

Code No. OR21/AMS

OR

JAWAHARLAL NEHRU TECHNOLOGY UNIVERSITY, HYDERABAD

M .Tech. II Semester Supplementary Examinations, March – 2009

**DESIGN FOR MANUFACTURE
(Advanced Manufacturing Systems)**

Time: 3 hours

Max. Marks.60

**Answer any Five questions
All questions carry equal marks**

- 1.a) Explain how the design for manufacturing is different from conventional design? Give example.
- b) How plasticity and wear considerations are incorporated in design for manufacturing procedure. Explain.
- 2.a) What are the intensive methods of material selection? State their drawbacks.
- b) Explain with an example the selection of manufacturing process depends on the material selection.
- 3.a) Discuss design improvements of a product for machining process.
- b) Explain basic design rules for dimensional tolerance & surface roughness of the product surface in machining process.
- 4.a) Discuss the selection of casting alloys for a product in sand casting process.
- b) Explain the principle of sound weld joint design.
- 5.a) Explain product design guidelines for forging operation in consideration with material size, shape and tolerance.
- b) Explain the reasons for allowances and tolerances to be provided in design for sheet metal part designs.
- 6.a) Discuss critically visco elastic and creep behavior in plastics. What is Maxwell model.
- b) State and explain design guidelines for machining of plastics.
- 7.a) How tooling cost and production economy are considered while performing design for manufacturing of the part.
- b) Explain design consideration for injection moulding of plastic parts.
8. Write short note:
 - a) Creative Design
 - b) Keeler-Goodman forming limit diagram.