H.T.No. | | | | | | | | | | |

Code No: ME1513 **GEC-R14**

II B. Tech II Semester Regular Examinations, April 2017

INDUSTRIAL ENGINEERING AND MANAGEMENT

(Mechanical Engineering)

Time: 3 Hours **Max. Marks: 60**

Note: All Questions from **PART-A** are to be answered at one place.
Answer any **FOUR** questions from **PART-B.** All Questions carry equal Marks.

PART-A

6 × 2 = 12M

1. Match Group-A with Group-B

Group-A	**Group-B**
a) Elton Mayo	A) Father of Modern Management
b) Henry Fayol	B) Father of Scientific Management
	C) Father of Industrial Engineering
	D) Father of Human Relations approach

2. a) In which of the following layout, machinery may not be utilized at its fullest capacity.

   A) Line Layout B) Process Layout
   C) Static Product Layout D) None

   b) For Low volume Production the most suitable plant layout is _____Layout

3. a) State the Photographic aids used in Method study.

   b) Work Sampling is also referred to as

   A) Activity Sampling B) Ratio delay sampling
   C) A&B D) None of these

4. a) In which of the following inspection methods, the work is inspected at key stages of the process.

   A) Process inspection B) Critical point inspection
   C) Incoming Inspection D) Fixed Inspection

   b) Which of the following technique guarantee the customer that the entire lot of goods meant for sale does not contain defective goods?

   A) Process capability B) SQC
   C) Process control D) Acceptance Sampling

5. Define a) Wage b) Incentive

6. a) The estimated duration of times for an activity, in the PERT network under the worst and best environment are as 8 and 2 days. The variance of this activity is

   A) 6 days B) 1 day C) 2 days D) None of these.

b) The minimum possible time, in which an activity can be completed by employing extra resources, is known as

A) Crash time B) Normal time
C) Finish time D) None of the above.

PART-B

4 × 12 = 48M

1. a) State the various types of organization structures and illustrate any two of them. (6M)

   b) Explain the contribution of F.W.Taylor in the field of Industrial Engineering and Management. (6M)

2. a) Suggest and explain a suitable plant layout for mass production. (8M)

   b) Explain breakdown maintenance. (4M)

3. a) Explain the procedure of method study. (6M)

   b) What are the objectives of work Measurement (6M)

4. a) What is a control chart and Explain its usefulness with the aid of a control chart. (6M)

   b) Explain the concept of "ISO systems". (6M)

5. a) Distinguish between Job description and Job specification. (4M)

   b) Explain the methods of Merit rating. (8M)

6.

	Time Estimates (days)		
Activity	**to**	**tm**	**tp**
1-2	6	9	18
1-3	5	8	17
2-4	4	7	22
3-4	4	7	16
4-5	4	10	22
2-5	4	7	10
3-5	2	5	8

From the above data, (12M)

i) Draw the project network and identify all the paths through it

ii) Find the expected duration and variance for each activity

iii) Identify the critical path

iv) Calculate the variance and standard deviation of the critical path

Find the Normal Variate, if the Project is to be completed in 32 days.

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