

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2022****Subject Code:3151509****Date:09-01-2023****Subject Name:Work System design and Ergonomics****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) What do you mean by the term productivity? **03**  
 (b) What are the causes of low productivity? **04**  
 (c) Write a note on Productivity Measurement Models. **07**

- Q.2** (a) What is work study? **03**  
 (b) Explain concept of work content. **04**  
 (c) Write the steps involved in Method study. **07**

**OR**

- (c) Explain any one Multiple Activity chart with suitable example. **07**

- Q.3** (a) What is Memo-Motion study? **03**  
 (b) Write a short note on Critical Examination techniques. **04**  
 (c) Write a note on Time Study Equipments. **07**

**OR**

- Q.3** (a) Explain Chrono-Cycle Graph. **03**  
 (b) Explain Operation Process chart with suitable example. **04**  
 (c) Explain different Allowances in time study. **07**

- Q.4** (a) What is Performance Rating? **03**  
 (b) Explain how you will determine standard time of a job. **04**  
 (c) Write a note on Work Sampling. **07**

**OR**

- Q.4** (a) What is PMTS? **03**  
 (b) Enlist different incentive plans and explain any one. **04**  
 (c) Write a note on MOST. **07**

- Q.5** (a) What is Ergonomics? **03**  
 (b) Give characteristics of Man-Machine system. **04**  
 (c) Write a note on Human factor engineering. **07**

**OR**

- Q.5** (a) What is Anthropometry? **03**  
 (b) Write a short note on Anthropometric measuring techniques. **04**  
 (c) Write a note on Relative capabilities of human being and machines. **07**

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