Instructions:
1. Answer all 50 questions (compulsory). Each question carries 2 marks Total: 100 Marks
2. Read instructions given on the OMR answer sheet and answer the questions.

1. What type of process would a Cement plant be most likely to use?
   a) Continuous flow
   b) Project
   c) Job shop
   d) Flow shop

2. Process selection is primarily considered during:
   a) Planning
   b) Organizing
   c) Leading
   d) Controlling

3. What type of process would a fertilizer plant be most likely to use?
   a) Continuous
   b) Project
   c) Job
   d) Flow shop

4. The type of operation being carried out by an organization depends upon:
   a) Degree of standardization
   b) Volume of output
   c) Demand
   d) Both a and b

5. Construction of fertilizer plant is
   a) Continuous
   b) Project
   c) Job
   d) Flow shop

6. The inputs to a transformation process include all of the following except
   a) Material
   b) People
   c) Information
   d) Transportation

7. Job shop and batch processing are differentiated on the basis of:
   a) Job requirements
   b) Degree of standardization
   c) Volume of output
   d) Both (b) and (c)
8. Automation is preferred because it:
   a) Offers lesser dependence on workers
   b) Results in reduction in variable cost
   c) Offers easy handling of repetitive work
   d) All of the given options

9. What are the two basic types of production systems?
   a) Automated and manual
   b) Intermittent and non-intermittent process
   c) Normal and continuous process
   d) Continuous process and batch

10. Process layout is used for:
    a) Repetitive processing
    b) Intermittent processing
    c) Both (a) and (b)
    d) Neither (a) nor (b)

11. The most significant advantage of U-shaped layout is:
    a) Cost minimization
    b) Easy handling of process
    c) Increased flexibility in work
    d) All of the given options

12. The goal of motion study is to achieve:
    a) Cost minimization
    b) Maximum efficiency
    c) Profitability
    d) All of the given options

13. Which of the following is the first step in making a correct location choice?
    a) Develop location alternatives
    b) Decide the criteria for evaluating location alternatives
    c) Evaluate the alternatives
    d) Make a decision and select the location

14. Which of the following technique emphasizes transportation cost in the determination of facility location?
    a) Location rating factor technique
    b) Transportation technique
    c) Centre-of-gravity technique
    d) Both b) and c)

15. Transportation cost mainly depends on which of the following factors?
    a) Distance
    b) Weight of merchandise
    c) Time required for transportation
    d) All of the above

16. In which of the following site selection techniques, a weightage between ‘0’ to ‘1’ is provided to factors that influence its location decision?
    a) Location rating factor technique
    b) Transportation technique
    c) Centre-of-gravity technique
    d) None of these
17. Process layout is also known as ________.
   a) Functional layout  
   b) Batch production layout  
   c) Straight line layout  
   d) Both a) and b)

18. Which of the following facility layout is best suited for the intermittent type of production, which is a method of manufacturing several different products using the same production line?
   a) Product layout  
   b) Process layout  
   c) Fixed position layout  
   d) Cellular manufacturing layout

19. In which of the following layout type, materials are fed into the first machine and finished products come out of the last machine?
   a) Product layout  
   b) Process layout  
   c) Fixed position layout  
   d) Cellular manufacturing layout

20. Which of the following is not an advantage of using product layout?
   a) Minimum material handling cost  
   b) Minimum inspection requirement  
   c) Specialized supervision requirement  
   d) None of these

21. Budgeting, analysis of investment proposals, and provision of funds are activities associated with the ______ function.
   a) operation  
   b) marketing  
   c) purchasing  
   d) finance

22. Which one of the following would not generally be classified under the heading of transformation?
   a) assembling  
   b) teaching  
   c) staffing  
   d) farming

23. Manufacturing work sent to other countries is called:
   a) downsized  
   b) outsourced  
   c) internationalization  
   d) vertical integration

24. What name is often given to processes which involve the manufacture of a unique item from beginning to end?
   a) Jobbing processes  
   b) Continuous processes.  
   c) Lean production processes.  
   d) Batch processes.

25. The responsibilities of the operations manager are:
   a) planning, organizing, staffing, procuring, and reviewing  
   b) planning, organizing, staffing, directing, and controlling  
   c) forecasting, designing, planning, organizing, and controlling  
   d) forecasting, designing, operating, procuring, and reviewing
26. Which of these layouts is most suitable for processing sugar from sugar beets or sugar cane?
   a) process-oriented layout
   b) fixed-position layout
   c) focused factory
   d) product-oriented layout

27. Which of the following is not true about systems approach?
   a) A systems viewpoint is usually beneficial in decision making.
   b) A systems approach emphasizes interrelationships among subsystems.
   c) A systems approach concentrates on efficiency within subsystems.
   d) A systems approach is essential whenever something is being redesigned or improved.

28. What is credited with gains in industrial productivity, increased standards of living and affordable products?
   a) personal computers
   b) the internet
   c) mass transportation
   d) assembly lines

29. Production systems with customized outputs typically have relatively:
   a) high volumes of output
   b) low unit costs
   c) high amount of specialized equipment
   d) skilled workers

30. According to the Chase and Dasu (2001) study which of the following are behavioral concepts that should be applied to enhance customer perceptions of a service encounter?
   a) Flow of the service experience
   b) Flow of time
   c) Judging encounter performance
   d) All of the above

31. Which is not a significant difference between manufacturing and service operations?
   a) cost per unit
   b) uniformity of output
   c) labor content of jobs
   d) Measurement of productivity.

32. Which of the following is not a characteristic of service operations?
   a) intangible output
   b) high customer contact
   c) high labor content
   d) easy measurement of productivity

33. Farming is an example of:
   a) an obsolete activity
   b) a virtual organization
   c) non-manufactured goods
   d) a growth industry
34. Service strategy development begins by selecting which of the following as an operating focus or performance priority?
   a) Price
   b) Quality
   c) Variety
   d) All of the above

35. Dealing with the fact that certain aspects of any management situation are more important than others is called:
   a) analysis of tradeoffs
   b) sensitivity analysis
   c) recognition of priorities
   d) analysis of variance

36. The fact that a few improvements in a few key areas of operations will have more impact than many improvements in many other areas is consistent with the:
   a) Irwin phenomenon
   b) Pareto phenomenon
   c) Stevenson phenomenon
   d) Tellier phenomenon

37. The process of comparing outputs to previously established standards to determine if corrective action is needed is called:
   a) planning
   b) directing
   c) controlling
   d) budgeting

38. Which of the following does not relate to system design?
   a) altering the system capacity
   b) location of facilities
   c) inventory management
   d) selection and acquisition of equipment

39. Based on the Service-System Design Matrix, which of the following has a lower level of “production efficiency”?
   a) Face-to-face loose specs
   b) Phone contact
   c) Internet and on-site technology
   d) Face-to-face tight specs

40. Taking a systems viewpoint with regard to operations in today’s environment increasingly leads decision-makers to consider ____________ in response to the ____________.
   a) flexibility; pressure to be more efficient
   b) off shoring; need to promote domestic production
   c) sustainability; threat of global warming
   d) technology; impact of random variation

41. Modern firms increasingly rely on other firms to supply goods and services instead of doing these tasks themselves. This increased level of ____________ is leading to increased emphasis on management.
   a) outsourcing; supply chain
   b) off shoring; lean
   c) downsizing; total quality
d) optimizing; inventory

42. Operations and sales are the two-_________ functions in businesses.
   a) strategic
   b) tactical
   c) support
   d) line

43. Marketing depends on operations for information regarding ____________.
   a) productivity
   b) lead time
   c) cash flow
   d) budgeting
   e) corporate intelligence

44. Two widely used metrics of variation are the __________ and the _________.
   a) mean; standard deviation
   b) productivity ratio; correlation
   c) standardized mean; assignable deviation
   d) randomized mean; standardized deviation
   e) normal distribution; random variation

45. Which one is not generally considered an advantage of using models for decision-making?
   a) Providing a systematic approach to problem solving.
   b) Emphasizing quantitative information
   c) Providing an exact representation of reality.
   d) Enabling managers to answer “what if” questions
   e) Requiring users to be specific about objectives.

46. Which came last in the development of manufacturing techniques?
   a) Lean production.
   b) Division of labor.
   c) Mass production.
   d) Interchangeable parts.

47. The operating characteristic (OC) curve shows the probability of
   a) rejection for every possible true percentage of defectives
   b) acceptance for every possible true percentage of defectives
   c) making type I errors for various percentages of defectives
   d) none of the above

48. If an artificial variable remains in the solution with a positive value after the stopping criterion has been reached, the problem
   a) is infeasible
   b) is optimal
   c) needs a new basis
   d) has more than one solution

49. What are the two sources of costs in queuing analysis?
   a) Arrivals and departures
   b) Arrivals and idleness
   c) Waiting customers and capacity
   d) Equipment breakdowns and departures
50. Which of the following statements about variation is FALSE?
   a) Variation prevents a production process from being as efficient as it can be.
   b) Some variation can be prevented.
   c) Variation can be either assignable or random.
   d) Any variation makes a production process less productive.

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