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B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APR / MAY 2014

MANUFACTURING ENGINEERING

6 Semester

MF9351 Computer Integrated Production Management System

(Regulation 2008)

Time : 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What are the major functions of traditional production planning and control?
2. What are the criteria on the basis of which you assess the different forecasting methods?
3. State the factors to cause evolution of computer integrated production management system.
4. What are the benefits of materials requirement planning?
5. What is manufacturing resource planning-MRP II?
6. Draw the flow chart for the three modules in SFC and interconnections with PPC functions.
7. What are the functions of computer aided process planning?
8. What do you understand by the term 'Group Technology'?
9. What methods are available for taking decisions in the process of developing a process plan?
10. Briefly describe automatic process planning.

Part – B (5 x 16 = 80 marks)

11. i. Describe the problems with traditional production planning and control. (6)

ii. The inventory balance of certain product for first 12 periods is given below:

Period (T)	1	2	3	4	5	6	7	8	9	10	11	12
Inv. balance	60	70	85	60	88	68	106	75	86	124	122	87

Apply single exponential smoothing and forecast for the 13th period.

Assume $S_1(0) = X_1$ & smoothing constant $\alpha = 0.1$

(10)

12. a) i) What is forecasting and explain the forecasting system. (6)

ii) The owner of a small trucking company is interested in the relationship between the age of a truck and the annual repair expense he should expect to incur. In order to determine this relationship the owner has accumulated the information in table concerning the four trucks he presently own (10)

Truck No.	Age of truck in years	Repair expense during last year in 1000's of Rs.
1001	5	7
1002	3	7
1003	3	6
1004	1	4

- Develop simple linear regression equation
- Compute standard error of estimate and coefficient of correlation
- Compute the expected annual repair expenses for the 4 & 6 years old truck.

OR

- b) Explain three phases of shop floor control and discuss the significance of priority control.

13. a) With a case study explain how mrp logic and computer system works?

OR

- b) Describe the inputs to material requirement planning with an example.

14. a) Explain the methodology to be followed for developing a retrieval type of computer aided process planning system.

OR

- b) Explain the methodology to be followed for developing a generative type of Computer aided process planning system.

15. a) How generative process planning differs from variant process planning and describe the forward and backward planning and decision logic methods of generative process planning.

OR

- b) Write short notes on:

i) Expert process planning systems. (8)

ii) Future trend of CAPP. (8)