

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V(NEW) EXAMINATION – SUMMER 2022****Subject Code:3151509****Date:07/06/2022****Subject Name:Work System design and Ergonomics****Time:02:30 PM TO 05:00 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 understand by the term Work System Design? **03**
 (b) What are the causes of low productivity? **04**
 (c) Briefly explain different productivity improvement techniques. **07**
- Q.2** (a) What do you understand by the term Work Study? **03**
 (b) Explain concept of Work Content. **04**
 (c) Briefly explain different steps of work study. **07**
- OR**
- (c) Discuss human aspects of work study. **07**
- Q.3** (a) What is method study? **03**
 (b) Enlist various recording techniques used in method study. **04**
 (c) Explain flow process chart with suitable example. **07**
- OR**
- Q.3** (a) What is the purpose of man – machine chart? **03**
 (b) Explain procedure for constructing string diagram. **04**
 (c) Explain operation process chart with suitable example. **07**
- Q.4** (a) What is micro motion study? **03**
 (b) Explain SIMO chart. **04**
 (c) Explain Cycle graph and Chrono cycle graph. **07**
- OR**
- Q.4** (a) Explain concept of work measurement. **03**
 (b) Write a note on critical examination. **04**
 (c) Explain steps involved in time study. **07**
- Q.5** (a) Explain performance rating. **03**
 (b) Explain PMTS. **04**
 (c) Explain work sampling. **07**
- OR**
- Q.5** (a) Explain concept of Ergonomics. **03**
 (b) Explain the use of human anthropometry in workplace layout. **04**
 (c) Write a note on Therbligs. **07**
