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:

- 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.

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