FACULTY OF ENGINEERING

B. E. 4/4 (Mech./Prod.) I-Semester (New) (Main) Examination,
November / December 2009

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

Time **3** Hours Max. Marks **75**

Note:- *Answer all Questions from Part A, Answer any five Questions from Part B*

PART – A (25 Marks)

1. What do you mean by concurrent engineering?
2. What is the effect of dimensional accuracy on manufacturability?
3. Name the suitable materials for stamping process.
4. What do you mean by ram and press bending?
5. What is chemical engraving?
6. What are the applications of investment casting process?
7. What do you mean by plasma arc welding?
8. How to improve weld strength?
9. What do you mean by retension of assembled parts?
10. What do you mean by QFD?

PART – B (5 X 10 = 50 Marks)

11. (a) State and explain any five design principles for manufacturability.
    (b) State and explain typical characteristics of hot rolled steel shapes with diagrams.

12. (a) Explain the detailed design recommendations of extrusion process with the help of diagrams.
    (b) What are the typical characteristics and applications of powder metallurgy parts?

13. (a) Explain the characteristics and limitations of parts produced by EDM.
    (b) Explain the design considerations and recommendations of sand cast parts.

14. (a) Name and explain suitable thermosetting materials for manufacturability.
    (b) State and explain the design recommendations of injection moulded parts.

15. (a) State and explain the design recommendations of NC machined parts.
    (b) State and explain the design recommendations of screwed connection assemblies.

16. (a) Explain the characteristics and applications of heat treated parts.
    (b) State and explain the design recommendations of press fitted connections.

17. Write short notes on any four of the following:
    (a) Assembly evaluation systems
    (b) Stretch forming
    (c) Collapsible taps
    (d) Hot gas welding
    (e) Product design requirements