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Total No. of Pages : 02

Total No. of Questions : 09

**B.Tech Ind. Engg. & Mgt. (Spl. in TQM) (Sem.-4)****WORK STUDY AND ERGONOMICS**

Subject Code : IEM-401

M.Code : 61016

Time : 3 Hrs.

Max. Marks : 40

**INSTRUCTIONS TO CANDIDATES :**

1. Attempt All EIGHT questions from SECTION-A carrying TWO marks each.
2. Attempt any SIX questions out of EIGHT from SECTION-B carrying FOUR marks each.

**SECTION-A****1. Answer briefly :**

- a) Define Productivity. What are the types of productivity?
- b) Explain the relationship of work study with human factors.
- c) Explain the objectives and scope of method study.
- d) Explain the elements of flow process chart giving their significance and applications.
- e) Explain the objectives of an incentive plan. What are various incentive plan adopted by organizations for motivating employees?
- f) Define ergonomics. Describe the objectives and basic principles of ergonomics.
- g) How does anthropometric data facilitate improving work capacity and reduce stress and fatigue?
- h) How does excessive heat at workplace affect human heat balance?

**SECTION-B**

2. What is a good productivity ratio? How is productivity calculated? How do organizations evaluate productivity at all levels: Employee, Organization?





3. Define work study. State the areas of application of work study in an Industry.
4. Discuss the principles of motion economy.
5. What do you understand by multiple activity chart? Give an example to explain the functioning of multiple activity chart.
6. Explain the procedure for calculation of standard time in a manufacturing unit giving description of various allowance to be accounted for computation of standard time.
7. Describe the ergonomic principles for job requiring standing posture.
8. Define anthropometry. How does anthropometric data help in designing the workplace?
9. Explain the sources of noise at workplace and how do they affect the worker performance? How noise effects can be minimized at workplace?

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**

