

VPM's
DR VN BRIMS, Thane
Programme: MMS (2014-16)
Third Semester (Operations) Examination October 2015

Subject	New Product Development and Concurrent Engineering		
Roll No.		Marks	60 Marks
Total No. of Questions	7	Duration	3 Hours
Total No. of printed pages	1	Date	31.10.2015

Note: Q1 is compulsory and solve any FOUR from the remaining SIX questions.

Q1) 20 Marks (Compulsory)

- a) Product architecture affects various product parameters. List the parameters and explain how the architecture affects them.(8 Marks)
- b) Write a note on quality and quality loss function as per Taguchi method.(8 Marks)
- c) Write a note on product development process and the various phases in it.(4 Marks)

Attempt Any FOUR from the Remaining SIX Questions

Q2) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- a) What are the various methods used to collect data from the customers?
- b) What is the need of concurrent engineering in today's workplace?
- c) What is the meaning of prototype? What are the purposes of prototypes?

Q3) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- a) What are the different designs for manufacturing principles?
- b) What are the various ways to increase value of a product?
- c) What are the benefits of value analysis?

Q4) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- a) Write a short note on kanban and kaizen.
- b) What is competitiveness? Write a short note on competitiveness pyramid.
- c) What are the various operations strategies on which a company may compete in the market?

Q5) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- a) What are the benefits of using technology in operations?
- b) What are the risks of using technology in operations?
- c) What is the role of research and development in technology?

Q6) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- a) What are the various things to be considered while deciding the industrial design?
- b) Write a short note on industrial design process.
- c) What are the three types of noise factors in robust design? Explain with examples.

Q7) Any two from (a) or (b) or (c) ————— (5x2) = 10 Marks

- a) The details regarding the launch of a product are as follows:
 The various costs will be incurred for the following duration
 Development Cost = Rs. 8 crore (From year 1 to 3)
 Ramp-up cost = Rs. 3 crore (In year 4)
 Marketing and Support cost = Rs. 1 crore/year (From year 4 to 10)
 Unit production cost = Rs. 2,000 per unit (From year 4 to 10)
 Sales and production volume = 20,000 units per year (From year 4 to 10)
 Unit price = Rs. 8,000 per unit
 Use interest rate = 12%
 Should the company go ahead with the product?
- b) In the above example, if the development cost is changed to Rs. 12 crore should the company go ahead with the product?
- c) What are the characteristics of services?