

M.Tech-CAD/CAM (CBCS Pattern) Sem II  
**MTC-1004.2 - Elective-II : Product Design & Development**

P. Pages : 1

**GUG/S/18/3939A**

Time : Three Hours



Max. Marks : 70

- Notes :
1. All questions carry equal marks.
  2. Answer **any five** questions.
  3. Due credit will be given to neatness and adequate dimensions.
  4. Assume suitable data wherever necessary.
  5. Retain the construction lines.
  6. Illustrate your answers wherever necessary with the help of neat sketches.

- |    |     |                                                                         |    |
|----|-----|-------------------------------------------------------------------------|----|
| 1. | a)  | What are the different types of product design?                         | 7  |
|    | b)  | What is the importance of engineering design process?                   | 7  |
| 2. | a)  | Explain how engineering materials are classified?                       | 7  |
|    | b)  | What are the different parameters responsible for selecting a material? | 7  |
| 3. | a)  | Give classification of manufacturing processes in details.              | 7  |
|    | b)  | Describe product and technology development cycle.                      | 7  |
| 4. |     | Write short notes on.                                                   | 14 |
|    | a)  | Process selection.                                                      |    |
|    | b)  | A study material selection chart.                                       |    |
| 5. | a)  | What are the chief types of taxes that are imposed on a business firm?  | 7  |
|    | b)  | Explain sensitivity and break-even analysis.                            | 7  |
| 6. | a)  | What is robust design? Explain its contribution to product improvement. | 7  |
|    | b)  | Explain the concept of DFX.                                             | 7  |
| 7. |     | Write short notes on.                                                   | 14 |
|    | i)  | Selective laser sintering (SLS).                                        |    |
|    | ii) | Rapid prototyping.                                                      |    |
| 8. |     | Write short notes on.                                                   | 14 |
|    | i)  | Concurrent engineering.                                                 |    |
|    | ii) | Benchmarking.                                                           |    |

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