

**Total No. of Pages : 02**

**B.Tech.(ME) (D.E.-II) (Sem.-7,8)**

**Subject Code : DE/PE-2.1**

Paper ID : [A0876]

**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 have to attempt any **FOUR** questions.
3. SECTION-C contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

**1. Write briefly :**

- a) Write down the principle of material handling.
- b) What are therbling? Give their importance.
- c) Under what conditions is JIT manufacturing system appropriate.
- d) Enumerate the various areas of study covered under ergonomics.
- e) What are the qualities of an 'Industrial Engineer'?
- f) Contrast job rotation and job Enrichment.
- g) Define 'Standard Time'.
- h) State principles of motion-economy as related to work layout.
- i) What are basic procedural steps of work study?
- j) Give various objectives of value engineering.

**SECTION-B**

2. What are the various types of charts and diagrams used for recording in method study?
3. Differentiate between work sampling and time study.
4. Explain mean, mode, standard deviation, average deviation, and variance used in work sampling.
5. Discuss the general considerations for the design of man machine system.
6. Give functions of industrial engineering department and its organization.

**SECTION-C**

7. Explain in detail the objectives and procedure for method analysis.
8. Differentiate in terms of working, advantages, disadvantages and applications between product, process and combination layouts.
9. Write short notes on the following :
  - a) Group Technology
  - b) SIMO Chart