

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII • EXAMINATION – WINTER • 2014****Subject Code: 171502****Date: 02-12-2014****Subject Name: Work System Design****Time: 10:30 am - 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.

- Q.1** (a) Application of work study is 10% technical and 90% psychological. Explain. **07**
(b) Who was the originator of process chart? Prepare OPC for assembly of a bicycle front wheel. **07**
- Q.2** (a) Prepare flow process chart for repair of a puncture in motorcycle. **07**
(b) Explain the points to be considered while selecting a job for time study. **07**
- OR**
- (b) Define work measurement system and explain its scope in industry. **07**
- Q.3** (a) Define various types of elements and give two examples of each type. **07**
(b) Write note on application of ergonomics in work study. **07**
- OR**
- Q.3** (a) Describe the elements and give break point for the time study of over hauling of carburetor of a car engine. **07**
(b) What care the management has to take before a new method is to be implemented. **07**
- Q.4** (a) What is rating? Why it is used in time study. **07**
(b) Explain briefly the procedure of making work sampling study. **07**
- OR**
- Q.4** (a) Describe in detail different allowances given on the basic time for performing an operation, explain with example to arrive at standard time. **07**
(b) Explain principles of motion economy. **07**
- Q.5** (a) Describe applications of work measurement. **07**
(b) Explain classification of movements and draw a sketch showing normal and maximum working area. **07**
- OR**
- Q.5** (a) Explain any four therbligs with suitable examples. **07**
(b) Did you find any scope of methods improvement in the factory you visited during your industrial project? Explain how this can be improved. **07**
