Roll No										

(13)

B.E /B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS; NOV/DEC 2011

MANUFACTURING ENGINEERING BRANCH

EIGHTH SEMESTER

MN 481 – COMPUTER INTEGRATED PRODUCTION MANAGEMENT SYSTEM

(REGULATIONS 2004)

Time: 3 hr Max Mark: 100

Answer ALL Questions

Part- A (10 x 2 = 20 marks)

1. What are the functions of production planning and control?
2. Briefly discuss about the errors in forecasting.
3. When qualitative forecast approach is preferred over quantitative forecast approach?
4. List out the benefits of material 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. Explain the purpose of a factory data collection system.
8. What is the need for computer aided process planning?
9. Draw the floor chart of an information flow in a retrieval type CAPP system.
10. What is automatic process planning?

Part- B (6 x 15 = 80 marks)

11. Discuss the problems with traditional production planning and control & explain the factors to cause the evolution of CIPMS.
12. a) 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
Inventory balance	60	70	85	60	88	68	106	75	86	124	122	87

Apply double exponential smoothing and forecast for the 13th period as of period assume $S_1(0) = S_2(0) = X(1)$ and smoothing constant $\alpha = 0.1$.

(OR)

12. b) Explain the types of production systems with an example.

13. a) Explain the inputs and procedure for material requirement planning system with an example.

(OR)

b) i) What is capacity planning and how capacity adjustments can be accomplished? (8)

ii) Four jobs are to be scheduled through a certain work center. The following table gives data regarding the due date and remaining process time.

Job	Remaining process time (days)	Due date
A	12	39
B	7	26
C	9	37
D	6	45

In the job shop calendar, the current date is day 10. The jobs arrived at the work center in the order A, then B, then C, then D. use the EDD, SPT, LS, CR priority rules to sequence for these jobs. Evaluate the results using the criteria of average manufacturing lead time and average job lateness. (8)

14. a) What are the functions of shop floor control and explain the three phases of shop floor control system

(OR)

b) With a flow chart explain the functions of process planning.

15. a) Describe the sequences in the design of variant process planning system

(OR)

b) What is generative process planning and how it is differ from variant process planning?. Explain its modular structure with an aid of a flow diagram.