

Q.P. Code: 25454

Total Marks: 80

Duration: 3 Hours

N.B.:-

1. Question No.1 is compulsory
2. Solve any three out of remaining questions
3. Assume suitable data if required and mention it clearly
4. Figures to right indicate full marks

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|----|----|--|----|
| Q1 | A] | Explain various phases of product development with suitable examples   | 10 |
|    | B] | Explain concept of value engineering and its methodology in detail   | 10 |
| Q2 | A] | Explain importance of quality dimensions with respect to following points:-  | 10 |
|    |    | 1. Performance   |    |
|    |    | 2. Features  |    |
|    |    | 3. Aesthetics  |    |
|    |    | 4. Ergonomics  |    |
|    |    | 5. Reliability   |    |
|    | B] | Explain following:-  | 10 |
|    |    | 1. Reverse Engineering   |    |
|    |    | 2. Concurrent Engineering  |    |
| Q3 | A] | Explain Ashby material selection chart in detail.  | 10 |
|    | B] | Explain following:-  | 10 |
|    |    | 1. Stereo lithography  |    |
|    |    | 2. Selective Laser Sintering(SLS)  |    |
| Q4 | A] | What important parameters will consider while selecting manufacturing process?   | 10 |
|    | B] | Explain different types of prototypes with their advantages and limitations  | 10 |
| Q5 | A] | Explain concept of Design for manufacturing(DFM) and Design for Assembly(DFA)  | 10 |
|    | B] | With help of suitable example explain time value of money. What do you mean by inflation? How both affects economics of product development? | 10 |
| Q6 | A] | Explain Design of Experiments and Taguchi's Design with suitable examples.   | 10 |
|    | B] | Explain patents and IP act in relation to economics of product development.  | 10 |

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