

CODE NO: NR422004 SET NO.4

**2005 JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY**

**IV B.TECH. II SEMESTER SUPPLEMENTARY EXAMINATIONS  
WORK STUDY & INDUSTRIAL ENGINEERING PRACTICES  
(PRODUCTION ENGINEERING)**

JULY -2005

TIME: 3 HOURS MAX MARKS:80

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*Answer any FIVE Questions  
All Questions carry equal marks*

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