



7155

December-2008

## Work Study [EP-I]

Time : 3 Hours]

[Max. Marks : 100

(10 : 30 A.M. to 1 : 30 P.M.)

- Instructions :**
- (1) Attempt **all** questions from **two** sections.
  - (2) Use separate answer books for both sections.
  - (3) Figures to the right indicate full marks.
  - (4) Assume suitable data, if required.

**SECTION – I**

1. (a) Define the term 'Work study' and discuss its objectives. 16
- (b) Discuss the reasons of low productivity and explain steps to improve it.

**OR**

- (a) Discuss about 'Micro-motion study' and state its objectives and applications.
  - (b) Explain about following 'Therbligs'
    - (i) Find
    - (ii) Grasp
    - (iii) Hold
    - (iv) Position
2. (a) Describe about following charts and suggest how it can be improved. 16
    - (i) Man and Machine chart.
    - (ii) Flow Process chart

**OR**

- (a) Describe the principles of Motion Economy related to :
    - (i) Human Body
    - (ii) Work place Layout
    - (iii) Tools and Equipments
  - (b) Describe following steps to undertake method study.
    - (i) SELECT
    - (ii) RECORD
    - (iii) INSTALL
3. Write short notes on : (attempt any **three**) 18
    - (a) Ergonomics
    - (b) Critical examination
    - (c) Operation Process chart
    - (d) SIMO chart
    - (e) Left hand and Right hand chart

**SECTION - II**

4. (a) Define : **16**  
    (i) Wages  
    (ii) Incentives  
(b) Enlist different Incentive plans and discuss about any three in detail.

**OR**

- (a) Discuss about PMTS Techniques in brief.  
(b) Describe about 'Work Measurement' and state its advantages.

5. (a) Explain how standard time of any process can be calculated by suitable example. **16**  
(b) Discuss about allowances of Work Measurement.

**OR**

- (a) Define :  
    (i) Observed time  
    (ii) Normal time  
    (iii) Standard time  
(b) Differentiate :  
    (i) Average worker and Qualified worker  
    (ii) Snap back time and continuous time

6. Write short notes on : (attempt any **three**) **18**  
(a) Performance Rating  
(b) MTM  
(c) Work sampling  
(d) Skill and Effort Rating  
(e) Synthetic Rating
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