

Mechanical Engineering
Subject :Industrial Engineering
BE Mechanical Sem. : VIII

MULTIPLE CHOICE QUESTIONS

1. Productivity increases when

- A. inputs increase while outputs remain the same
- B. inputs decrease while outputs remain the same
- C. outputs decrease while inputs remain the same
- D. inputs and outputs increase proportionately

Answer: B

2. Productivity is the _____ of production system.

- A. Measurement
- B. Efficiency
- C. Both (A) and (B)
- D. None of the above

Answer: B

3. Who is known as the father of scientific management?

- A. Henry Fayol
- B. F. Gilbreth
- C. Robert Owen
- D. F. W. Taylor

Answer: D

4. The production cost per unit can be reduced by

- A. Producing more with increased inputs
- B. Producing more with the same inputs
- C. Eliminating idle time
- D. Minimizing resource waste

Answer: B

5. Travel charts are used to

- A. analyse material handling
- B. determine inventory control difficulties
- C. plan material handling procedure and routes

D. All of these

Answer: D

6. Work study examines

- A. method
- B. duration of work
- C. both 'a' and 'b'
- D. None of the above

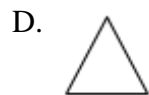
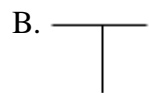
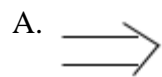
Answer: C

7. The correct order of procedure in method study is

- A. Select – Record – Examine – Develop – Define – Install – Maintain
- B. Select – Define – Examine – Develop – Record – Install – Maintain
- C. Select – Record – Develop – Examine – Define – Install – Maintain
- D. Select – Record – Examine – Define – Develop – Install – Maintain

Answer: A

8. The symbol used for Transport in work study is



Answer: A

9. The following chart(s) record the movements

- A. operation process chart
- B. flow process chart
- C. both 'a' and 'b'
- D. None of the above

Answer: B

10. Which of the following is a scale plan?

- A. String diagram
- B. Flow process chart
- C. Operation process chart
- D. All of the above

Answer: A

11. A diagram showing the path followed by men and materials while performing a task is known as

- A. String Diagram
- B. Flow process chart
- C. Travel chart
- D. Flow diagram

Answer: D

12. All five charting symbols are used in

- A. outline process chart
- B. flow process chart
- C. SIMO chart
- D. multiple activity chart

Answer: B

13. Flow process chart contains

- A. inspection and operation
- B. inspection, operation and transportation
- C. inspection, operation, transportation and delay
- D. inspection, operation, transportation, delay and storage

Answer: D

14. What does symbol 'D' imply in work study?

- A. Operation
- B. Inspection
- C. Transportation
- D. Delay

Answer: D

15. There are various methods to reduce cost of production except

- A. Increase in production output
- B. Reduction in number of rejections
- C. Maintaining maximum inventory levels
- D. Producing Standardized products

Answer: C

16. String diagram is used for

- A. For checking the relative values of various layouts
- B. When a group of workers are working at a place
- C. Where processes require the operator to be moved from one work place to another
- D. All of the above

Answer: D

17. Work study is concerned with

- A. improving present method and finding standard time
- B. motivation of workers
- C. improving production capability
- D. improving production planning and control

Answer: A

18. What is the ratio of total output divided by total input

- A. Production
- B. Productivity
- C. Total factor productivity
- D. Multifactor productivity

Answer: B

19. Productivity =

- A. $1 + (\text{Profit}/\text{Cost})$
- B. $1 + (\text{Cost}/\text{Profit})$
- C. $1 - (\text{Profit}/\text{Cost})$
- D. $1 - (\text{Cost}/\text{Profit})$

Answer: A

20. Raw material productivity can be increased by

- A. Proper choice of design
- B. Reuse of material
- C. Scrap control

D. All of the above

Answer: D

21. The elimination of which of the following will improve industrial productivity

- A. Excess time
- B. Ineffective time
- C. Both (A) and (B)
- D. None of the above

Answer: C

22. Work study is also recognised as

- A. Time study
- B. Motion study
- C. both 'a' and 'b'
- D. None of the above

Answer: C

23. In process charts, the symbol used for storage is

- A. Circle
- B. Square
- C. Arrow
- D. Triangle

Answer: D

24. The outline (operation) process chart, the following symbols are used

- A. operation and inspection
- B. operation and transportation
- C. inspection and transportation
- D. operation and storage

Answer: A

25. Basic tool in work study is

- A. graph paper
- B. process chart
- C. planning chart
- D. stop watch

Answer: D

26. Which of the following does not measure productivity?

- A. Output per unit labour
- B. Material cost per unit labour
- C. Output per unit of capital cost
- D. Machine utilization

Answer: B

27. Preventive maintenance improves

- A. Material Productivity
- B. Labour Productivity
- C. Machine Productivity
- D. Capital Productivity

Answer: C

28. Motion study was developed by

- A. Taylor
- B. Gilbreth
- C. Mundel
- D. Miles

Answer: B

29. Total work content =

- A. Basic work content + Excess time
- B. Basic work content – Excess time
- C. Basic work content + Ineffective time
- D. Basic work content – Ineffective time

Answer: A

30. Work study involves

- A. Method study and work measurement
- B. only work measurement
- C. only method study
- D. only motion study

Answer: A

31. Following is not a productivity measurement models

- A. Craig and Harris model
- B. Taylor – Davis model
- C. APC model
- D. PPC model

Answer: D

32. In outline process chart, the horizontal lines represent

- A. general flow of process
- B. materials being introduced
- C. both 'a' and 'b'
- D. None of the above

Answer: B

33. The following factor(s) must be considered while selecting the work for method study

- A. Economic considerations
- B. Technical considerations
- C. Human reactions
- D. All of the above

Answer: D

34. Work study consists of

- A. Effective use of plant and equipment
- B. Effective use of human effort
- C. Evaluation of human work
- D. All of the above

Answer: D

35 Capital productivity =

- A. Total output/Capital input
- B. Total output/Material input
- C. Total output/Labour input
- D. None of the above

Answer: A

36. A milk powder tin is being weighed as it is filled is an example of

- A. Operation cum transportation
- B. Operation cum inspection
- C. Transportation cum inspection
- D. None of the above

Answer: B

37. What does symbol O imply in work study

- A. Operation
- B. Inspection
- C. Transportation
- D. Delay

Answer: A

38. In process charts the symbol used for storage is

- A. Circle
- B. Square
- C. Arrow
- D. Triangle

Answer: D

39. The average time recorded by work study man for an operation is called

- A. Standard time
- B. Normal time
- C. Representative time
- D. None of these

Answer: C

40. If n = number of observations (sample size) to predict the true time within $\pm 5\%$ Accuracy and 95 % Confidence Level, and if,

n' = Number of Preliminary Readings

n = Sample Size (No. of Observations Required)

$\sum X$ = Sum of preliminary set of individual observations

$\sum X^2$ = Sum of Squares of individual observations of the preliminary set of readings

then statistically,

$$A. n = \left[\frac{20 \sqrt{n' \sum x^2 - (\sum x)^2}}{\sum x} \right]^2$$

$$B. n = \left[\frac{40 \sqrt{n' \sum x^2 - (\sum x)^2}}{\sum x} \right]^2$$

$$C. n = \left[\frac{80 \sqrt{n' \sum x^2 - (\sum x)^2}}{\sum x} \right]^2$$

D. None of the Above

Answer : B

41. The safe exposure limits for noise levels for 08 hours of working/day is

A. 90 dBA

B. 110 dBA

C. 130 dBA

D. 150 dBA

Answer : A

42. Work study is done with the help of

A. Process chart

B. Material handling

C. Stop watch

D. All of the above

Answer: C

43. Delay occurs when

A. someone stops the process

B. product wait for next event (operation)

C. both 'a' and 'b'

D. None of the above

Answer: C

44. Productivity can be measured in which of the following input resource(s)

A. Material input

B. Labor input

- C. Capital and Land Input
- D. All of the above

Answer: D

45. Which of the following does not measure productivity?

- A. Output per unit labour
- B. Material cost per unit labour
- C. Output per unit of capital cost
- D. Machine utilization

Answer: B