

30. a. Define: Ergonomics give the significance. Explain detail on Ergonomic Control Methods. 12 2 3 1,2,5

(OR)

b. i. Discuss in detail on types of continuous production systems with examples and characteristics. 6 2 3 1,2,5

ii. Explain briefly on partial and total productivity. 6 2 3 1,2,5

31. a. i. List the operative objectives and financial objectives. 4 2 4 1,2

ii. Discuss in detail factor affecting the level of inventory. 8 3 4 1,2

(OR)

b. i. What are the modern and traditional technique of inventory control? 6 2 4 1,2

ii. Explain two EOQ is represented in Graphical Method and also give its assumptions. 6 3 4 1,2

32. a. i. Discuss in detail all theories of Wages. 8 2 5 1,2

ii. Write its procedural steps in conducting wage and salary surveys. 4 2 5 1,2

(OR)

b. i. Discuss in detail on different Incentive Plans. 8 2 5 1,2

ii. List the significance and limitations of Incentive Plan. 4 3 5 1,2

* * * * *

Reg. No.

B.Tech. DEGREE EXAMINATION, MAY 2023

Sixth Semester

18MEO111T – INDUSTRIAL ENGINEERING

(For the candidates admitted from the academic year 2018-2019 to 2021-2022)

Note:

(i) Part - A should be answered in OMR sheet within first 40 minutes and OMR sheet should be handed over to hall invigilator at the end of 40th minute.


(ii) Part - B & Part - C should be answered in answer booklet.

Time: 3 hours

Max. Marks: 100

PART – A (20 × 1 = 20 Marks)

Answer ALL Questions

- | | Marks | BL | CO | PO |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|----|----|-----|
| 1. A systematic recording and critical examination of existing and proposed ways of doing work and developing an easier and economical method. This is known as
(A) Method Study (B) Time Study
(C) Ergonomics Study (D) Plant Location Study | 1 | 1 | 1 | 1,2 |
| 2. Identify the symbol of 
(A) Operation (B) Inspection
(C) Transport (D) Delay | 1 | 1 | 1 | 1,2 |
| 3. Which one of the following is not objective of work measurement?
(A) To determine standard time for doing a job (B) To create standard data for future reference
(C) To eliminate or reduce non-productive time (D) Improvement of Plant Layout | 1 | 2 | 3 | 1,2 |
| 4. If the Normal time in a work study is 19.80 minutes and total time allows in 15% of normal time. Calculate the standard time
(A) 22.77 min (B) 27.77 min
(C) 27.22 min (D) 22.27 min | 1 | 2 | 1 | 1,2 |
| 5. Which of the following is not a factor to be considered plant location and site?
(A) Raw Material Availability (B) Transport Facilities
(C) Availability of Labours (D) Purchase of Machines and its Operation | 1 | 1 | 2 | 1,5 |
| 6. In Cement Industries which type of Plant layout is used?
(A) Product Layout (B) Process Layout
(C) Fixed Position Layout (D) Combined Layout | 1 | 2 | 2 | 1,5 |
| 7. In a cost value matrix product layout suit in _____
(A) Low Value and High Cost (B) High Value and High Cost
(C) Low Value and Low Cost (D) High Value and Low Cost | 1 | 2 | 2 | 1,5 |

8. Which the ODD in the following on input requirement of CRAFT? 1 3 2 1,5
(A) Initial Layout (B) Flow Data
(C) Cost per unit Distance (D) Cost of Machine & Equipment
9. _____ provides the perfect bridge between production and operation management with Human Resource Management 1 1 3 1,4,3
(A) Ergonomics (B) Design of Work Systems
(C) Plant Layout (D) Shop Floor Production
10. Increasing responsibility for planning and coordination task, by vertical loading in known as 1 2 3 1,2,3
(A) Job Enhancement (B) Job Rotation
(C) Job Enlargement (D) Job Reduction
11. In which type of hazard, the repeating same motion for more than two hours per day with hands, consists will come 1 2 3 1,2,3
(A) Localized pressure on body part hazard (B) Awkward grips hazards
(C) Repetitive motions hazards (D) Awkward Body postures hazards
12. Production of tooth pastes, soaps and pens comes under 1 3 3 1,2,5
(A) Project Production flows (B) Jobbing Productive flows
(C) Batch Production flows (D) Mass Production Flow
13. _____ inventory refers to the goods on which 100% work has been plane and which are ready for sale 1 2 4 1,2
(A) Raw material and supplies (B) Work in Progress
(C) Finished Goods (D) Scrap
14. What in the odd about modern techniques? 1 2 4 1,2
(A) EOQ (B) ROP
(C) Fixing Stock Levels (D) Two Bin System
15. Calculate EOQ, annual requirement 2000 unit, cost of materials per unit ₹20, cost of placing and receiving and trade in ₹.40. Annual carrying cost of inventory, 20% of inventory value 1 3 4 1,2
(A) 100 Units (B) 150 Units
(C) 250 Units (D) 200 Units
16. In ABC analysis items that needs light of control in classified as _____ 1 2 4 1,2
(A) A Class (B) B Class
(C) C Class (D) D Class
17. In wages, _____ theory proposes that the labour is a commodity like anything that could be bought at a price by the user 1 3 5 1,2
(A) Wage Fund Theory (B) Bargaining Theory of John Davidson
(C) Classical Wage Theory (D) Just wage theory of St. Thomas Aquinas

18. _____ tool is often used to simplify the process in decision making is the use of two dimensional graphs. 1 2 5 1,2
(A) Process Chart (B) Simo – Chart
(C) Cyclograph (D) Data Trend Graph

19. _____ techniques is not indicating the trend of the data plotted 1 3 5 1,2
(A) Eye Inspection (B) Least Square
(C) Second Degree Curve (D) Straight Line

20. In which of the following methods jobs can be arranged according to the relative diffraacts in performing them 1 2 5 1,2
(A) Ranking Method (B) Point Method
(C) Factor Comparison Method (D) Classification Method

PART – B (5 × 4 = 20 Marks)

Answer ANY FIVE Questions

- | | Marks | BL | CO | PO |
|---------------------------------------------------------------------------|-------|----|----|-------|
| 21. Write the steps for constructing storing diagram. | 4 | 2 | 1 | 1,2 |
| 22. What is Ergonomics and list in objectives? | 4 | 3 | 1 | 1,2 |
| 23. List the objectives of plant layout and giving types of plant layout. | 4 | 3 | 2 | 1,5 |
| 24. Define: Ergonomics. Give its significance. | 4 | 2 | 3 | 1,2,3 |
| 25. Explain five basic classes of Man – Machine System. | 4 | 3 | 3 | 1,2,3 |
| 26. What are the three categories of Inventory? Also Explain it. | 4 | 3 | 4 | 1,2 |
| 27. Discuss in detail techniques indicating the data trend graph. | 4 | 3 | 4 | 1,2 |

PART – C (5 × 12 = 60 Marks)

Answer ALL Questions

- | | Marks | BL | CO | PO |
|------------------------------------------------------------------|-------|----|----|-----|
| 28. a. Explain in detail the procedure followed in method study. | 12 | 2 | 1 | 1,2 |

(OR)

- | | | | | |
|-------------------------------------------------------------------------------|----|---|---|-----|
| b. Draw neatly two headed process chart for assembling washer and nut to bolt | 12 | 2 | 1 | 1,2 |
|-------------------------------------------------------------------------------|----|---|---|-----|

- | | | | | |
|----------------------------------------------------------------------------------|----|---|---|-----|
| 29. a. Discuss in detail on factors to be considered for plant location and site | 12 | 3 | 2 | 1,5 |
|----------------------------------------------------------------------------------|----|---|---|-----|

(OR)

- | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----|---|---|-----|
| b. Consider the following initial layout with give it credit matrix use the CRAFT pairwise interchange technique to obtain its desirable layout. | 12 | 3 | 2 | 1,5 |
|--------------------------------------------------------------------------------------------------------------------------------------------------|----|---|---|-----|

Critical Layout

	4	6	8
6	A	B	C

Flow Matrix

From \ To	A	B	C
A	-	1	8
B	2	-	1
C	6	2	-

To \ From	A	B	C
A	-	1	1
B	1	-	1
C	1	1	-