

CBCS SCHEME

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18IP55

Fifth Semester B.E. Degree Examination, July/August 2021 Work Study and Ergonomics

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1
 - a. Define productivity. Explain how work-study helps in raising productivity. (10 Marks)
 - b. Write and explain productivity improvement techniques with suitable block diagram. (10 Marks)
- 2
 - a. Define Basic work content and Excess work content; with block diagram explain how the excess work content due to bad design can be reduced. (10 Marks)
 - b. Define work-study. Write the objectives and scope of work-study. (10 Marks)
- 3
 - a. Explain basic procedural steps in conducting method study. (10 Marks)
 - b. Discuss with suitable example
 - i) Out line process chart
 - ii) Two handed process chart. (10 Marks)
- 4
 - a. Define flow diagram diffuse from flow process chart, explain with suitable example. (10 Marks)
 - b. Write and explain the principles of motion Economy with respect to human body and workplace design. (10 Marks)
- 5
 - a. Explain the steps in conducting stop watch time study. (10 Marks)
 - b. What is performance Rating? Explain the factors that are affecting performance rating of the worker. (10 Marks)
- 6
 - a. Define Allowance. Explain any two types of allowances. (10 Marks)
 - b. Explain work sampling technique of work measurement. (10 Marks)
- 7
 - a. Define Anthropometry. Explain Morphology of design and its relationship with cognitive abilities of human being. (10 Marks)
 - b. Write and explain the effect of Noise and climate on the performance of human work. (10 Marks)
- 8
 - a. Define Ergonomics. Explain the areas under ergonomics. (10 Marks)
 - b. Discuss work design considerations to obtain better fit between man and machine interface. (10 Marks)
- 9
 - a. Explain : i) Representative Displays ii) Alphanumeric Displays with suitable figure. (10 Marks)
 - b. Explain the various components of Man-machine system. (10 Marks)
- 10
 - a. Explain the design criteria for controls. (10 Marks)
 - b. Briefly explain the different types of controls. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.