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**4th Sem / Mech  
Subject:- Industrial Engineering**

Time : 3Hrs. M.M. : 100

**SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory  $(10 \times 1 = 10)$

- Q.1 Productivity is the ratio of (CO1)  
a) Output and Input  
b) Input and Output  
c) Production and output  
d) None of the above
- Q.2 The symbol 'O' stands for (CO3)  
a) Operation b) Storage  
c) Inspection d) None of the above
- Q.3 Full form of SIMO is (CO2)  
a) Sine Movement  
b) Simultaneous movement  
c) Simultaneous motion  
d) Simultaneous momentum
- Q.4 Ergonomics denotes (CO3)  
a) Psychology  
b) Economics  
c) Human motion economy  
d) All of these

- Q.5 Which of the following is not a technique of work measurement? (CO3)  
a) Time study  
b) Motion time study  
c) Analytical estimating  
d) Method study
- Q.6 Which allowance is provided to the worker for enforced idleness due to nature of operation? (Co4)  
a) Rest allowance  
b) Process allowance  
c) Policy allowance  
d) Periodic activity allowance
- Q.7 Standard data is catalogue of \_\_\_\_\_ of different elements of job. (CO2)  
a) Standard time values  
b) Observed time values  
c) Normal time values  
d) All of the above
- Q.8 The layout for mass production is (Co8)  
a) Product layout b) Process layout  
c) Functional layout d) None of the above
- Q.9 An activity is represented by \_\_\_\_\_ on the network diagram. (CO5)  
a) An arrow b) A straight line  
c) A circle d) A dashed line

(1)

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(2)

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- Q.10 The amount of money spent to get an item into inventory is called (CO9)
- Inventory carrying cost
  - Inventory ordering cost
  - Inventory cost
  - None of the above

### **SECTION-B**

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 Define work measurement. (CO2)
- Q.12 Therbligs were developed by \_\_\_\_\_ (CO3)
- Q.13 Work sampling is based on the law of \_\_\_\_\_ (CO2)
- Q.14 What do you mean by incentive. (CO4)
- Q.15 Name two techniques of performance rating (CO3)
- Q.16 Write a cause of under loading. (CO5)
- Q.17 What is the purpose of routing? (CO5)
- Q.18 EOQ stands for (CO7)
- Q.19 Define scheduling. (CO5)
- Q.20 Expand the term CPM (CO5)

### **SECTION-C**

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 State limitations of work study. (CO2)

- Q.22 Describe the role of work study in improving productivity. (CO3)
- Q.23 Define productivity. (CO1)
- Q.24 Write objectives of method study. (CO3)
- Q.25 Describe flow process chart. (CO3)
- Q.26 Give the procedure of motion analysis. (CO3)
- Q.27 What are the principles of motion economy? (CO3)
- Q.28 Write a short note on therbligs (CO2)
- Q.29 Define work sampling. (CO2)
- Q.30 Describe direct labour. (CO4)
- Q.31 Define time rate system. (CO4)
- Q.32 Give the purpose of follow up. (CO5)
- Q.33 What is the role of loading in PPC. (CO5)
- Q.34 Describe time estimates used in CPM. (CO5)
- Q.35 What is store keeping. (CO9)

### **SECTION-D**

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 Explain the applications of ergonomics. (CO3)
- Q.37 Explain the objectives of work measurement. (CO3)
- Q.38 Define wages and explain its types in detail. (CO4)