate between hot and cold rolling processes.

12.(a) What are the various specialized forming methods? Explain any one of them.
(b) Explain about the characteristics and other features of drilled and milled parts.

13. Discuss in detail about the working principle of EDM process with a neat sketch. Also list its advantages and disadvantages.

14.(a) Differentiate between injection and rotation moulding.
(b) Explain about the working principle of blow moulding with a neat diagram.

15.(a) Discuss in detail about NC machining with an example.
(b) Define Group Technology and explain any one method of Group Technology.

16.(a) Discuss about design principles to be considered in Rolling.
(b) Explain in detail about centreless grinding.

17. Write short notes on any **three** of the following :
(a) Powder Metallurgy
(b) Ceramics
(c) Spring and wire forms
(d) Soldering