FirstRanker.com
Firstranker's choice
www.FirstRanker.com www.FirstRanker.com

Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–III (New) EXAMINATION – WINTER 2018

Subject Code: 2132905 **Date:14/12/2018**

Subject Name: Basic Engineering in Textile

Time: 10:30 AM TO 01:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

MARKS

Q.1 **(a)** Differentiate between fire tube boiler and water tube boiler. **03**

(b) Define maintenance. What are the types of maintenance? **04**

(c) Explain basic steps in Method Study by algorithm. **07**

Q.2 **(a)** Give the detail classification of boiler. **03**

(b) Advantages and disadvantages of water tube boiler over the fire tube boiler. **04**

(c) Describe the Hungarian method procedure for Assignment problem in detail. **07**

OR

(c) Use graphical method to solve following LPP. **07**

$$\text{Maximize } Z = 20\,x_1 + 10\,x_2$$

$$\text{Subject to, } x_1 + 2\,x_2 \le 40$$

$$3x_1 + x_2 \ge 30$$

$$4x_1 + 3x_2 \ge 60$$

$$x_1, x_2, \ge 0$$

Q.3 **(a)** What is standard time? Describe briefly how you will calculate "standard time" from the observed time obtained by time study? **03**

(b) Explain functions or elements of preventive maintenance. **04**

(c) Consider the project consist of following activities in weeks **07**

Activity	1-2	1-3	2-4	3-4	3-5	4-9	5-6	5-7	6-8	7-8	8-10	9-10
Duration	4	1	1	1	6	5	4	8	1	2	5	7

Calculate the total project duration, critical path and total float

OR

Q.3 **(a)** Explain humidification and dehumidification. **03**

(b) Explain work measurement by algorithm. **04**

(c) Write a short note on Flow process chart **07**

Q.4 **(a)** Draw two handed process chart for signing a letter and give summary for same. **03**

(b) Explain any one feed water treatment with neat sketch. **04**

(c) A company has 5 jobs to be done on five machines. Any job can be done on any machine. The cost of doing the jobs on different machines is given below. Assign the jobs for different machines so as to minimize the total cost. **07**

www.FirstRanker.com

Jobs	Machines				
	A	B	C	D	E
1	13	8	16	18	19
2	9	15	24	9	12
3	12	9	4	4	4
4	6	12	10	8	13
5	15	17	18	12	20

OR

Q.4 **(a)** Explain basic procedure for the method study. **03**

(b) Differentiate breakdown maintenance and preventive maintenance. **04**

(c) Obtain the initial basic feasible solution for the following transportation problem by north-west corner rule. Also find the optimality **07**

Origin/Destination	D_1	D_2	D_3	Supply
O_1	2	7	4	5
O_2	3	3	1	8
O_3	5	4	7	7
O_4	1	6	2	14
Demand	7	9	18	34

Q.5 **(a)** Define three floats in CPM and PERT **03**

(b) Explain Cochran boiler with neat sketch **04**

(c) A Consider the following project. Find the path and standard deviation. Also find probability of completing the project by 18 weeks. **07**

Activity	Optimistic time	Most likely time	Pessimistic time
A(1-2)	3	6	9
B(1-3)	2	5	8
C(2-4)	2	4	6
D(3-4)	2	3	10
E(3-5)	1	3	11
F(4-6)	4	6	8
G(5-6)	1	5	15

OR

Q.5 **(a)** Define terms in PERT network: i) Optimistic time ii) Most likely time iii) expected time **03**

(b) Explain necessity of water treatment of boiler feed water **04**

(c) Explain PMTS and MTM in brief **07**

****

www.FirstRanker.com