

**IV B.Tech. II Semester Supplementary Examinations, July -2005  
WORK STUDY & INDUSTRIAL ENGINEERING PRACTICES  
(Production Engineering)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions  
All Questions carry equal marks**

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1. (a) Explain the concept of Productivity.  
(b) Describe the various causes of poor Productivity in an Industry?
2. Make a two handed chart of the operation of washing hands using a soap.
3. (a) Define time study. State its advantages and limitations.  
(b) A time study of a loading operation revealed a cycle time of 6.60 min for a worker rated at 118 percent. The allowances are personal = 24 min/day; delay = 36 min/day; fatigue = 72 min/day. Estimate the standard time for an 8-hour/ day shift.
4. (a) Is the movement involving the least muscular activity and the lowest classification of body motions the best and least fatiguing motion? Why?  
(b) Under what circumstances is it feasible to make a micro motion analysis of a job? Explain.
5. (a) What are the factors for the success of Industrial Engineer?  
(b) Economic problem is difficult to solve by Industrial Engineer? Discuss.
6. (a) What is group incentives scheme? What are its advantages?  
(b) Explain any two-group incentives schemes with suitable examples.
7. You have been asked to train employees to use personal computers. What factors would you consider in designing the program?
8. (a) What is safety organization? What are its objectives?  
(b) Give a typical structure of safety organization?

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1. (a) Distinguish between increased Production and increased Productivity?  
(b) What are the various tools of productivity? How Productivity can be increased?
2. (a) What is a string diagram ? what are its uses ?  
(b) What is written standard practice ? What are the improvements to record the method or operation available now?
3. (a) List and explain the steps necessary in developing a time standard.  
(b) Why do conditions have to be standard before making a time study?
4. What is system ? Explain man-machine system
5. (a) To become a successful Industrial Engineer, what qualifications and experience are needed? Discuss.  
(b) Explain Industrial engineering and computer how they complement each other.
6. (a) How the job evaluation helps in developing equitable wage structure  
(b) What precautions should be followed in installing job evaluation scheme.
7. What are the training methods do you recommend for each of the following occupation? Why?  
(a) An-assembly line worker  
(b) An experienced supervisor
8. (a) Why should employee and employer both be concerned about safety in industry?  
(b) Discuss the need for personnel protective equipment?

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1. (a) What are the advantages of Method Study?  
(b) Explain in detail the various steps involved in Systematic methods of improvement.
2. Write short notes on
  - (a) Motion picture camera
  - (b) String Diagram
3. (a) What do you mean by work content? Explain  
(b) What different allowances are provided to arrive at standard time? Explain
4. What principles would you bear in mind when effecting improvements in work place layout and what techniques could be employed?
5. (a) What is the future scope of Industrial Engineering in India?  
(b) How a linear programming and simulation can be organized by Industrial Engineering department?
6. Explain the various steps involved in job evaluation
  - (a) job description
  - (b) job specification job specification
  - (c) Point system of job evaluation
  - (d) Factor comparison method
7. You have been asked to train employees to use personal computers. What factors would you consider in designing the program?
8. Write a note on the following
  - (a) Accident prevention
  - (b) Environmental effects of accident
  - (c) Safety program
  - (d) Accident report

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1. (a) Discuss the position of “Work Study Department” in the organizational structure of a manufacturing unit.  
(b) What is the need of work-study? Enlist its advantages.
2. Briefly Explain the following
  - (a) Operation process chart,
  - (b) Flow process chart,
  - (c) Flow diagram, and
  - (d) String diagram
3. (a) Explain the concept of time study  
(b) Find the standard time for operation performed by a drill man if the work sampling study shows that he was idle for 15% of the total working time of 8 hours and for the remainder of the duty he worked at 110% performance index. He drilled 200 items of acceptable quality during his total duty. Assume that 10% of the total time is taken as fatigue and other personal allowances.
4. Who is responsible for the development of ‘principles of motion economy? What are the uses of this study? Explain different techniques
5. Explain the following.
  - (a) Development of system analysis and design in I.E
  - (b) Importance of Behavioral science and Human factors in I.E
6. (a) Discuss the important conditions which should be fulfilled before any incentive wage scheme could be installed  
(b) How will you examine the effectiveness of an incentive scheme in use.
7. (a) What are the objectives of executive development?  
(b) Discuss the methods designed for executive development?
8. Write a note on
  - (a) Respiratory productive devices
  - (b) Fire extinguishments

- (c) Safety and productivity
- (d) Safety inspection

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