

End Semester Examinations - 2015-16 Even Semester - May 2016

14ME3033 Engineering Product Design and Development Strategies

Set B

Time : 3 hrs
Total Marks: 100

1.
 - a. Classify the models and give their role in engineering design.
 - b. Explain the simulation of the pulsed arc welding process with a neat sketch.
- OR**
2.
 - a. Discuss the following in detail. (i) Benchmarking (ii) Quality Function deployment.
 - b. Explain the seven important steps involved in product design process with neat sketches.
3.
 - a. Discuss the benefits and the abilities of interactive product simulation with an example.
 - b. Illustrate the Monte Carlo simulation method with an example.
- OR**
4.
 - a. Identify the important steps to be followed for materials selection for a new product or new design.
 - b. With a neat flowchart explain the materials selection at the embodiment design phase.
5.
 - a. List out the descriptors, benefits and advantages when selecting the materials using computer aided databases.
 - b. How weighted property index method is used in selecting the right materials.
- OR**
6.
 - a. With neat sketches explain the technological properties of form design of grey iron castings.
 - b. Discuss the rules to be considered for the form design of grey iron castings.
7.
 - a. with a neat sketch explain the differences between limits and tolerances using a pin or a stud.
 - b. List out the advantages of the general tolerancing to facilitate easy manufacturing using an example.
- OR**
8.
 - a. Summarize the application of symbols used in geometric tolerances in high precision engineering
 - b. Explain the dimensioning rules and systems for the following with neat sketches.
i) Aligned ii) Unidirectional iii) Tabular iv) Placements
9.
 - a. State the use of geometric dimensioning and tolerancing (GD&T) and explain its principles.
 - b. Sketch all the symbols used in geometric tolerancing and write their importance in manufacturing a product.

Wishing you All the Best