

2020

BUSINESS ADMINISTRATION — HONOURS

Paper : A 304 GE-3

(Production and Operations Management)

Full Marks : 80

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer **any forty** questions.

2×40

1. Which layout is used when a product is bulky, large, heavy or fragile?
 - (i) Process layout
 - (ii) Product layout
 - (iii) Group technology layout
 - (iv) Fixed position layout.

2. Consider the below mentioned statements :
 1. Quality circles are very efficient in executing low cost projects by using non-intrusive methods of improving productivity and quality throughout the organization.
 2. In matching method, the production capacity is held constant at an optimum level.
 - (i) 1-True, 2-True
 - (ii) 1-True, 2-False
 - (iii) 1-False, 2-False
 - (iv) 1-False, 2-True.

3. Which of the following classification of scheduling strategies is not practical in case of machine breakdown?
 - (i) Cumulative scheduling
 - (ii) Detailed scheduling
 - (iii) Cumulative-detailed scheduling
 - (iv) Priority decision rules.

4. Aggregate planning is the primary responsibility of the _____ department.
 - (i) Operation
 - (ii) Finance
 - (iii) Accounting
 - (iv) Human resources and Marketing.

5. Which of the following are quality control tools? 1. Pareto diagrams 2. Flow charts 3. Work measurement quantities 4. Cause and effect diagrams.
 - (i) Options 1, 2 and 3
 - (ii) Options 1, 2, and 4
 - (iii) Options 2, 3 and 4
 - (iv) Options 1, 3 and 4.

Please Turn Over

6. Consider the below mentioned statements : 1. Without the forecast, no production function can be taken up. 2. Forecasts are subject to market dynamics and many other predictable parameters which will be known and controllable. State True or False :
- (i) 1-True, 2-False (ii) 1-False, 2-True
(iii) 1-False, 2-False (iv) 1-True, 2-False.
7. Which of the following charts will indicate only the cumulative workloads for each job and to what extent the work centres are to be scheduled?
- (i) Flowchart (ii) Gantt chart
(iii) Gantt progress chart (iv) CPM chart.
8. What type of control chart is used to monitor the number of defects per unit?
- (i) p-chart (ii) R-chart
(iii) c-chart (iv) x-bar chart.
9. A good layout requires determining
- (i) Material handling requirements (ii) Capacity and space requirements
(iii) Environment and aesthetics (iv) All of these.
10. Which of the following is not effectiveness criterion for scheduling?
- (i) Maximizing flow time (ii) Maximizing completion time
(iii) Minimizing WIP inventory (iv) Maximizing utilization.
11. In which of the following layout type, materials are fed into the first machine and finished products come out of the last machine?
- (i) Product layout (ii) Process layout
(iii) Fixed position layout (iv) Cellular manufacturing layout.
12. Gantt charts are used for
- (i) Forecasting sales (ii) Production schedule
(iii) Scheduling and routing (iv) Linear programming.
13. Process layout is employed for
- (i) Batch production (ii) Continuous type of product
(iii) Effective utilization of machines (iv) All of these.
14. In product layout
- (i) Specialized and strict supervision is required.
(ii) Machines can not be used to their maximum capacity.
(iii) Manufacturing cost rises with a fall in the volume of production.
(iv) All of these.

15. Which of the following layouts is suited to job production?
(i) Process layout (ii) Product layout
(iii) Fixed position layout (iv) Plant layout.
16. Which of the following industries should be located near the vicinity of raw materials?
(i) Cycles (ii) Televisions
(iii) Sewing machines (iv) Steel mills.
17. If all the processing equipment and machines are arranged according to the sequence of operations of a product the layout is known as
(i) Product layout (ii) Process layout
(iii) Fixed position layout (iv) Combination layout.
18. In ship manufacturing, the type of layout preferred is—
(i) Product layout (ii) Process layout
(iii) Fixed position layout (iv) Combination layout.
19. Job shop and batch processing are differentiated on the basis of
(i) Job requirements (ii) Degree of standardization
(iii) Volume of output (iv) Both (ii) and (iii).
20. Location decisions are viewed primarily as part of
(i) Marketing strategy (ii) Growth factors
(iii) Financial aspect (iv) Both (i) and (ii).
21. When the flow of materials is variable
(i) layout by process is most suitable (ii) layout by product is most suitable
(iii) layout by fixed position is most suitable (iv) line balancing is most suitable.
22. Material handling and plant location is analysed by _____ .
(i) Gantt chart (ii) Bin chart
(iii) Emerson chart (iv) Travel chart.
23. Material handling consists of movement of material from
(i) one machine to another (ii) one shop to another shop
(iii) stores to shop (iv) all of these.

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24. In M/M/1 Queue the formula of avg server utilization is
- (i) $\rho = \lambda / \mu$ (ii) $\rho = \lambda + 1/\mu$
(iii) $\rho = 1 + \lambda / \mu$ (iv) None of these.
25. _____ is the process of developing, analyzing, and maintaining a preliminary, approximate schedule of the overall operations of an organization.
- (i) Aggregate Planning (ii) Production Planning
(iii) Maintenance Planning (iv) Process Planning.
26. The master production schedule (MPS) used in material requirements planning (MRP) has been described as the aggregate plan _____.
- (i) disaggregated (ii) Maintained
(iii) Aggregated (iv) None of these.
27. There are _____ pure planning strategies available to the aggregate planner.
- (i) two (ii) three
(iii) four (iv) none of these.
28. Which of the following tool(s) is/are used to analyze the quality problems in SQC?
- (i) Descriptive Statistics (ii) Acceptance Sampling
(iii) Statistical Process Control (iv) All of these.
29. _____ uses graphical displays known as control charts to determine whether a process should be continued or should be adjusted to achieve the desired quality.
- (i) Statistical Process Control (ii) Acceptance Sampling
(iii) Statistical Quality Control (iv) None of these.
30. _____ is a technique for tallying the number and type of defects that happen within a product or service.
- (i) Pareto Analysis (ii) Control Chart
(iii) PERT Chart (iv) None of these.
31. _____ are a statistical process control tool used to determine if a manufacturing or business process is in a state of control.
- (i) Control charts (ii) Schewhart charts
(iii) Process-behaviour charts (iv) All of these.
32. There are _____ basic tools in Quality Control
- (i) 7 (ii) 4
(iii) 8 (iv) 2.

33. _____ serve as a foundation for future short-range type planning, such as production scheduling, sequencing, and loading
- (i) MPS [Master Production Schedule] (ii) Aggregate Plan
(iii) MRP [Materials Requirement Planning] (iv) None of these.
34. The amount of shop time for the job is called _____
- (i) job flow time (ii) job shop interval time
(iii) job work centre time (iv) none of these.
35. The total amount of time required to complete of jobs is called—
- (i) makespan (ii) pastdue time
(iii) workcentre time (iv) none of these.
36. Which of the following are the methods of Operation Scheduling?
- (i) Index Method (ii) Johnson's two machine algorithm
(iii) Both of the above (iv) None of these.
37. What is/are the major purpose/s of using a bath tub curve?
- (i) To determine the capital maintenance in defence equipments
(ii) To compute lifts in the distillation column
(iii) To decide the maintenance of equipment
(iv) All of the above.
38. The following is not a classification of maintenance
- (i) Corrective maintenance (ii) Timely maintenance
(iii) Scheduled maintenance (iv) Preventive maintenance.
39. A systematic approach for maintenance is
- (i) Problem-Cause-Diagnosis-Rectification
(ii) Problem-Diagnosis-Cause-Rectification
(iii) Problem-Measure-Diagnosis-Rectification
(iv) Problem-Diagnosis-Measure-Rectification.
40. Which term is having a closest meaning as Sampling Distributions?
- (i) Control charts (ii) On site inspection
(iii) Whole lot inspection (iv) Acceptance sampling.

Please Turn Over

41. What type of chart will be used to plot the number of defectives in the output of any process?
- (i) x bar chart
 - (ii) R chart
 - (iii) c chart
 - (iv) p chart.
42. In phase I application of x-bar and R chart, the control limits obtained from the equations are treated as _____
- (i) Final limits
 - (ii) Trial limits
 - (iii) Warning limits
 - (iv) Pattern limits.
43. Total productive maintenance aims at
- (i) Less idle time
 - (ii) Increase in productivity
 - (iii) Zero down time
 - (iv) None of these.
44. The _____ goes on increasing with the increase in degree of maintenance efforts.
- (i) Cost of down time
 - (ii) Cost of spares and maintenance
 - (iii) Labour and Overhead Cost
 - (iv) All of these.
45. The following is (are) scheduled maintenance
- (i) Overhauling of machine
 - (ii) Cleaning of tank
 - (iii) Whitewashing of building
 - (iv) All of these.
46. A fundamental attribute of TQM is
- (i) Drawing control charts
 - (ii) Having team meetings
 - (iii) Top management's direct involvement
 - (iv) Meeting ISO 9000 audit.
47. A control chart displays
- (i) Whether workers are motivated
 - (ii) Top management takes interest in quality
 - (iii) Process capability
 - (iv) Process variability.
48. Quality control does not apply to
- (i) Drawing flowcharts
 - (ii) Drawing control charts
 - (iii) Driving
 - (iv) Idea generation.
49. Fishbone diagrams are drawn
- (i) To find customer needs
 - (ii) To find the cost of quality.
 - (iii) To brainstorm causes of an effect
 - (iv) To screen workers' suggestions.

(7)

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50. Which of the following explain the need for facility location selection?

- (i) When the existing business unit has outgrown its original facilities and expansion is not possible
 - (ii) When a business is newly started
 - (iii) When the lease expires and the landlord does not renew the lease
 - (iv) All of the above.
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