2019 April Exam Questions Solutions
(Mgt and Strategy)

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Question: 53-80

Q53. Which of the following is the technique for estimating activity durations where past information is statistically analyzed and various coefficients are determined?

a) Analogous estimate

b) Bottom-up estimate

c) Parametric estimate

d) Three-point estimate

Estimate of activity durations

Analogous estimate: estimate on the basis of the performance of a similar project in the past.
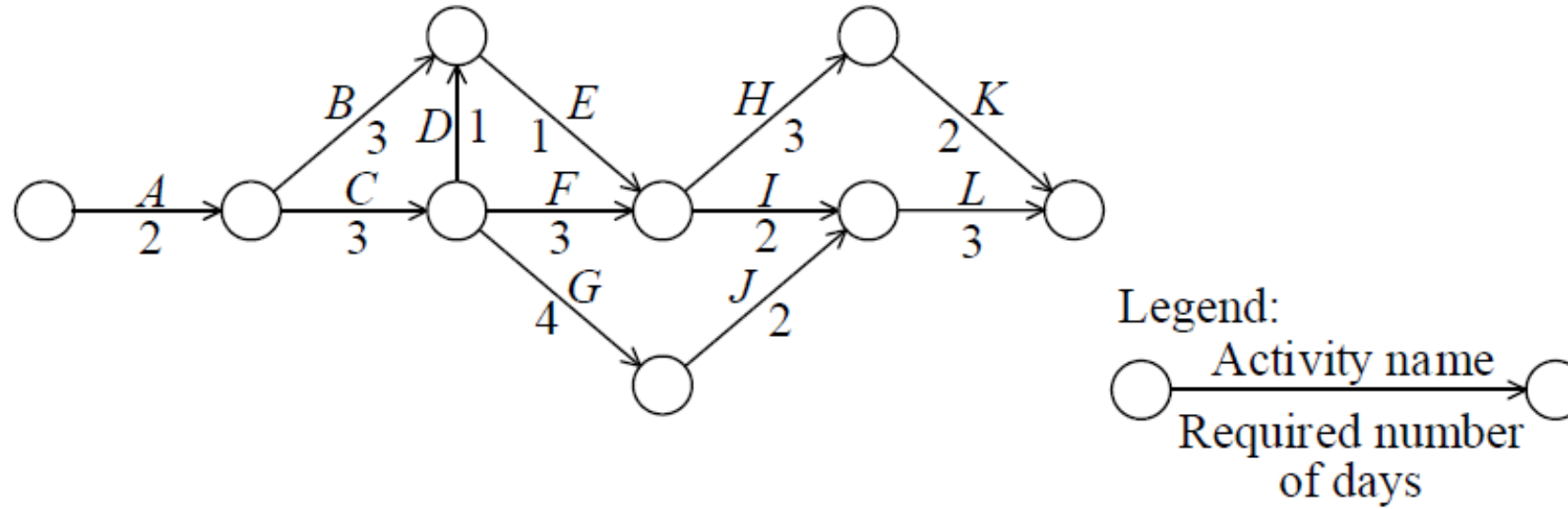
Parametric estimate: estimate in which the past information is statistically analyzed and various coefficients are determined

Three-point estimate: estimate in which the optimistic value, the pessimistic value, and the mode (average) value are used

Reserve analysis: estimate in which a reserve (i.e., buffer) is provided beforehand

Answer: C

Q54. Which of the following is the critical path of the project activities shown in the figure below?

a) $A \rightarrow B \rightarrow E \rightarrow I \rightarrow L$

b) $A \rightarrow C \rightarrow D \rightarrow E \rightarrow H \rightarrow K$

c) $A \rightarrow C \rightarrow F \rightarrow I \rightarrow L$

d) $A \rightarrow C \rightarrow G \rightarrow J \rightarrow L$

Critical Path: The longest path of activities to complete the task

Answer: d

Q55. In order to analyze the trend of issues that occur in a project, the number of issues by management item, such as the stakeholders, cost, schedule, quality, etc., are arranged in order starting with the highest number of issues in the form of a bar graph, and a diagram is prepared in which the number of issues accumulated in this order are superimposed in the form of a line graph. Which of the following is this diagram?

a) Cause and effect diagram

b) Control chart

c) Pareto diagram

d) Scatter diagram

Pareto chart
This is a diagram that combines a bar graph and line graph to enable control and analysis by viewing the cumulative total percentages of the whole. Specifically, a bar graph is drawn with bars in descending orders by quantity, and the cumulative total percentage of the whole for each bar is represented with a line graph. This is used in situations including ABC analysis, which clarifies key control items.

Answer: c

Q56. IT services are provided under the following conditions in the SLA. What is the maximum number of hours of downtime in a month that can satisfy the SLA?

[Conditions of the SLA]

The number of business days per month is 30.

The service hours are from 7 AM to 11PM o'clock on a business day.

The required availability is 99% or more.

Other required time, such as maintenance time, can be ignored.

a) 1.2   b) 3.0   c) 4.8   d) 7.2

Hints: Downtime: 1-99% = 0.01. Maximum downtime: 30days x 16 hours per-day x 0.01 =

Answer: c

Q57. In IT service management, which of the following is a problem management activity that is performed proactively?

a) Analyzing the occurrence trend of incidents and proposing measures that prevent an incident from occurring in the future

b) Classifying problems that have been detected and recorded, and setting the response priority

c) Evaluating the effectiveness of a resolution to a critical problem

d) Monitoring whether an incident occurs again or not for a certain period of time after the problem is resolved

In problem management, the service provider identifies the root cause of the problem that leads to an incident and proposes fundamental resolution for preventing recurrence of the incident.

Answer: a

Q58. Among the structures and the characteristics of a service desk organization, which of the following is a description of a local service desk?

a) By locating a service desk near the users, it is possible to provide support for users who speak different languages or come from different cultures, and to provide support for VIPs by dedicated staff.

b) By using communication technology, services can be provided as if they were provided from a single service desk, even when service staff are dispersed across multiple regions or departments.

c) Service staff can efficiently be deployed, or a large number of calls can be handled by concentrating service desks at a single site or at limited locations.

d) Well-controlled services can be provided by centrally integrating and managing all staff, including those at dispersed locations.

Answer: a

Q59. Which of the following is an appropriate activity for a system auditor?

a) The auditor moves forward with the preparation of an audit report because the initially scheduled period finished in the middle of an investigation.

b) The auditor orders improvements for problems that are found in the course of each investigation.

c) The auditor points out items that need to be improved regarding problems found during the investigation.

d) The auditor summarizes audit opinions for matters that have not been fully investigated, on the basis of his or her past experience.

Answer: c

Q60. Among the implementation structures of a system audit, which of the following is the most important **to avoid** from the standpoint of the independence of a system auditor?

a) Mr. *A* of the general affairs department, who was appointed as a member of the audit team, audits the status of entrance and exit control for the general affairs department together with other team members.

b) Mr. *B* of the audit department audits the status of personal information management by an external contractor to whom his company outsources business operations that deal with personal information.

c) Mr. *C*, who was transferred to the audit department five (5) years ago from a development manager position in the information system department, audits the status of Internet use in the marketing department.

d) Mr. *D* of the legal department cooperates with an auditor in an audit of the validity of an outsourcing contract in response to a request from the audit department.

Answer: a

Q61. In an information security audit, which of the following is a check item for confirming availability?

a) Appropriate performance of error checking for data entry
b) Encryption of databases
c) Managing and maintaining the level of SLA that defines downtime
d) Prohibiting the taking of external storage media out of the company without permission

Answer: c

Q62. Which of the following is an explanation of SCM (Supply Chain Management)?

a) Customer information collected through various channels is consolidated and utilized to establish closer relationships with customers.

b) Employees' skills and behavioral characteristics are managed for appropriate personnel assignment and evaluation from the perspective of human resources strategy.

c) Intellectual assets of individuals, such as know-how and experience, are shared as inspiration for creative work.

d) The sequence of business operations, from purchasing and production to sales and distribution, is reexamined across companies in view of total optimization, so as to minimize inventory and accelerate delivery.

Answer: d

SCM (Supply Chain Management) refers to the management of the flow of product supply from procurement of material and components up to manufacturing, distribution, and sales as a "supply chain" mainly in the manufacturing industry and distribution industry. Through sharing and management of information with related departments and other companies, the SCM system helps achieve total optimization of the business process (e.g., shortening the time for delivery, reducing dead stock).
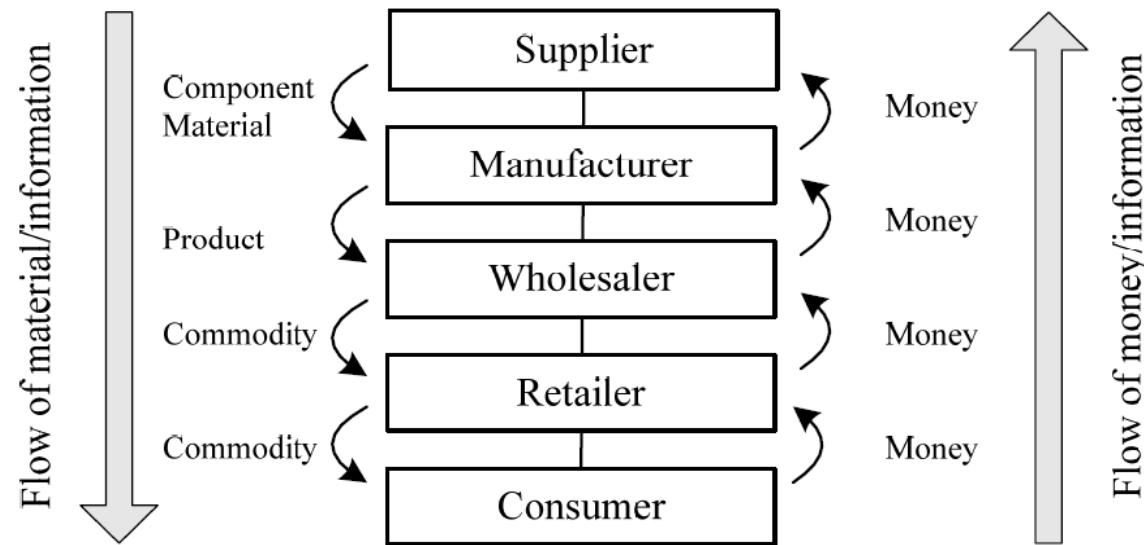
Figure 2-3   Supply chain in a manufacturing industry

Q63. Concerning computerization costs, which of the following is the cost that indicates the running cost?

a) The consulting cost of information systems strategy planning
b) The cost of system engineering for performance requirements definition
c) The installation cost of software packages
d) The maintenance cost of information-processing equipment, such as a server

Hint: The running costs of a business are the amount of money that is regularly spent on things such as salaries, heating, lighting, and rent.

Answer: d

Q64. Which of the following is an explanation of BPM?

a) To achieve a reduction in inventory and a shortening of lead time by exchanging information about a series of business processes, from the supply of components to the sale of products, in real time

b) To achieve overall optimization of management resources through consolidated information management of the main corporate activities, such as production, materials flow, sales, finance, and human affairs

c) To incorporate the management cycle of analysis, design, execution, and improvement into business processes in order to continuously execute improvement and revision of business processes

d) To perform consistent management of business processes that concern the customer, which include not only the sales of products but also maintenance service and the handling of queries and claims, based on a customer database

Answer: c

Management is performed by using the PDCA cycle (Plan→Do→Check→ Act) with the aim of continuous improvement in a business process.

[PDCA cycle of BPM]
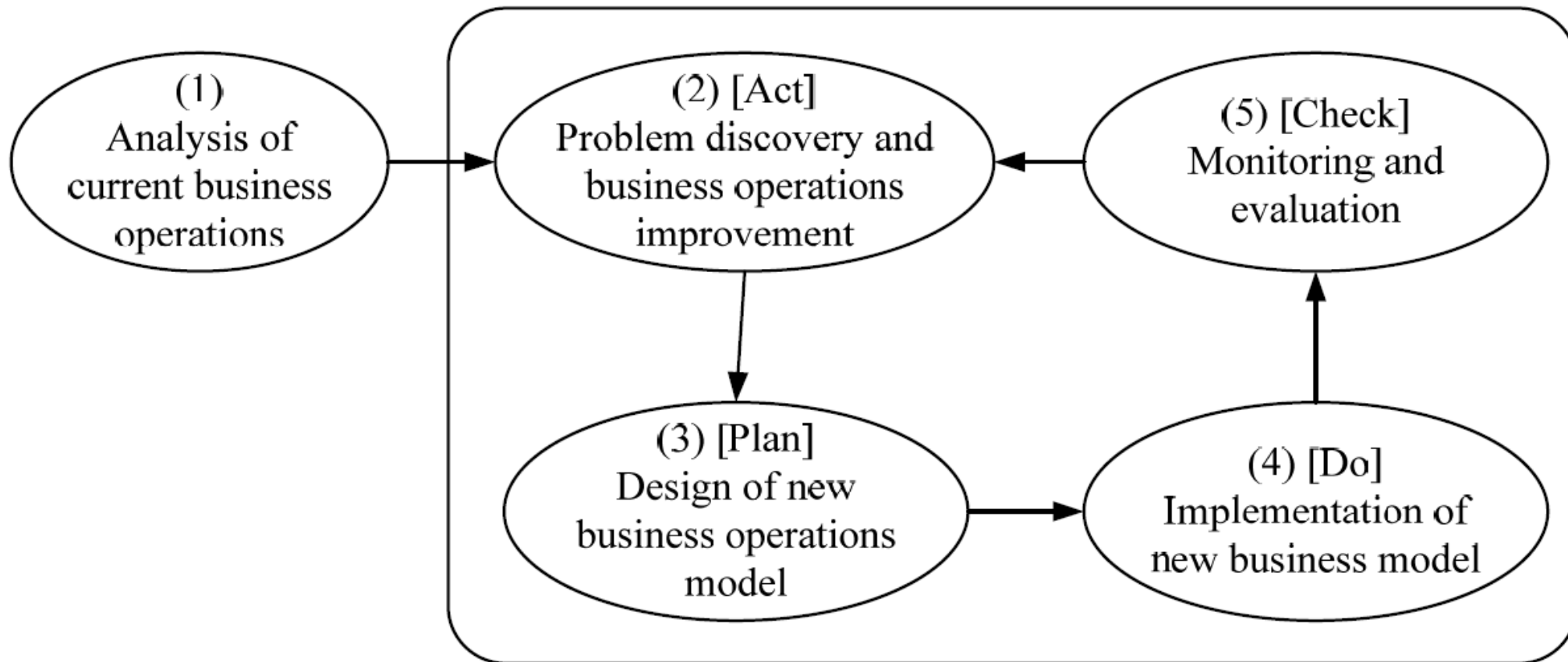
Q65. Which of the following is an explanation of SaaS?

a) It is a service where the user uses the functions of application software via the Internet only when necessary.

b) It is a software package for performing integrated management of mission-critical business operations in order to effectively employ the management resources of a company.

c) It refers to a document of consent concerning the content of service quality between the ordering company and the service provider.

d) It refers to a far-reaching revision of the existing organization and business processes, and the redesigning of duties, business flow, management mechanism, and information systems.

Answer: a

SaaS (Software as a Service)

- This is a type of service that provides software components (i.e., information system functions) via the Internet. It is possible to use only the necessary functions of software when they are necessary.

PaaS (Platform as a Service)

- This is a type of service that provides a platform for application execution via the Internet. The provider provides a virtualized application server on which users deploy and operate their own application.

IaaS (Infrastructure as a Service)

- This is a type of service that provides infrastructure via the Internet. The provider does not provide software. It provides only a virtualized server on which the user installs the necessary OS, and so on.

DaaS (Desktop as a Service)

- This is a type of service that provides a desktop environment for a terminal via the Internet. There is no OS or application on the client (i.e., thin client), and a virtualized desktop environment on cloud infrastructure is used over the Internet.

Q66. Which of the following should be undertaken in order to eliminate the "digital divide"?

a) Estimating IT investment, setting result targets based on investment goals, and performing prior evaluation of the feasibility of achieving each result target

b) Increasing learning opportunities for information literacy, and preparing an environment to further facilitate the use of information & telecommunications equipment and information services

c) Reducing energy consumption by promoting the efficiency of business operations with the help of IT, including telecommuting, energy savings for electrical appliances and facilities, and so forth

d) Using IC tags to enable the tracking of distribution information on products and foodstuffs, in all processes from production to final consumption or disposal

Answer: b

- Public information system is a collective term for systems with a strong public presence.
- In a public information system, it is necessary to remove the social and economic disparity (i.e., digital divide) that arises as a result of the existence of information literacy and the differences in the IT usage environment.
- This is performed by taking into consideration a universal design that provides an environment and services that can be used easily and comfortably by all human beings.

Q67. Which of the following is an explanation of the non-functional requirements definition?

a) It clearly identifies business functions that are difficult to implement in a system, and that constitute manual operation, from among business requirements.

b) It clearly identifies the conformity of a new package to be installed in order to implement business requirements.

c) It clearly identifies the functions that are lacking in the current system in order to determine business requirements.

d) It clearly identifies the quality requirements, technical requirements, and operational requirements necessary to implement business requirements.

Answer: d

Non-functional requirements

These are requirements other than functional requirements that are necessary to fulfill the operational requirements, such as quality characteristics (i.e., functionality, reliability, usability, efficiency, maintainability, portability), technical requirements (i.e., system implementation method, system configuration, system development method (e.g., language), development standards, development environment), operational requirements, and migration requirements.

Q68. Which of the following is an external factor concerning an in-house product identified using SWOT analysis?

a) Cost competitiveness

b) Functional strengths

c) Quality-related weaknesses

d) Threats owing to a new entry

Answer: d

SWOT analysis

- An analysis technique that clarifies the enterprise strategies of "attack" and "defense" by analyzing the internal and external factors of a company.
- The initial letters of "Strength" and "Weakness" of the internal factors, and "Opportunity" and "Threat" of the external factors are taken and referred to as SWOT analysis.

Internal factors

The products, cost base, sales force, technical power, reputation, brand, finance, human resources, and decision-making of a company are compared with those of the competitors, and the results (e.g., merits and demerits) are classified.

- Strength: Points in which a company is superior to its competitors
- Weakness: Points in which a company is inferior to its competitors

External factors

The macro factors (e.g., politics and economy, social conditions, technical progress, legal system) and micro factors (e.g., market size and growth possibility, customers' sense of values, price trend) are classified.

- Opportunity: Factors that are advantageous to the company (motivating factors)
- Threat: Factors that are disadvantageous to the company (obstructive factors)

Q69. According to the "competitive strategy" proposed by Philip Kotler, which of the following describes a company that has no high market share, but has the strategic aim to increase income and acquire a unique position by focusing management resources on particular products and services?

a) Market challenger

b) Market follower

c) Market leader

d) Market nicher

Answer: d

This is a technique of analyzing the position in the market through the quality and quantity of management resources to be invested.

Relative management resources		Quantity	
		Large	Small
Quality	High	Leader	Nicher
	Low	Challenger	Follower

Nicher

- Since the management resources are qualitatively excellent, the nicher dominates a specific market (or product) but is quantitatively inferior to the leader.
- The nicher employs the specialization strategy that aims at specialization of products and market.
- There is also a concept of niche strategy, where business is developed by aiming at the gaps in the market that does not satisfy the needs of the customer from the beginning and by focusing on the nicher of a specific business.

Q70. Which of the following is a technique for separating company activities into core activities and support activities for each business function, and analyzing which activities generate the profit derived from the products and services provided to customers?

a) 3C analysis

b) Five forces analysis

c) SWOT analysis

d) Value chain analysis

Answer: d

Value chain analysis

- An analysis technique that divides corporate activities into primary activities and support activities and clarifies that the added value of the products and services provided by the company is generated through which activity.

- This method proves to be effective in detecting the success factors (i.e., KFS (Key Factor for Success)) in the industry.

- Through the survey, analysis, and evaluation of the value chain, the structure of the industry, highest income business of a company, and the strong points and weak points of a company in the industry and market are clarified, and as a result, the value chain is systematically organized and the competitive strategy is created.

Q71. Which of the following is an explanation of knowledge management?

a) A flat organization structure with minimal hierarchical layers is maintained to accelerate decision-making.

b) Comparative analysis with other successful companies is performed to drive management innovation.

c) Knowledge scattered across an enterprise is shared to improve overall problem-solving capability.

d) Management is centered on proprietary know-how and technology that are not easy for other companies to imitate.

Answer:c

KM (Knowledge Management) is a technique by which the management and employees accumulate and share the knowledge and knowhow acquired from business activities, and the knowledge scattered within the company, such as the creativity, behavioral ability, and ideas of employees, and use it for problem solving as a management resource (i.e., knowledge) of the entire company.

In the KM system, in addition to the use of the knowledge database (or knowledge base) in which the internal information of the company is accumulated, artificial intelligence is also used.

Q72. Which of the following is an explanation of CAD?

a) Evaluating product performance and functions using computers, without using the actual product to perform testing or experimentation

b) Using a computer to convert product design drawings to process design information, and support automation of machine processing, etc.

c) Using a computer to create product design drawings from attribute data concerning product shape, composition, etc.

d) Using a computer to derive the required volumes and timing of materials from a production schedule, a BOM (bill of materials), inventory volumes, etc.

Answer: c

Q73. Which of the following performs processing according to steps (1) through (3)?

(1) Based on the types and quantities, as well as the parts list of the product to be manufactured within a future fixed period of time, the required quantity of components is calculated.

(2) The net order quantity of each component is calculated from the amount of inventory that can be allocated.

(3) The ordering time for the components is determined with consideration for the manufacturing or procurement lead time.

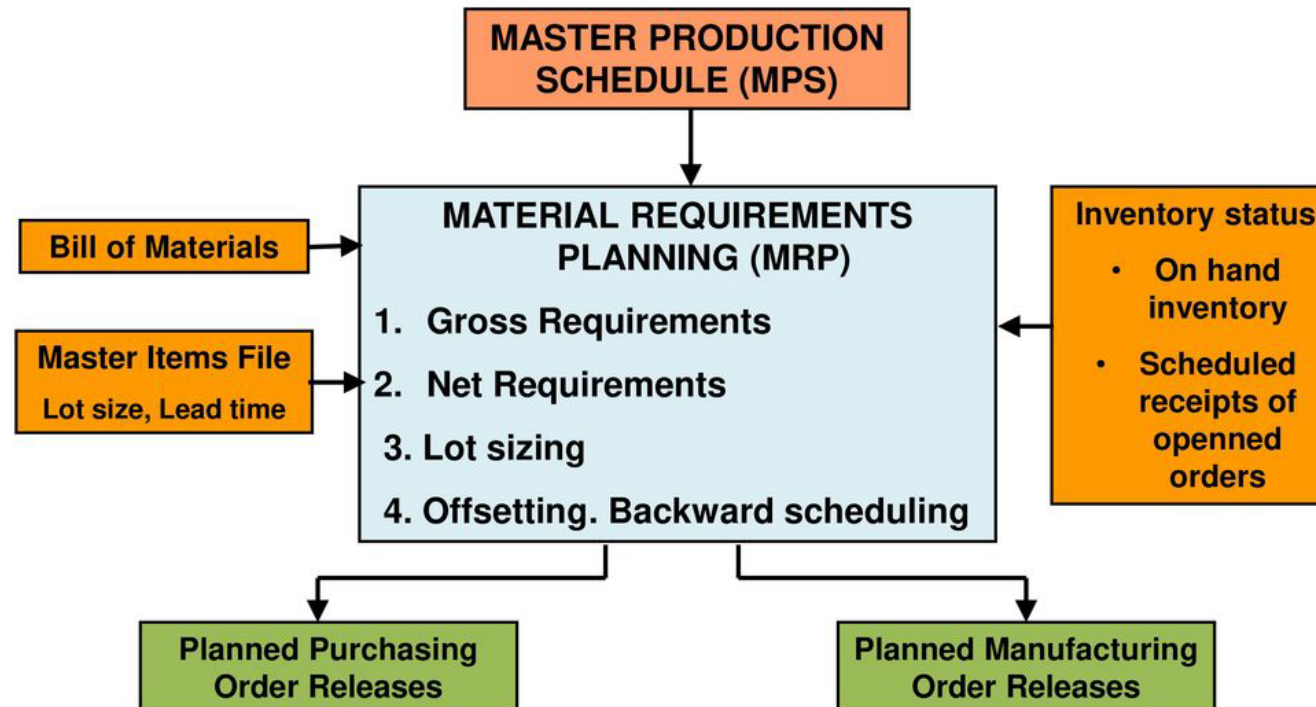a) CAD   b) CRP   c) JIT   d) MRP

Answer: d

MRP (Material Requirements Planning)

- This is a system by which the flow of resources from the raw material necessary for production up to the finished product is planned and managed on the basis of the production plan.
- The net requirement of the necessary resources is determined on the basis of the bill of materials, and the procurement plan of resources is created.

Basic Structure of MRP system

MASTER PRODUCTION SCHEDULE (MPS)

Bill of Materials

Master Items File
Lot size, Lead time

MATERIAL REQUIREMENTS PLANNING (MRP)
1. Gross Requirements
2. Net Requirements
3. Lot sizing
4. Offsetting. Backward scheduling

Inventory status
- On hand inventory
- Scheduled receipts of openned orders

Planned Purchasing Order Releases

Planned Manufacturing Order Releases

Q74. Which of the following is an explanation of EDI?

a) A communication service that provides added value, such as the storage of data transmitted over networks and conversion of data formats

b) An international standard for e-mail services based on the OSI basic reference model, which provides comprehensive services for the generation, transmission, and processing of messages

c) An ordering system that allows orders to be placed by transmitting order information from a data entry terminal to the head office or a supplier

d) The exchange of business transaction data between computers (including terminals) over the Internet on the basis of standard protocols

Answer: d

- EDI (Electronic Data Interchange) is a mechanism by which the data type and data format of business transactions, such as EC, are consolidated, and the quotations, acceptance and placement of orders, and payments are exchanged electronically between companies.

- The EDI that uses the Internet without the use of a leased line for the exchange of data between companies is called Web-EDI.

Q75. Which of the following is the procurement process that enables suppliers to bid against one another on the Internet in order to sell their products or services under the conditions specified by a general customer?

a) B to B

b) G to C

c) Reverse auction

d) Virtual mall

Reverse auction

- A buyer indicates the object(s) he/she wants to buy and the purchase conditions, and either an individual or several sellers respond to this demand.

Answer: c

Q76. Which of the following is an appropriate method to forecast the amount of revenue during an upcoming promotion at a store, based on historical data?

a) Cluster analysis

b) Delphi method

c) Pareto analysis

d) Regression analysis

Answer: d

Q77. Which of the following is an appropriate explanation of a scatter diagram?

a) It is a chart used to determine if a relationship, pattern, or trend exists between two numeric attributes.

b) It is a chart used to summarize the frequency distribution of a given attribute.

c) It is a type of chart that contains both bars and a line graph, where individual values are represented in descending order by bars, and the cumulative total is represented by a line.

d) It is a type of chart used to determine whether a process is in a stable state or not, and it plots characteristic values based on temporal transition.

Hint:
Correlation is a relationship between two variates in which changes in one variate cause changes in the other. The correlation between two sets of observation values is generally analyzed by using a scatter diagram.

Answer: a

Q78. When a company sells a product at 17 dollars per unit, and the fixed costs and the variable costs are as shown in the tables below (in dollars), how many units does the company have to sell to earn a profit of 42,000 dollars?

Fixed costs:

Administration costs	130,000
R&D costs	10,000

Variable costs per unit:

Raw material costs	4
Administration costs	3

a) 10,200   b) 14,200   c) 16,200   d) 18,200

Answer: d: $17x - (7x + 140000) = 42000$

Q79. Which of the following inventory valuation methods calculates the inventory unit price by dividing the total purchase amount by the total quantity of items purchased at the end of the accounting period?

a) First-in- first-out method

b) Last-in- first-out method

c) Moving average method

d) Periodic average method

Periodic average method

In the periodic average method, the inventory unit price is determined by dividing the total purchase amount by the total quantity of items purchased.

Answer: d

Q80. Which of the following is an appropriate description of the scope of software protection under Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)?

a) Algorithms and programming languages are protected.

b) Application programs are protected but basic programs such as an OS are not covered, as the value of the right is included in the hardware cost.

c) Both source programs and object programs are protected.

d) Documents that describe algorithms are protected, but programs created by using the algorithms are not protected.

Answer: c