Code No. 2323

FACULTY OF ENGINEERING

B.E. 4/4 (Mech. / Prod.) II-Semester (Main) Examination, April / May 2013

Subject : Production and Operation Management

Time : 3 Hours **Max. Marks: 75**

Note: Answer all questions of Part - A and answer any five questions from Part-B.

PART – A (25 Marks)

1. Mention the various principles of scientific management as given by Henry Fayol.
2. Distinguish between Job shop, Batch shop and Mass production systems with respect to variety and volume.
3. Mention the factors to be considered with respect to plant layout.
4. List some of the scheduling heuristics.
5. Compare between time study and motion study.
6. List various control charts for variables.
7. What are the factors to be considered for selection of various types of hoisting equipment?
8. Mention the application of belt, screw and bucket conveyor systems.
9. Enumerate the various types of keys factors on which successful implementation of TQM depends.
10. What is a Kanban systems? How it is different from traditional push systems.

PART – B (5x10=50 Marks)

11.(a) What is scientific management? Briefly discuss the contributions made by F.W. Taylor towards scientific management. (6)

(b) Briefly describe flexible manufacturing system and mention for what type of manufacturing system it is suitable? (4)

12.(a) What are the different types of standard plant layouts? Explain. (6)

(b) Consider the following single machine and 6 jobs scheduling problem. (4)

Job	1	2	3	4	5	6
Process Time (days)	8	24	12	20	6	25
Due date (days)	15	30	20	32	12	40

Find the optimal schedule using:
(i) LPT Rule and (ii) EDD Rule

13.(a) A job order shop has 12 general purpose machines. A work sampling study has been designed to know the ineffective time of the entire shop. The study conducted revealed that the ineffective time is to the extent of 30%. Compute the number of observations that are required to have the accuracy of 5% with confidence level of 95%. (4)

(b) Briefly discuss about : (6)
(i) Time study equipments
(ii) Work sampling

14.(a) Describe about various types of earthmoving machinery mentioning their applications. (6)

(b) Discuss the principles of pneumatic and hydraulic conveying systems. (4)

15.(a) With a neat sketch explain fish bone diagram. (5)

(b) Taguchi method of quality control. (5)

16.(a) Describe various methods used for aggregate planning. (5)

(b) What is Line balancing? Explain the various methods of Line balancing. (5)

17. Write short notes on any two of the following: (10)
(a) Quality circles
(b) Screw and bucket conveyor system
(c) Taguchi method of quality control

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