

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

- 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 **10**
inflation? How both affects economics of product development?
- 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**
