

B.E., DEGREE EXAMINATIONS MAY/JUNE 2013

Seventh Semester

MECHANICAL ENGINEERING

MEC121: Production Planning and Control

Time: Three Hours

Maximum Marks: 100

Answer ALL Questions:-

PART A (10x1=10 Marks)

1. Production Planning and Control makes the supervisor
 - A. Ineffective
 - B. effective
 - C. Responsible
 - D. autocratic
2. Break even analysis assumes that fixed costs are
 - A. Minimum
 - B. maximum
 - C. constant
 - D. variable
3. Which one of the following is essential in calculating basic time
 - A. Rating
 - B. Frequency
 - C. allowances
 - D. elements
4. Rational figure on utilization index can be obtained by carrying out
 - A. method study
 - B. work sampling
 - C. production study
 - D. time study
5. Which one of the following colour cannot be used in colour-run method of batch production
 - A. Black
 - B. Blue
 - C. White
 - C. yellow
6. Product Planning is the ongoing process of identifying and articulating
 - A. market requirements
 - B. Supply
 - C. Production
 - D. raw materials
7. Which of the following is not an effectiveness criterion for scheduling?
 - A. maximizing flow time
 - B. minimizing completion time
 - C. minimizing WIP inventory
 - D. maximizing utilization
8. Which of the following is not a characteristic of flow production?
 - A. continuous flow of material
 - B. low skilled labour
 - C. easy supervision
 - D. highly skilled labour
9. In Cost Vs Quantity plot, the total inventory Cost curve is
 - A. Hyperbolic
 - B. Linear
 - C. Parabolic
 - D. bell-shaped
10. Keeping available time per day constant, if the desired production rate per day is to be doubled, cycle time will be
 - A. the same
 - B. Doubled
 - C. Quadrupled
 - D. halved

PART B (10 x 2 = 20 Marks)

11. What are the functions of production control?
12. Differentiate durability and dependability.
13. List the objectives of method study.
14. What is work sampling?
15. Define value analysis.
16. What is machine loading?
17. List the types of scheduling techniques.
18. Define Product sequencing.
19. What are the costs associated with inventory?
20. Compare ERP and MRP II.

PART C (5 x 14 = 70 Marks)

21. a) Explain the types of production with neat sketches.

(OR)

- b) State and explain the factors to be considered for economics of a new design.

22. a) Explain the development and implementation of of micro motion sstudy and macro motion study.

(OR)

- b) Explain the various techniques of work measurement.

23. a) Explain the importance of process planning with reference to production control.
Also discuss the activities in process planning.

(OR)

- b) Analyse the process capabilities in a multiproduct system in detail.

24. a) Explain in detail the following

- (i) Batch production scheduling (7)
- (ii) Line of balance method (7)

(OR)

b) Explain the various aspects and benefits of Material Requirement Planning.

25. a) What is EOQ? Derive the expression for EOQ at infinite production rate and uniform demand of the item with no stock-outs.

(OR)

b) (i) Describe the fixed period quantity inventory model. (7)

(ii) Explain computer integrated production planning systems. (7)
