FACULTY OF ENGINEERING

B.E. 4/4 (M / P) I Semester (New) (Suppl.) Examination, July 2010

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 is the effect of material selection on manufacturability?
2. Why copper alloys are widely used even though they are expensive?
3. Name the suitable materials for extrusion process.
4. What are the key elements of die-closing swaging machine?
5. What are the applications of ECM process?
6. What do you mean by photochemical blanking?
7. What do you mean by friction stir welding?
8. What are the various self-jigging methods for brazed assemblies?
9. What do you mean by retension of assembled parts?
10. What do you mean by DFX?

PART – B (5x10 = 50 Marks)

11. a) State and explain any five general design rules.

    b) State and explain the design recommendations of titanium forging.

12. a) What are the typical characteristics and applications of impact – extruded parts?

    b) State and explain the design recommendations of powder metallurgy process with diagrams.

13. a) Explain the thread making processes with their applications and economics.

    b) Explain the basic elements of die-sinking and wire EDM with the help of diagrams.

14. a) State and explain the design recommendations of thermosetting plastic parts.

    b) Explain the plastics welding processes with the help of diagrams.

15. a) State and explain the design recommendations of group technology parts.

    b) State and explain the design recommendations of flanged connection assemblies.

16. a) Explain the characteristics and applications of heat treated parts.

    b) State and explain the design recommendations of plated parts.

17. Write short notes on any **four** of the following:
    (a) Evaluation of manufacturability
    (b) Explosive forming
    (c) Through-feed centre less grinding
    (d) Extrusion-blow-moulding process
    (e) Shot-peened surfaces.

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