

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ME) (2011 Onwards E-II) (Sem.-7,8)

INDUSTRIAL ENGG.

Subject Code : DE/PE-2.1

Paper ID : [A3075]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students has to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students has to attempt any **TWO** questions.

SECTION-A

Q1 Answer briefly :

- a) Define Industrial Engineering.
- b) Discuss design parameters of scales and pointers.
- c) Name at least 3 different industries in India in which process layout are adopted.
- d) Explain the importance of standardization of methods.
- e) Explain the outline process chart with the help of a neat sketch.
- f) Give the symbols of motion study.
- g) What is job enlargement?
- h) Describe briefly the procedure to be followed for "*Time Study*" by "*Stop-watch*" Method.
- i) Define "*Value Engineering*".
- j) State for what kind of material handling, Fork-lift trucks are used.

SECTION-B

- Q2 Enumerate the role of an industrial engineer in industry.
- Q3 Discuss the role of work study in improving plant productivity and safety.
- Q4 Explain in detail “*Micro-motion Study*” along with its various applications.
- Q5 An operator manufactures 50 jobs in 6 hours and 30 min. If this time includes the time for setting his machine. Calculate the operator's efficiency. The Standard time allowed for the job was :
- a) Setting Time = 35 min.
 - b) Production time per piece = 8 min.
- Q6 “*Value analysis is a remedial process while value engineering is a preventive process*” Discuss.

SECTION-C

- Q7 Enumerate the basic types of plant layout and write their characteristic, advantages and applications features in detail.
- Q8 The following estimates of time have been made in connection with the manufacture of a component:
- a) Loading piece into machine = 30 Seconds
 - b) Starting the machine and engaging the feed lever = 15 Seconds
 - c) Running time (automatic stop at the end) = 300 Seconds
 - d) Unloading components = 20 Seconds
 - e) Inspecting components = 45 seconds
 - f) Packing components in the box = 10 Seconds
- Compute the cycle time and draw the activity chart of the operator and machine.
- Q9 What are the various systems in use of “*Predetermined Motion Time Standards*”? Explain one most popular amongst them.