Total No. of Questions : 12]

SEAT No. :

P1525

[Total No. of Pages : 3

[4759]-35

B.E. (Mechanical)

PRODUCT DESIGN AND DEVELOPMENT

(2008 Course) (Semester - I) (Elective - I) (402044B)

Time : 3 Hours] *[Max. Marks :100*

Instructions to the candidates:

1) ***Answer for each section be written in separate answer sheets.***
2) ***Attempt Q1 or Q2, Q3 or Q4, and Q5 or Q6 from section -I.***
3) ***Attempt Q7 or Q8, Q9 or Q10, and Q11 or Q12 from section -II.***
4) ***Figure to the right indicate marks.***
5) ***Draw figures wherever necessary.***
6) ***Assume suitable data, if required.***

SECTION - I

Q1) a) Explain design by evolution and design by Innovation with examples. **[8]**

b) State rapid prototyping methods. Explain any one method of RP. **[8]**

OR

Q2) a) Explain Concurrent Design. Give example. **[8]**

b) Explain product verification and product validation. **[8]**

Q3) a) Explain S-Curve. **[8]**

b) Explain customer need gathering methods. **[8]**

OR

Q4) a) What is the use of Mission statement and Technical Questioning. Explain Mission statement with example. **[8]**

b) State and explain various types of customer needs. **[8]**

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Q5) a) Explain Morphological Analysis. **[9]**

b) Explain FMEA. **[9]**

OR

Q6) a) What is concept Generation? Explain Concept Generation process. **[9]**

b) What is subtract and operate procedure? Explain the steps involved in subtract and operate procedure? **[9]**

SECTION - II

Q7) a) What is product tear down process? Explain the steps involved in product tear down process. **[8]**

b) What is benchmarking? Explain steps involved in bench marking. **[8]**

OR

Q8) a) Explain Force flow Diagram? Draw force flow diagram for any one application. **[8]**

b) What is product Architecture? Explain Function based Modularity. **[8]**

Q9) a) Explain any two guide lines for design for Assembly. **[8]**

b) Explain the components of life cycle assessment. **[8]**

OR

*Q10)*a) Explain Design for manufacturing. **[8]**

b) Explain the design for environment. **[8]**

Q11)a) Explain the components of PLM. **[9]**

b) Explain product data and product work flow. **[9]**

OR

Q12)Write short note on:

a) Emergence of PLM. **[6]**

b) Link between product data and product work flow. **[6]**

c) Product data Management. **[6]**

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