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Code No. : 8211

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
M.E. I Year (Mech. Engg.) II-Semester (Main) Examinations, July-2016
(Advanced Design & Manufacturing)

Design for Manufacture

Time: 3 hours

Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Part-A (10 × 2=20 Marks)

1. Discuss on evolution of engineering materials.
2. How values of Tolerances are decided during design?
3. List the advantages of blanking in the development of metallic parts.
4. What are the applications of metal spun parts?
5. Explain the process of investment casting.
6. Differentiate the sand cast and die cast products.
7. How ceramic parts are produced?
8. Explain the process of injection moulding.
9. Explain surface finishing process in component manufacturing.
10. What do you mean by electronic scaling of a component in product design?

Part-B (5 × 10=50 Marks)

(All bits carry equal marks)

11. a) Discuss the suitability of cold finished steel parts for manufacturing.
b) Explain different methods of machining rubber parts.
12. a) Explain explosive forming and electromagnetic forming methods with sketches.
b) Explain design recommendations for rolled formed parts.
13. a) Differentiate the process of planing and shaping and their applications.
b) Explain the process of die casting and their advantages over other casting methods.
14. a) Explain the design recommendations for manufacturing of ceramic parts.
b) What are design considerations for automated assembly?
15. a) Explain the design of press fitted joints for plastics and rubber.
b) Justify group technology with an example.
16. a) Explain the design recommendations of turned parts.
b) Explain why DFM is not implemented in many countries.
17. Write short notes on any two of the following:
 - a) Centerless grinding of parts.
 - b) Design for Assembly of parts.
 - c) Low cost automation.
