R09

Code No: C3304, C0404, C5204

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH I SEMESTER EXAMINATIONS, APRIL/MAY-2012
DESIGN FOR MANUFACTURING AND ASSEMBLY
(COMMON TO ADVANCED MANUFACTURING SYSTEMS, CAD/CAM, DESIGN FOR MANUFACTURING)

Time: 3hours **Max. Marks: 60**

Answer any five questions
All questions carry equal marks
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1.a) Distinguish between design for manufacturing and detailed design explaining the various terms involved.
b) The factors of material selection will influence both design and manufacture. Justify the statement by considering various factors.

2.a) What are the general design recommendations for drilled parts?
b) Explain with a suitable example the steps in improving the design of a component from the point of view of machining.

3.a) Discuss the general design considerations for casting process.
b) Enumerate design rules and guidelines applicable to casting tolerances.

4.a) Discuss the various factors that are to be considered in the design of weldments.
b) Explain the thermal stresses effect on the welded joints.

5.a) Explain the Keeler Goodman Forming Line Diagram.
b) Discuss the Design guidelines for extruded sections.

6. Explain continuous transfer system in automatic assembly. What are the advantages and disadvantages of continuous transfer system? List the applications.

7.a) Describe the general important considerations for choice of assembly methods.
b) How to differentiate between indexing and free transfer machine on the basis of production time

8. Discuss the effect of the following parameters on the handling time:
a) Part Symmetry
b) Part Thickness
c) Part Weight
d) Part Size

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