QP Code : 2740

(3 Hours) [Total Marks : 100

N.B.

1. Attempt any five questions including Q.1 which is compulsory.
2. Figures to the right indicate full marks.
3. Assume suitable data if required.

Q.1 Explain any four of the following. 20

a) Define quality of design & quality of conformance to design

b) What is work measurement? What are the uses of work measurement?

c) What is industrial engineering? What are the activities of industrial engineering?

d) What are different types of value? What are the reasons for unnecessary costs?

e) What are the objectives of plant layout?

f) Explain evolution of ERP.

Q.2 a) The following data refers to the study conducted foe an operation. Table shows actual time for the elements in minutes. 10

Elements	Cycle (minutes)			
1	3.5	3.4	3.3	3.5
2	4.5	4.6	4.5	4.5
3	2.4	2.2	2.3	2.3
4	1.5	1.6	3.5	1.6

1) Element no. 2 is machine element.
2) Consider observation as abnormal & delete the same if they are more than 20% of average time of the element.
3) Take performance rating as 110.
4) Assume personal & fatigue allowance as 29% of the normal time.

Estimate the basic time & standard time for the operation.

b) Explain principles of motion economy related to use of human body & workplace layout. 10

Q.3 a) What is productivity? Explain the factors influencing productivity. 10

b) Define value engineering. Explain various steps in value engineering. 10

Q. 4 a) What are the stage of ERP implantation? What are the possible hurdles in implementing it? 10

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b) Discuss the various elements of ERP architecture. How will justify ERP in terms of cost, tangible & intangible costs   10

Q.5 a) what is basic work content? What constitutes excess work content?   10

b) The following are the fraction defectives of some welded assemblies during the month of March in sample of 1200 each.   10

Date	1	2	4	5	7	8	9	11	12
Fraction defectives	0.08	0.12	.06	0.07	0.14	0.12	0.05	0.03	0.07
Date	14	15	16	17	19	20	21	23	24
Fraction defectives	0.1	0.12	0.13	0.14	0.10	0.03	0.07	0.12	0.05
Date	25	27	28	30	31				
Fraction defectives	0.07	0.11	0.13	0.05	0.07				

From the data construct nP chart for controlling quality of next month. What are your comments on the quality of immediate future?

Q.6 a) Explain the need of computers in industrial engineering.   10

b) Explain lean manufacturing   10

Q.7 write short note on the following   20.

a) Computerized relative allocation of facilities technique(CRAFT)

b) factors influencing plant location

c) Time study equipments

d) Recording techniques in method study

e) Kaizen

Course: B.E. (SEM.-VIII) (REV. -2007) (MECHANICAL ENGG.)(Prog T5318)

QP Code: 2740

Correction:

Q.no. 2(a)

Read As:

The following data........ Conducted **for**.............in minutes

Instead of:

The following data........ Conducted **foe**.............in minutes

Q.no. 4(a)

Read As:

What are the **stages** of ERP **implementation.** ....it.

Instead of:

What are the **stage** of ERP **implantation**. ....it.

Query Update time: 18/12/2015 11:15AM