* U F - 8 1 4 5 *

UF-8145

B. E. - II (Sem. III) Examination

May / June – 2012

Basic Engineering in Textile

Time : **3** Hours] [Total Marks : **100**

Instructions : (1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. - 2 (SEM. 3)**

Name of the Subject :

☛ **BASIC ENGINEERING IN TEXTILE**

☛ Subject Code No. : **8 1 4 5** ☛ Section No. (1, 2,.....) : **NIL**

Seat No. :

Student's Signature

(2) Attempt all questions.
(3) Make suitable assumption wherever necessary.
(4) Fig. to the right indicate full marks.

1 (a) Attempt all : **10**

(i) List the types of allowance.
(ii) Define the term normal time.
(iii) Write down two limitation of time study.
(iv) Define the term "work measurement".
(v) SIMO chart is generally utilized for Micro Motion analysis of High order skil job.
  (a) True
  (b) False
(vi) Draw symbols of Delay and Inspection
(vii) What is dummy activity. Draw fig.
(viii) Define the term "PERT".
(ix) What is pessimistic time ?
(x) Give the application of linear programming method.

(b) Attempt all :

(i) Write down scope of method study. **4**

(ii) Solve following LPP using simplex. **6**

Maximize $Z = 3x_1 + 4x_2$

Subject to $x_1 + x_2 \leq 450$

$2x_1 + x_2 \leq 600$

where $x_1, x_2 \geq 0$

2 Attempt all :

(i) Discuss basic procedure for time study and give difference between time study and motion study. **7**

(ii) Find the initial basic feasible solution to the following transportation problem by **8**

(a) Minimum cost method

(b) North-West corner rule.

State which of the method is better ?

		To			
		P	*Q*	*R*	*Supply*
From :	*A*	2	7	4	5
	B	3	3	1	8
	C	5	4	7	7
	D	1	6	2	14
		7	9	18	

OR

2 Attempt all :

(i) Distinguish between critical path method and project evaluation review technique. **7**

(ii) An automobile company manufacturing scooter has decided to come up with a scooter specially designed for women only. The project involves several activity listed in the following table : **8**

Activity	Description	Predecessor Activity
A	Study design of Scooter in Market	-
B	Design the new scooter	A
C	Design the Marketing Program	A
D	Design new production system	B
E	Select Advertising media	C
F	Test prototype	D,E
G	Release scooter in market	F

Draw suitable network.

3 Any two out of three : **15**

(i) Enumerate various steps involved in Hungarian method of solving assignment problem.

(ii) M/s. Stead Fast enterprise has four plant each of which can manufacture any one of the four product. Cost different from one plant to another plant as follows :

Product

Plant	P	Q	R	S
1	33	40	43	32
2	45	28	30	23
3	42	29	35	29
4	27	42	45	38

Find out which product each plant should produce to minimize cost.

(iii) Draw a network using the following information regarding activities and duration. Find the critical path and total duration of the project.

Activity	Immediate Predecessor Activity	Duration
A	-	12
B	-	10
C	B	06
D	B	05
E	B	08
F	E	04
G	A,D,C	13

4 (a) Attempt all : **10**

(i) Define fire tube boiler.

(ii) Give specifications of Fire tube boiler.

(iii) The function of a boiler is

(a) To compressed steam

(b) To heat feed water

(c) To generate the steam at desired pressure.

(iv) Give objective of plant maintenance.

(v) The importance of plant maintenance varies with the types of plant and its production.

(a) True

(b) False

(vi) Define preventive maintenance.

(vii) What is an air conditioning system ?

(viii) Give the function of air washer.

(ix) Give name of air conditioning system according to the arrangement of equipment.

(x) Use of air conditioning system in textile industry.

(b) Attempt all :

(i) Differentiate between breakdown maintenance and preventive maintenance. **5**

(ii) What are the benefit of preventive maintenance. **5**

5 (i) Explain the working principle of cochran boiler with neat sketch. **8**

(ii) Explain the distribution of different service like steam, water, compressed air etc. in textile industries with specific application of each in textile. **7**

OR

5 (i) Write short note on economics of steam generation. **8**

(ii) Explain function of air washer with neat sketch. **7**

6 (i) Write short note on pH value of water. **7**

(ii) Explain the necessity of Feed Water treatment. **8**
