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B.E. (Part Time) End Semester DEGREE EXAMINATION, APR / MAY 2008

Third Semester

Industrial Engineering

PTIE 232 – WORK SYSTEM DESIGN / PTIE 282 – WORK DESIGN

(Regulation 2002 / 2005)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What do you mean by Productivity?
2. What are the contributions of F.W.Taylor towards work study?
3. What is Basic Work content?
4. What do you mean by Therbligs?
5. What are the uses of standard data?
6. Define work measurement
7. What is meant by Group Timing Techniques?
8. What are pre determined time systems?
9. What do you mean by learning effect?
10. What are the objectives of Organisation and methods?

Part-B (5 X 16 = 80 Mark)

11. Explain how increase in productivity will be helpful in increasing the Economic Growth of the country

12a. Explain various steps involved in conducting method study

(OR)

- 12b. A Company is constructing a parking lot for which dump trucks and a power shovel are the primary equipment being used. Time studies reveal the following average times.

Time to load a truck	5.50 minutes
Travel time to dump point	10.00 minutes
Dumping time	3.00 minutes
Return time	8.00 minutes

Construct a multiple activity chart and determine the number of trucks required so as to minimize the idle equipment cost. Assume that it costs Rs.21 per hour for the shovel and operator and Rs.14 per hour for each truck and driver

- 13a. A work measurement study of an operation with continuous timing resulted in the following data.

	Cycle time in minutes					Overall rating
Pick up component	0.13	0.77	1.47	2.09	2.70	115
Load	0.29	0.90	1.55	2.19	2.85	110
Setting	0.37	1.02	1.64	2.31	2.96	100
Machining	0.57	1.21	1.85	2.51	3.15	130
Unload	.64	1.29	1.93	2.58	3.23	89

Calculate the required sample size at 95% confidence level. Also determine the standard time for the operation assuming total allowances equal to 11% of normal time.

(OR)

- 13b. Explain about various types of allowances

- 14a. Explain the various steps involved in the Work Sampling procedure.
(OR)

- 14b. Describe various Wage incentive plans

- 15a. Explain the steps involved in conducting method study at in office
(OR)

- 15b. Write short note on the following

- (i) Measurement of indirect labour
- (ii) Form design and control