PVP 14

Code: CE6T6FE-A, IT6T5FE-C, CS6T5FE-D, EE6T6FE-I

III B.Tech - II Semester – Regular/Supplementary Examinations
AUGUST 2021

INDUSTRIAL ENGINEEERING & ENTREPRENEURSHIP
(Common for CIVIL, CSE, EEE & IT)

Duration: 3 hours Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11x 2 = 22 M

1.

a) Define Industrial Engineering.
b) Difference between goals and objectives.
c) Differentiate Line and Staff functions.
d) What is meant by Leadership?
e) What are chance and Assignable causes? Give examples.
f) Differentiate Defect and Defective with reference to an example.
g) What is meant by dummy activity in network diagram?
h) Define the three probabilistic time estimates of activity of PERT network.
i) What is meant by feasibility report w.r.to small-scale industries?
j) List out the financial avenues for small scale industries.
k) What is TQM?

PART – B

Answer any *THREE* questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Enunciate the Functions of Management. 8 M

b) Articulate Taylor's Principles of Scientific Management. 8 M

3. a) What are the different types of Organizations? Explain them with neat Organization Charts. 8 M

b) What are the essential leadership qualities that makes you a good leader? Briefly explain. 8 M

4. a) Explain the principles of Variable Control Charts. 8 M

b) A precision casting process is designed to produce blades with their diameter as the measuring characteristic. To establish control limits, 20 samples of size equal to 5 blades each are randomly selected from the first 500 blades produced. The mean of the sample means ($\bar{\bar{X}}$) and the mean of the sample ranges ($\bar{R}$) were found to be: $\bar{\bar{X}}$=10.002 cm ; $\bar{R}$=0.032 cm. Find the control limits for the sample means and the sample ranges. Take the constants for n = 5 as follows: A_2 = 0.577 ; D_3 = 0.0 ; D_4 = 2.114. 8 M

5. A microwave relay station construction project is being planned on a PERT basis with the data shown given in days. Construct the arrow diagram showing the expected time for each activity. Identify the Critical Path and find the expected duration and variance of the project. 16 M

Activity	Optimistic time (a)	Most probable time (m)	Pessimistic time (b)	Activity	Optimistic time (a)	Most probable time (m)	Pessimistic time (b)
1-2	2	3	10	**3-7**	3	5	7
1-3	8	12	20	**4-6**	8	12	20
1-4	10	14	16	**5-7**	1	1	1
2-5	6	10	12	**6-8**	6	10	12
3-5	14	20	26	**7-8**	1	3	7

6. a) What is Entrepreneurial philosophy? Explain the functions of an entrepreneur. 8 M

b) What is the role of small-scale industries in the growth of country's economy? 8 M