CAIIB ABM Practice Questions (Set-2)

Q1. A firm's balance sheet reflects total assets of Rs 75 lacs, with long-term assets amounting to Rs 50 lacs. If the current ratio is 1.25:1, what is the amount of current liabilities? (The answer will be in figure)

Q2. Which one of the following are not the benefits of using simple random sampling?
(i) We can calculate the accuracy of the results
(ii) The results are always representative
(iii) Interviewers can choose respondents freely
(a) Only (i) and (ii)
(b) O [redacted]
(c) O [redacted]
(d) (i [redacted]

Q3. The w [redacted] t liabilities are Rs [redacted] The answer will be [redacted]

Q4. Which [redacted] erial role of HR?
(a) M [redacted] duct quality, a [redacted]
(b) T [redacted] ing, placing e [redacted] rmance and p [redacted]
(c) A [redacted] ain logistics, a [redacted]
(d) M [redacted] advertising s [redacted]

Q5. Read t [redacted] concept of "Scatt [redacted]
1. [redacted] Independent Variable is on the X-axis.
2. When it is possible to draw a line to fit the data, the relationship between the variables is linear.
3. When it is possible to draw a curve but not the line to fit the data, the relationship between variables is curvilinear.

(a) 1 only
(b) 2 only
(c) 3 only
(d) All of the above

Q6. In the context of job analysis, which of the following sources of data/information are considered vital?

(a) Feedback from job holders, direct supervisors, and customers, as well as insights from job analysts, are essential sources for gathering information for job analysis.
(b) Information for job analysis is primarily gathered from industry reports, competitor analysis, and financial performance metrics of the organization.
(c) Data collection for job analysis typically involves public records, government publications, and historical data archives of the company.
(d) The main sources of information for job analysis are internal audits, employee satisfaction surveys, and annual business reviews.

Directions [redacted] apital need based on th[redacted]
Raw materi[redacted] utstanding debtors = R[redacted] bilities and other curre[redacted] g question.

Q7. What i[redacted]

Q8. What i[redacted]

Q9. What i[redacted] vide as per 2nd me[redacted]

Q10. What i[redacted] sanction:

Q11. Ergon[redacted]

(a) D[redacted]
(b) C[redacted]
(c) G[redacted]
(d) A[redacted]

Q12. Find t[redacted]

X	1	2	3	4
F	5	4	9	16

Q13. A company has the following financial figures from its balance sheet:

- **Capital: Rs 20 lakh**
- **Reserve: Rs 6 lakh**
- **Unsecured Loan: Rs 7 lakh**
- **Current Assets: Rs 25 lakh**
- **Intangible Assets: Rs 3 lakh**

What will be its net worth?

Q14. Which statement best reflects the components and purpose of 'Learning and Development'?

(a) 'Learning and Development' primarily focuses on improving interpersonal relationships among employees, enhancing office decorum, and fostering a positive work culture.

(b) This process is aimed at the systematic enhancement of employees' skills, knowledge, and competencies to foster better performance in their current job roles.

(c) 'Learning and Development' is concerned with increasing sales, improving customer service ratings, and reducing operational costs within an organization.

(d) The focus of this process is on restructuring organizational hierarchy, optimizing workflow processes, and implementing new software systems.

Q15. Match [redacted]

FORECASTING TECHNIQUES	MEANING
1. Auto-Regressive Models	A. Describe time series in terms of two polynomials. In this model, the impact of previous lags and the residuals are considered to forecast the future values of the time series.
2. Moving-Average Models	B. We forecast the variable of interest using a linear combination of past values of the variable. The term mentioned in this model indicates that it is a regression of the variable against itself.
3. Autoregressive Moving Average Model	C. It is a common approach for modeling univariate time series. It involves modeling the error term as a linear combination of error terms occurring contemporaneously and at various times in the past.

(a) 1-C, 2-B, 3-A

(b) 1-A, 2-B, 3-C

(c) 1-B, 2-C, 3-A

(d) 1-B, 2-A, 3-C

Q16. What does the Free Form Essay Method of appraisal involve?

(a) Using a checklist of predefined criteria to score an employee's performance, which promotes consistency and fairness in evaluations across different employees.

(b) Asking employees to evaluate their own performance and set future goals, which is then reviewed and discussed with their manager to ensure alignment.

(c) Writing an open-ended, narrative appraisal about an employee's performance, focusing on their job knowledge, attitudes, and development needs without using a strict format.
(d) Implementing a series of tests and practical tasks for the employee to complete, measuring their skills and competencies directly against job requirements.

Q17. Which of the following statements best describes how organizational factors influence individual behavior in the workplace?
(a) Individual behavior in an organization is solely determined by personal characteristics and has no correlation with organizational structure or culture.
(b) Organizational factors such as the structure of the organization, availability of physical facilities, reward systems, personnel policies, and organizational culture significantly impact i[redacted]
(c) T[redacted] by external f[redacted] dynamics.
(d) T[redacted] competition a[redacted]s.

Q18. Accor[redacted] following repres[redacted] the most fundar[redacted]
(a) S[redacted] Needs, Self-a[redacted]
(b) S[redacted] Needs, Self-a[redacted]
(c) P[redacted] Needs, Self-a[redacted]
(d) S[redacted] rity Needs, P[redacted]

Q19. Which[redacted] events?
Statem[redacted] ble points in the sa[redacted]
Statem[redacted]
(a) Statement 1 is correct, and Statement 2 is incorrect.
(b) Statement 1 is incorrect, and Statement 2 is correct.
(c) Both statements are correct.
(d) Both statements are incorrect.

Q20. Which of the following is associated with the concept of reward?
(a) Employee satisfaction with their job roles and responsibilities.
(b) The availability of training programs within the organization.
(c) Perceptions about the fairness of reward and punishment systems.
(d) The frequency of team meetings held in the workplace.

Q21. What does the concept of approach-avoidance conflict refer to in psychology?

(a) It is a scenario where an individual faces two or more goals, each with its own set of appealing and unappealing aspects, forcing the person to decide which goal to pursue and which to avoid.

(b) A situation in which an individual feels equally compelled to engage in an activity and avoid it at the same time, because the activity presents both desirable and undesirable outcomes.

(c) The psychological state of being motivated to join a group or participate in an activity because of its positive aspects, while simultaneously wanting to avoid it due to perceived negative consequences.

(d) A condition where an individual is confronted with multiple avoidable tasks or goals, all of w[redacted]nother.

Q22. In a sa[redacted], 4.33, 4.38, 4.39, 4[redacted]

Q23. Which [redacted]ed on their relativ[redacted]

(a) B[redacted]

(b) C[redacted]

(c) S[redacted]

(d) M[redacted]

Q24. In the [redacted]nt step?

(a) T[redacted]on for legal p[redacted] policy.

(b) T[redacted] the conflict, u[redacted]

(c) T[redacted] one of the a[redacted]n contracts s[redacted]

(d) T[redacted]ict based on th[redacted]performance appraisals.

Q25. Given that the point estimate of the population variance is 0.00084 and the sum of squared deviation is 0.0042. Find the number of samples.

Q26. What is the primary function of HR databases within organizations?

(a) To serve as a secure platform for online interviews and meetings, streamlining the recruitment and onboarding process for remote employees.

(b) To track the productivity and performance metrics of employees in real-time, allowing managers to make immediate operational decisions.

(c) To store personal and professional information about employees, assisting HR professionals in managing various tasks such as recording training details and handling recruitment processes.
(d) To facilitate the direct transfer of salaries and bonuses to employee bank accounts, ensuring accurate and timely payment without the need for manual intervention.

Q27. What is the correct sequence of simulation methodology?
1. Specify the values of the parameter.
2. Propose a new experiment.
3. Construct a simulation model.
4. Define the problem.
5. E[redacted]
(a) 1[redacted]
(b) 2[redacted]
(c) 3[redacted]
(d) 4[redacted]

Q28. In the [redacted] ere are no negati[redacted]
(a) T[redacted]
(b) T[redacted]
(c) T[redacted]
(d) T[redacted]

Q29. Last y[redacted] began their statist[redacted] rformance, based [redacted]

Student	Score on Aptitude Test	Statistics Grade
1	95	85
2	85	95
3	80	70
4	70	65
5	60	70

(a) ($\hat{y}$= 26.768 + 0.644x
(b) ($\hat{y}$= 25.768 + 0.644x
(c) ($\hat{y}$= 23.768 + 0.644x
(d) ($\hat{y}$= 24.768 + 0.644x

Q30. How do HRMS, HRIS, and HCM differ in the context of human resources management?
(a) HRMS focuses exclusively on the recruitment and onboarding process, while HRIS is concerned with employee performance management, and HCM provides a comprehensive suite covering all aspects of human capital management.

(b) HRMS is a broader term that includes financial management tools alongside human resources functions, whereas HRIS and HCM are specialized tools focused solely on HR tasks and employee lifecycle management.
(c) HRIS is a type of HRMS designed specifically for managing personal employee information and payroll, while HCM encompasses broader strategic HR functions including talent management and succession planning.
(d) There is essentially no functional difference between HRMS, HRIS, and HCM; historically, HRMS referred to a more complete solution, but re-branding has made these terms generally indistinguishable.

Q31. Suppose we have two variables, X and Y, and when we plot their data pairs on a scatter diagra [redacted] **about the relatio**[redacted]
(a) T [redacted]
(b) T [redacted]
(c) T [redacted]
(d) T [redacted]

Q32. How d [redacted] **commercial banks** [redacted]
(a) B [redacted] ority sector a[redacted]
(b) T [redacted] h reviewing b[redacted] ate, District, a[redacted]
(c) R [redacted] ng, ensuring t[redacted] edit.
(d) B [redacted] loan issued b[redacted] dated credit p[redacted]

Q33. What [redacted] **ority sector loans** [redacted]
(a) Banks are required to impose standard loan-related and ad-hoc service charges on all priority sector loans, regardless of the loan amount, to maintain a uniform policy across all sectors.
(b) For priority sector loans up to ₹25,000, banks should not levy any loan-related or ad-hoc service charges/inspection charges. For loans to SHGs/JLGs, this exemption applies per member, not to the group as a whole.
(c) Loan-related and ad-hoc service charges are waived for all priority sector loans without any limit on the loan amount, promoting greater accessibility to financial services for underprivileged sectors.
(d) A nominal fee is mandated for priority sector loans exceeding ₹50,000 to cover the administrative costs involved in processing and inspecting these loans, with exceptions for non-profit organizations.

Q34. Find the Harmonic mean of two numbers a and b, if their Arithmetic mean is 17 and the Geometric mean is 9.

Q35. In the context of the Simplex Method for linear programming, what changes when solving minimization problems compared to maximization problems?

(a) The steps are reversed: The entering variable is determined by the smallest positive number in the Z-row, and the variable to be replaced is chosen based on the largest positive ratio.

(b) The steps are identical: The entering variable is determined by the largest negative number in the Z-row, and the variable to be replaced is chosen based on the smallest positive ratio.

(c) T[redacted]tive number i[redacted]ative ratio.

(d) T[redacted]tive number i[redacted]ative ratio.

Q36. What [redacted] Companies (Audit[redacted]

(a) T[redacted] profitability p[redacted] investment.

(b) T[redacted]y's financial s[redacted] outlined in C[redacted]

(c) T[redacted]y, assisting m[redacted]

(d) T[redacted] the ethical p[redacted]parency and a[redacted]

Q37. XYZ Lt[redacted]rent assets over q[redacted]

Q38. Which[redacted]

(a) Loans that need to be paid back whenever the lender asks for it back.

(b) Money borrowed from family members or businesses that have a close relationship with the company.

(c) Savings accounts where the company keeps its money for future use.

(d) Deposits and other short-term financial help not covered in the other options.

Directions (39-43): A college senior is interested in determining the relationship between her GPA and her weekly hours of study for her prior 6 terms in college. The data on her GPAs and hours of study, in the form of (Hours of Study, GPA), are (2.8, 12), (3.0, 15), (3.0, 18), (3.1, 20), (3.5, 30), and (3.9, 42).

Q39. What is the sum of squares for Hours of Study?

Q40. What is the sum of squares for GPA?

Q41. What is the sum of squares for Hours times GPA?

Q42. What is the covariance between Hours of Study and GPA?

Q43. What is the correlation between Hours of Study and GPA?

Q44. What [redacted]

(a) [redacted]

(b) [redacted]

(c) [redacted]

(d) [redacted]

Q45. Which of the following is an incorrect description?

(a) In a moderately symmetrical distribution, the empirical relationship between Mean, Median, and Mode is: Mean – Mod = 3(Mean – Median)

(b) Coefficient of variance is an absolute measure of dispersion.

(c) Measure of skewness indicates the direction and extent of skewness in the distribution of numerical values in the data set.

(d) Kurtosis refers to the flatness or peakedness in the region around the mode of the frequency curve.

Q46. What [redacted]

(a) [redacted]

(b) It involves restating values for the objective function and constraints.

(c) It is essential for determining the effects of inventory rules.

(d) It is a guideline that guides the creation of models.

Q47. Why is estimating receivables/bills considered simpler than estimating inventory?

(a) Because receivables/bills are fixed assets, and their values do not fluctuate over time, making them easier to quantify compared to the dynamic nature of inventory assets.

(b) Estimating receivables/bills is governed by consistent market practices specific to a business or location, making it more straightforward than the complex processes involved in inventory valuation.

(c) The estimation of receivables/bills is directly related to sales volume, which is easier to predict with accuracy than the costs and quantities associated with inventory management.
(d) Receivables/bills are not subject to depreciation or obsolescence like inventory, thus requiring less frequent assessment and simpler calculation methods.

Directions (48-52): Suppose we have the exam scores of 10 students in a class:

78,85,90,72,85,92,88,75,82,85.

Q48. What is the Mean of the original data?
(a) 78.2
(b) 8[redacted]
(c) 8[redacted]
(d) 9[redacted]

Q49. What [redacted]
(a) 7[redacted]
(b) 8[redacted]
(c) 8[redacted]
(d) 8[redacted]

Q50. What [redacted]
(a) 7[redacted]
(b) 8[redacted]
(c) 8[redacted]
(d) 9[redacted]

Q51. If the l[redacted]**edian, and Mode**[redacted]
(a) M[redacted]
(b) M[redacted]
(c) M[redacted]
(d) M[redacted]

Q52. If a new student joins the class and scores 95 on the exam, what will be the effect on the mean, median, and mode?
(a) Mean increases, Median increases, Mode remains the same
(b) Mean increases, Median remains the same, Mode remains the same
(c) Mean increases, Median remains the same, Mode increases
(d) Mean remains the same, Median remains the same, Mode remains the same

Q53. A company revalued its plant and machinery from Rs 30 lakh to Rs 80 lakh. Before this revaluation, the current ratio was 1.5:1, with current liabilities totaling Rs 120 lakh. What is the new current ratio?

(a) 1.17
(b) 1.50
(c) 1.33
(d) 1.90

Q54. Why are banks advised to limit the maturity of bank guarantees to not more than 10 years?
(a) To avoid excessive risks associated with long-term market fluctuations, which can significantly impact the bank's financial stability and customer trust.
(b) Because guarantees with a duration beyond 10 years can adversely affect a bank's Asset Liability Management by introducing potential long-term financial obligations that may not a[redacted]
(c) T[redacted] duration of fi[redacted]
(d) T[redacted] as long-term c[redacted] lending and o[redacted]

Q55. Which [redacted] of security posse[redacted]
(a) T[redacted] processes in ca[redacted] out any legal in[redacted]
(b) D[redacted] to mitigate ri[redacted]
(c) H[redacted] of the loan p[redacted]
(d) T[redacted] e inventory st[redacted]

Q56. A firm [redacted]
(a) H[redacted]
(b) M[redacted]
(c) Finance fluctuating assets with long-term financing
(d) Minimize the amount of funds held in very liquid assets

Q57. Fill in the Blanks: Differentiating Run Lengths:
i. One strategy involves conducting simulations for a _________ period.
ii. Alternatively, another approach is to extend the run length to gather a _________ sample size – a feasible option given the capacity to run models on computers.
iii. A third method is to continue the simulation until reaching a state of equilibrium – simulated data aligns with _________ data. For instance, in scenarios, simulated demand conforms to its _________ frequencies.

(a) Designated, substantial, historical, prevalent
(b) Substantial, designated, historical, prevalent
(c) Designated, substantial, historical, historical
(d) Historical, substantial, historical, prevalent

Q58. What is the characteristic feature of Fixed Cost in production?
(a) It varies directly with the level of production, increasing as production increases and decreasing as production decreases, to efficiently allocate resources per unit of output.
(b) Fixed Cost remains unchanged regardless of the level of production, from zero to full capacity utilization, making it difficult to allocate on a per-unit basis. Examples include depreciation.
(c) It is the sum of all costs that fluctuate with sales volume, such as materials and labor, ensuring [redacted]
(c) It is suggested that lenders outsource the appraisal process to external agencies to expedite decision-making and increase the efficiency of loan processing.
(d) Participating lenders should only consider proposals that come with complete security upfront, to reduce appraisal time and hasten the decision-making process.

Q61. What is cluster sampling?
(a) Selecting individuals from the population who share similar characteristics.
(b) Dividing the population into homogeneous groups and randomly selecting entire groups to be part of the sample.
(c) Choosing individuals who are conveniently available for the study.
(d) Sampling individuals based on their availability at a specific time.

Directions (62-65): A large private bank is in the process of selecting a new Chief Compliance Officer (CCO). The Board has constituted a senior executive-level selection committee to oversee this process. After thorough evaluations, the committee has recommended three top candidates based on merit. Now, the Board must decide whom to appoint. Additionally, the bank's MD & CEO has prepared the required 'fit and proper' certification for the final candidate, and they are ready to inform the Department of Supervision at the RBI about the prospective appointment and provide a detailed rationale for their choice, in compliance with supervisory requirements.

Q62. What could be a potential reason for the RBI to reject the appointment of a candidate as CCO?

(a) [redacted]

(b) [redacted]

(c) [redacted] candidate's [redacted]

(d) [redacted]

Q63. Which [redacted] intment, as per th[redacted]

(a) [redacted]

(b) [redacted] eets specific [redacted]

(c) [redacted] nmittee.

(d) [redacted]

Q64. What [redacted] e RBI about the pr[redacted]

(a) [redacted]

(b) [redacted]

(c) [redacted]

(d) [redacted]

Q65. In the event of a discrepancy between the selection committee's recommendation and the Board's final decision, what is the most likely protocol for the bank to follow before the appointment of a CCO?

(a) Re-convene the selection committee to reassess the candidates' rankings.

(b) Seek additional external legal advice to validate the Board's decision.

(c) Prepare a detailed report comparing the top candidates for a reassessment by the Board.

(d) Submit both the committee's recommendation and the Board's final choice to the RBI for approval.

Q66. According to the RBI, fraud encompasses all instances wherein banks have been put to loss through:
(a) Poor financial performance of borrowers
(b) Mismanagement of bank funds by its employees
(c) Deliberate deception to secure unfair or unlawful gain
(d) External economic factors affecting borrowers

Q67. Which of the following statements is NOT true regarding the significance of analyzing financial statements and auditors' reports in the context of renewing working capital limits?
(a) [redacted] business, [redacted]
(b) [redacted] how funds [redacted]
(c) [redacted] of working [redacted]
(d) [redacted] profitability [redacted] capital [redacted]

Q68. What [redacted]
(a) [redacted]
(b) [redacted]
(c) [redacted]
(d) [redacted]

Q69. Which [redacted] in a stock [redacted]
(a) [redacted]
(b) [redacted]
(c) [redacted]
(d) [redacted]

Q70. What are market risks in the context of financial management?
(a) Risks associated with the failure of internal processes, people, and systems within a financial institution, leading to unexpected financial losses.
(b) The uncertainty in financial markets due to changes in commodity prices, which primarily affects companies involved in the trading of physical goods.
(c) Risks stemming from adverse movements in market variables such as interest rates and exchange rates, which are beyond the control of an individual or institution.
(d) The risk that a borrower will default on a loan due to economic downturns, affecting the lender's ability to recover the loaned amount and associated interest.

Q71. Which of the following statements is NOT true regarding the practice of reporting wilful defaulters to Credit Information Companies by banks and financial institutions?

(a) Reporting wilful defaulters helps in improving the accuracy and effectiveness of credit scoring models, enabling credit information companies to offer more reliable credit scores.

(b) The primary aim of reporting wilful defaulters is to facilitate legal action against them by providing a comprehensive database to law enforcement agencies.

(c) The process of reporting wilful defaulters to Credit Information Companies is intended to enhance transparency and risk assessment in the financial system.

(d) Sharing information about wilful defaulters allows banks and financial institutions to make informed lending decisions and manage credit risk more effectively.

Q72. Which [redacted]

(c) [redacted] terms, not in compliance with law and results in undue benefit.

(d) When the borrower's transaction involves defrauding a creditor through deliberate undervaluation of assets.

Q75. What is the requirement for banks and financial institutions (FIs) in terms of reporting information on non-cooperative borrowers?

(a) They must report information on non-cooperative borrowers to CRILC annually, providing a comprehensive yearly overview of all such accounts.

(b) Banks/FIs are required to report detailed financial transactions of non-cooperative borrowers to CRILC on a daily basis for constant monitoring.

(c) They are required to report information on non-cooperative borrowers to CRILC within 21 days from the end of the relevant financial year.

(d) Banks/FIs must report information on non-cooperative borrowers to CRILC within 21 days from the close of the relevant quarter, ensuring timely updates.

Q76. Which of the following statements best describes the principle behind random sampling?

(a) "The larger the sample size, the more accurate the results."

(b) "Every individual in the population has an equal chance of being selected."

(c) "Only individuals who meet specific criteria are included in the sample."

(d) "Researchers select individuals based on their judgment."

Q77. What [redacted]

(d) They function as training and awareness camps where clients of banks and financial institutions are educated about their rights and responsibilities to prevent future disputes.

Q80. In the context of the Committee of Creditors' operations, what percentage of votes by value is necessary for a decision on critical matters to be approved?

(a) A majority of 33% by value is sufficient for the approval of critical matters.

(b) Decisions regarding routine matters require a 51% majority by value.

(c) Critical matters require a majority of 66% by value for approval.

(d) A 90% majority by value is necessary for the withdrawal of an Application for Resolution under section 12A.

Q81. What is a characteristic of a well-designed questionnaire?

(a) Lengthiness to cover all possible aspects of the research topic.
(b) Inclusion of leading questions to guide respondents towards desired answers.
(c) Clear and concise wording to avoid confusion and misinterpretation.
(d) Limitation to closed-ended questions to simplify data analysis.

Q82. What condition must be met for a Resolution Plan (RP) that does not involve restructuring or change in ownership to be considered successfully implemented?

(a) The borrower must demonstrate a continuous improvement in financial performance for 180 d[redacted] change in o[redacted]
(b) A[redacted] start of the R[redacted]
(c) T[redacted]ay from the e[redacted]
(d) A[redacted]d of the 180 d[redacted]ring.

Q83. What [redacted]

(a) It[redacted]ple.
(b) It[redacted]ributed.
(c) It[redacted]pproaches a n[redacted]
(d) It[redacted]he standard d[redacted]

Directions [redacted] of Rs. 180, Advance fr[redacted] of Rs. 400, Fixed Asse[redacted]ss account balance Rs. 30, advance tax paid Rs. 20, cash on hand Rs. 20, Stock Rs. 400 and sundry creditors Rs. 300. based on the above information:

Q84. Calculate the Tangible Net worth of the firm.

Q85. In the above problem, the current ratio would be ......

(a) 1.25:1
(b) 1.28:1
(c) 1.33:1
(d) 1.37:1

Q86. In the above problem, the total outside liabilities to tangible net worth......

(a) 1:1
(b) 1.8:1
(c) 2.1:1
(d) 2.25:1

Q87. If the sales are Rs. 2000, stock turnover Ratio is ......

(a) 5 times
(b) 6 times
(c) 3 times
(d) 2 [redacted]

Q88. If the s [redacted] ld be:

(a) 1 [redacted]
(b) 1 [redacted]
(c) 1 [redacted]
(d) 2 [redacted]

Q89. A sma [redacted] lakh. What shoul [redacted]

(a) R [redacted]
(b) R [redacted]
(c) R [redacted]
(d) R [redacted]

Q90. What i [redacted]

(a) G [redacted]
(b) G [redacted]
(c) G [redacted]
(d) G [redacted]

Q91. Find [redacted] Deviation from the data: 12, 20, 39, 46, 54, 61, 78, 90.

(a) MD= 20.75, Coefficient of MD= 0.415
(b) MD= 21, Coefficient of MD= 1
(c) MD= 21.75, Coefficient of MD= 0.5
(d) MD= 22, Coefficient of MD= 1.5

Q92. If the mode of the data is 24.5, what is the missing frequency?

CI	0-10	10-20	20-30	30-40	40-50
F	4	8	10	x	8

Q93. Which among the following is/are true about the coefficient of correlation?

1. When two variables have a perfect curvilinear relationship, say all points in the scatter diagram are on a circle, the correlation coefficient will be one.

2. If the sample chosen is heterogeneous, it may give rise to a higher correlation coefficient value, even when no correlation exists.

3. It does not indicate any cause-effect relationship between the two.

(a) (2) and (3)
(b) (1) only
(c) (3) only
(d) N[redacted]

Q94. A rand[redacted]2.71 with a sampl[redacted] mean GPA of all s[redacted]

(a) 2[redacted]
(b) 2[redacted]
(c) 2[redacted]
(d) N[redacted]

Q95. Calcul[redacted] deviations from a[redacted]

Price	10	12	13	12	16	15
Amount demanded	40	38	43	45	37	43

Q96. Read t[redacted]

Statem[redacted]

Statem[redacted]

(a) S[redacted]
(b) [redacted]
(c) Both the Statements are correct
(d) Both the Statements are incorrect

Q97. A card is drawn at random from a well-shuffled pack of cards. What is the probability that it is either a spade or a king?

(a) 13/52
(b) 4/52
(c) 4/13
(d) 2/13

Q98. When the value of the _________ variable is zero, the corresponding resource is called scarce.

(a) Surplus
(b) Decision
(c) Slack
(d) Objective

Q99. Read the following statements carefully and choose the correct ones about the concept of "Skewness"?

1. Skewness is the degree of distortion from the symmetrical bell curve or the normal [redacted]
2. [redacted]
3. [redacted]
4. [redacted] longer, it is [redacted]
5. [redacted]
6. [redacted] is longer, it [redacted]
7. [redacted]

(a) [redacted]
(b) [redacted]
(c) [redacted]
(d) [redacted]

Q100. Which [redacted] ined in the histor[redacted]

(a) [redacted] aintain the [redacted]
(b) [redacted] ager was in [redacted]
(c) [redacted] roving their [redacted]
(d) Unlike Charles Babbage, Robert Owen was indifferent to the conditions of workers and focused solely on the financial aspects of management.

Solutions

S1. **Ans.(2000000)**

Sol. Total Assets - Long-term Assets = Current Assets

Current Assets = 75 - 50 = 25 lacs

Current Ratio = Current Assets / Current Liabilities

1.25:1 = 25 / Current Liabilities

Current Liabilities = 25 / 1.25 = 20 lacs

S2. **Ans.(c)**

Sol. [redacted]

(i) [redacted] random [redacted] and [redacted]

(ii) [redacted] random [redacted] samples [redacted]

(iii) [redacted] of simple [redacted] not [redacted]

S3. **Ans.**[redacted]

Sol. [redacted]

= 20 - [redacted]

[redacted]

= 12 × [redacted]

Net [redacted]

[redacted]

S4. **Ans.(b)**

Sol. Managerial role: This relates to performing managerial functions like planning future manpower, recruiting, utilising by placement, retaining, motivating-integrating people and their role, performance and potential assessment, planning the growth of individuals, etc.

S5. **Ans.(d)**

Sol. The dependent variable is on the Y-axis while the Independent Variable is on the X-axis: This is the standard convention for representing a scatter diagram. The Y-axis represents the dependent variable, which is the variable we are trying to predict or explain, and the X-axis represents the independent variable, which is the variable we use to make predictions or explanations.

A scatter diagram shows the relationship between two variables, and when the data points are roughly aligned along a straight line, it indicates a linear relationship between the variables.
If the data points form a curved pattern on the scatter diagram, it indicates a curvilinear relationship between the variables. In such cases, a line may not be the best fit for the data.

S6. Ans.(a)
Sol. The correct answer is (a) because it directly focuses on obtaining firsthand insights from those who perform, supervise, or are affected by the job. This approach ensures a thorough understanding of the actual job duties and requirements, which is essential for effective job analysis.

S7. Ans.(1 [illegible]
Sol. Gr [illegible]
Gross [illegible]

S8. Ans.(9 [illegible]
Sol. W [illegible] ditors- [illegible]
WC Ga [illegible]

S9. Ans.(2 [illegible]
Sol. Cu [illegible] 4 + 0.3)
2^{nd} me [illegible] of total current assets
=11.7 [illegible]
=2.925 [illegible]

S10. Ans.(6 [illegible]
Sol. M [illegible] orking capital Gap [illegible] actual networking capital [illegible]
= 9.90 [illegible]

S11. Ans.(a [illegible]
Sol. E [illegible] people use so that the people and things interact most efficiently and safely.

S12. Ans.(2<>3)
Sol.

$$\text{H.M.} = \frac{n}{\sum_{i=1}^{n} \frac{f_i}{x_i}}$$

= 34/14
= 2.428

S13. Ans.(23)

Sol. Net Worth = Capital + Reserves – Intangible Assets
= 20 + 6 – 3
= Rs 23 lakh

S14. Ans.(b)

Sol. This process is aimed at the systematic enhancement of employees' skills, knowledge, and competencies to foster better performance in their current job roles.

S15. Ans.(c [redacted]

Sol. Au [redacted] past values
of the [redacted] gressing the
variabl [redacted]
Movin [redacted] time series
data. It [redacted] s that arise
both si [redacted]
Autore [redacted] ials. In this
model, [redacted] account to
predict [redacted]

S16. Ans.(c [redacted]

Sol. Th [redacted] iser writes a
narrati [redacted] ed, meaning
there [redacted] freedom to
comme [redacted] ncluding the
employ [redacted] evelopment.
This a [redacted] o introduce
subject [redacted] perspective.
Compa [redacted] que and may
focus o [redacted] s where the
comple [redacted] ods provide.

S17. Ans.(b)

Sol. Option (b) accurately reflects the influence of organizational factors on individual behavior in the workplace, as described in the text. It highlights key factors such as organizational structure, physical facilities, reward systems, personnel policies, and culture, as well as the impact of leadership quality.

S18. Ans.(c)

Sol. Option (c) presents the correct order of Abraham Maslow's hierarchy of needs, starting with the most fundamental physiological needs, followed by safety/security needs, social needs, selfesteem needs, and self-actualization needs at the top of the hierarchy. This order reflects Maslow's theory that these needs are arranged hierarchically, with each level needing to be fulfilled before the next level becomes prominent.

S19. Ans.(c)

Sol. Statement 1 accurately describes a certain event. A certain event occurs when its sample points cover all possibilities in the sample space of a random experiment, making it certain to happen.

Statement 2, on the other hand, is also correct. An impossible event has no favorable outcomes or never occurs. It corresponds to the null set, and it does not have any favorable outcomes.

S20. Ans.(c [redacted]

Sol. Op [redacted] ptions about the fai [redacted] rewards are percei [redacted]

S21. Ans.(b [redacted]

Sol. A [redacted] dual is torn betwee [redacted] e to avoid it becaus [redacted] ituation that embod [redacted] erson might be attr [redacted] rity it offers, but at [redacted] stress levels. This ty [redacted] h appealing and un [redacted] ing.

S22. Ans.(0 [redacted] **)**

Sol.

Mean = $\sum x/n$

Mean = 30.51/7

Mean = 4.35

$\sum(x-\bar{x})^2 = 0.0034$

$$s^2 = \frac{\sum(x-\bar{x})^2}{n-1}$$

$s^2 = 0.0034/6$

$s^2 = 0.00056$

S23. Ans.(c)

Sol. The Straight Ranking Method, where employees are ranked in order of merit based on their performance. This method is characterized by assessing individuals' relative positions and grouping them accordingly.

S24. Ans.(c)

Sol. The primary goal of the final agreement step in the conflict resolution process is to achieve a mutually accepted agreement between the conflicting parties. This step focuses on consensus-building around one of the alternatives identified in the previous step of the resolution process. The aim is to ensure that both parties are satisfied with the outcome and agree to the terms of the resolution. To formalize this agreement, some managers might choose to draft a contract outlining the specific actions to be taken and the timelines for these actions. However, it might also be sufficient to simply meet with the individuals involved and communicate the agreed-upon solution in a polite and clear manner. This step is crucial for ensuring that the resolution is not only agreed upon [redacted]re conflicts arising [redacted]

S25. Ans.(6 [redacted]

Sol.

The formula for the point estimator of the population variance is:

$$s^2 = \frac{\Sigma(x-\bar{x})^2}{n-1}$$

0.00084 = 0.0042/n-1
n-1 = 0.0042/0.00084
n-1 = 420/84
n-1 = 5
n = 6

S26. Ans.(c [redacted]

Sol. HR [redacted] ge extensive person [redacted] tly handling variou [redacted] treamlining recruit [redacted] ss employee data, t [redacted] ns, enhance employ [redacted] on's overall efficiency.

S27. Ans.(d)

Sol. The sequence of Simulation Methodology is:

Define the problem: This is the starting point where you establish what you want to achieve with the simulation.

Construct a simulation model: Once the problem is defined, you create a model that simulates the system or process you're studying.

Specify the values of the parameter: After building the model, you input the necessary variables and parameters.

Evaluate results: You analyze the simulation results to draw conclusions and make decisions.
Propose a new experiment: This step involves running simulations and proposing scenarios to study the system's behavior.

S28. Ans.(b)
Sol. When there are no negative numbers in the Z-row of the tableau in the Simplex Method, it indicates that the current solution is the optimal solution to the linear programming problem. The objective function cannot be further improved, and the values of the decision variables in the current solution provide the best possible outcome according to the given constraints and objective function. This condition is a termination criterion for the Simplex Method, indicating that the opt[redacted]

**S29. Ans.(a[redacted]
Sol.

Student	X	Y	$(x-\bar{x})$	$(y-\bar{y})$	$(x-\bar{x})^2$	$(y-\bar{y})^2$	$(x-\bar{x})(y-\bar{y})$
1	95	85	17	8	289	64	136
2	85	95	7	18	49	324	126
3	80	70	2	-7	4	49	-14
4	70	65	-8	-12	64	144	96
5	60	70	-18	-7	324	49	126
Sum	390	385			730	630	470
Mean	78	77					

$$b_1 = \Sigma [(x_i - \bar{x})(y_i - \bar{y})] / \Sigma [(x_i - \bar{x})^2]$$

$$b_1 = 470/730$$

$$b_1 = 0.644$$

$$b_0 = \bar{y} - b_1 * \bar{x}$$

$$b_0 = 77 - (0.644)(78)$$

$$b_0 = 26.768$$

Therefore, the regression equation is: $\hat{y} = 26.768 + 0.644x$

S30. Ans.(d)
Sol. HRMS (Human Resource Management System), HRIS (Human Resource Information System), and HCM (Human Capital Management) are terms often used interchangeably in the context of human resources management software. Despite historical distinctions where HRMS was considered a more comprehensive solution, encompassing a wider array of HR functionalities compared to HRIS and even HCM, modern re-branding efforts by many software providers have blurred these lines. Today, there is no significant functional difference between systems offered

under these different titles, with each type of system generally providing a full suite of tools to manage various aspects of HR from employee data management to recruitment, payroll, performance management, and more. The choice of term more often reflects marketing strategies rather than distinct product capabilities.

S31. Ans.(a)

Sol. In a scatter diagram, an upward-sloping straight line indicates a direct relationship between the two variables being plotted. A direct relationship implies that as the value of one variable (X) increases, the value of the other variable (Y) also increases.

S32. Ans.(b [redacted]

Sol. T [redacted] ercial banks primar [redacted] anks, which are ess [redacted] ector. These Return [redacted] percentage of thei [redacted] nce of banks in vari [redacted] rums at the State, [redacted] scussing the progre [redacted] mechanisms ensure [redacted] le for their contrib [redacted]

S33. Ans.(b [redacted]

Sol. Ac [redacted] dhoc service charge [redacted] s threshold, banks [redacted] d with loan proces [redacted] e accessible and af [redacted] y, for loans extend [redacted] n is applied per me [redacted] the benefits of the [redacted] thereby supporting the broader goal of financial inclusion.

S34. Ans.(4.76)

Sol.

$$A.M. \times H.M. = (G.M.)^2$$

$$17 \times H.M = 81$$

$$H.M = 81/17$$

$$= 4.764$$

S35. Ans.(b)

Sol. When solving minimization problems using the Simplex Method, the steps remain the same as for maximization problems. Therefore, the entering variable is determined by selecting the variable associated with the largest positive value in the Z-row, just as in maximization problems. Similarly, the variable to be replaced is decided by choosing the smallest positive ratio, as before. This ensures that the steps for selecting variables and performing the pivot operation are consistent regardless of whether the objective is to maximize or minimize.

S36. Ans.(b)

Sol. Th[redacted]egarding the accura[redacted] Companies (Audit[redacted] format that includ[redacted]he company must c[redacted]ny's market positio[redacted]ces. Instead, it focu[redacted]esent a true and fai[redacted]n flows. This helps e[redacted] serving the interes[redacted]

S37. Ans.(2[redacted]

Sol.

Let **Current Liabilities = X**

1. **Using the Current Ratio:**
   $\text{Current Assets} = 4X$
2. **Using the Quick Ratio:**
   $\text{Quick Assets} = 2.5X$
3. **Given:**
   $\text{Inventories} = \text{Current Assets} - \text{Quick Assets}$
   $30,000 = 4X - 2.5X$
   $30,000 = 1.5X$
4. **Solving for X (Current Liabilities):**
   $X = \frac{30,000}{1.5} = 20,000$

Thus, **Current Liabilities = Rs. 20,000.**

S38. Ans.(c)

Sol. The option that is NOT a type of short-term borrowing is C, a savings account where the company keeps its money for future use. Short-term borrowings are about the money a company needs to pay back soon, like loans that can be asked for back at any time, money borrowed from close associates or related businesses, and other short-term financial supports like deposits. Savings accounts, however, represent the company's funds set aside for future needs and are not borrowed money that needs to be repaid.

S39. Ans.(397.5)

Sol. The SSHours = 3,757 - 1372/6 = 397.5

S40. Ans.(7<>8)

Sol. The SSGPA = 62.91 - 19.32/6 = 7.265

S41. Ans.[redacted]

Sol. Th[redacted]

S42. Ans.(4[redacted]

Sol. Co[redacted]

S43. Ans.(0[redacted]

Sol. Co[redacted]

S44. Ans.(c[redacted]

Sol. Th[redacted]omparing its Total C[redacted]nd serves as an indi[redacted]term assets. The be[redacted]r every unit of liabi[redacted]as a surplus of asse[redacted]et Working Capital[redacted] is in a good positio[redacted]

S45. Ans.(b)

Sol. Coefficient of variance is not an absolute but a relative measure of dispersion.

- Relative measures of dispersion are:
- Coefficient of range
- Coefficient of quartile deviation
- Coefficient of mean deviation
- Coefficient of variance

S46. Ans.(d)

Sol. Building and executing a model is only a guideline, and they are not rigid rules." This indicates that the process of executing a simulation model is not a strict, fixed rule that must be followed without deviation. Instead, it serves as a general guideline that aids in the construction and development of the models.

S47. Ans.(b)

Sol. The process of estimating receivables/bills is simpler primarily because it follows established market practices unique to each business or locality. Unlike inventory, which demands a detailed analysis of stock levels, price changes, and potential obsolescence, receivables/bills estimation relies on a more consistent framework. This predictability and uniformity in approach reduce complexity, making it a more straightforward task compared to the multifaceted nature of inventory management.

S48. Ans.(b)

Sol. [redacted]

S49. [redacted]

S50. [redacted]

S51. Ans.(a)

Sol. Original Data: 78,85,90,72,85,92,88,75,82,85

Modified Data: 78,85,90,90,85,92,88,75,82,85.

Mean: The mean is affected by the outlier, so replacing 72 with 90 will increase the mean.

Median: The median is not affected by outliers, so it remains the same.

Mode: The mode remains the same as well because 85 still occurs most times.

S52. Ans.(b)

Sol. Adding a new score of 95, which is higher than the mean of the original dataset, will increase the overall mean. However, since 95 becomes the new highest score, it will not affect the median. The mode remains the same, as 85 still occurs most times.

S53. Ans.(b)

Sol. The revaluation pertains solely to fixed assets, meaning it **does not** affect the current assets or current liabilities. Therefore, the **current ratio remains unchanged** at **1.5:1**.

S54. Ans.(b [redacted]

Sol. Ba [redacted] 10 years to
manag [redacted] s it involves
manag [redacted] d liabilities.
Issuing [redacted] at might not
align v [redacted] all financial
planni [redacted] ks can avoid
potent [redacted] s, maintain
regula [redacted]

S55. Ans.(a [redacted]

Sol. Th [redacted] n bank loan
apprai [redacted] ely avoid all
legal p [redacted] ed provide a
bank w [redacted] cess, it does
not en [redacted] necessary to
formal [redacted] The primary
reason [redacted] to mitigate
risks a [redacted] ner.

S56. Ans.(d [redacted]

Sol. Minimize the amount of funds held in very liquid assets. An aggressive working capital strategy focuses on reducing the amount of cash and other highly liquid assets to increase potential returns, even at the risk of lower liquidity.

S57. Ans.(c)

Sol. One strategy involves conducting simulations for a **designated** period. Alternatively, another approach is to extend the run length to gather a **substantial** sample size – a feasible option given the capacity to run models on computers. A third method is to continue simulation until reaching a state of equilibrium – simulated data aligns with **historical** data. For instance, in our scenario, simulated demand conforms to its **historical** frequencies.

S58. Ans.(b)

Sol. Fixed Cost is a type of cost in production that remains constant, irrespective of the level of production. This means that whether a company is producing at zero level or at its full capacity, the Fixed Cost will not change. This characteristic makes it challenging to distribute the Fixed Cost into a cost per unit of production, as it does not vary with the quantity of goods produced. An example of Fixed Cost is depreciation, which is a charge taken for the wear and tear of assets over time, and it remains the same regardless of how much the company produces using those assets.

S59. Ans.(c)

Sol. [redacted] Ratio [redacted] the security [redacted] the extent to [redacted] amount, acting [redacted] with the [redacted] meet the [redacted] to ensure that [redacted] losses from [redacted]

S60. [redacted]

Sol. [redacted] is to [redacted] in a timely, [redacted] or not within [redacted] time [redacted] practice aims [redacted] by reducing the [redacted]

S61. [redacted]

Sol. [redacted] internally homogeneous but differ from each other. Then, a random sample of clusters is selected, and all individuals within the chosen clusters are included in the sample. This method is particularly useful when it's impractical or costly to sample individuals directly from the population.

S62. Ans.(c)

Sol. The RBI could reject the appointment if the detailed rationale for appointment lacks sufficient evidence of the candidate's compliance expertise. This information is crucial to ensure the candidate meets the necessary supervisory standards, and insufficient documentation may lead to concerns about the candidate's suitability for the role.

S63. Ans.(b)

Sol. The 'fit and proper' certification by the MD & CEO is critical. This document confirms that the candidate meets the supervisory requirements laid out by the RBI, making it essential for regulatory compliance and approval of the appointment.

S64. Ans.(c)

Sol. Failing to provide prior intimation to the RBI about such significant changes can result in penalties or a formal warning. This failure goes against the compliance protocols set by the RBI, and adherence to these protocols is crucial for maintaining the trust and regulatory approval of the ba[redacted]

**S65. Ans.(a[redacted]

Sol. If t[redacted]d's decision, the m[redacted] candidates' rankin[redacted]egrity of the selecti[redacted] committee insight[redacted]

**S66. Ans.(c[redacted]

Sol. Th[redacted]of deception intend[redacted]. This aligns with th[redacted]

**S67. Ans.(a[redacted]

Sol. Th[redacted]tements and audito[redacted]y conducted to calc[redacted]ctions from interes[redacted]s's financial health[redacted]ctiveness in managing debts. These insights help the bank make informed decisions about renewing or adjusting the working capital limits, ensuring that the bank supports viable businesses while managing its risk exposure.

S68. Ans.(d)

Sol. The word "Statistics" has its origins in multiple languages: Latin ("statisticum"), Italian ("statistia"), and German ("statistik"). Each of these words refers to a group of numbers or figures representing information of human interest. These origins reflect the interdisciplinary nature of statistics, drawing from various fields and cultures to develop its principles and methodologies.

S69. Ans.(c)

Sol. Analysis of financial statements, while providing an overview of a company's financial health, does not directly involve the verification of physical inventory or detailed stock records. Therefore, it's less suited for detecting specific misstatements in inventory within a stock statement compared to direct inspection or auditing methods.

S70. Ans.(c)

Sol. Market risks refer to the potential for investors to experience losses due to factors that affect the overall performance of the financial markets. These include risks related to movements in interest rates, exchange rates, equity prices, and commodity prices. Market risk arises from the [redacted]

S71. Ans.(b[redacted]

S72. Ans.(c[redacted]

S73. Ans.(c)

Sol. The urgency in determining the fair value and liquidation value of the Corporate Debtor mandates that the Resolution Professional acts promptly. According to the regulation, the RP must appoint two valuers who are registered with the Insolvency and Bankruptcy Board of India (IBBI) within 7 days of their appointment, ensuring that the valuation process commences swiftly to facilitate further insolvency resolution processes.

S74. Ans.(c)

Sol. Extortionate transactions are identified as those where the terms are excessively harsh or outside the boundaries of law, providing an undue benefit to one party (often the lender) over another. This type of transaction is avoidable as it typically involves exploitative credit conditions that are not in compliance with standard legal or financial norms.

S75. Ans.(d)

Sol. The stipulation for banks and financial institutions (FIs) is to report information regarding non-cooperative borrowers to the Central Repository of Information on Large Credits (CRILC) within [redacted] data on non-cooper[redacted] better risk manag[redacted]ing of such borrow[redacted]lt, enabling banks [redacted]-cooperative behavi[redacted]

S76. Ans.(b[redacted]

Sol. Ra[redacted]od of being chosen[redacted]nces fosters repres[redacted]ralization of finding[redacted]liability and validit[redacted]

S77. Ans.(c[redacted]

Sol. Th[redacted]f confidence that a [redacted]ific interval estima[redacted]idence level indicat[redacted] population param[redacted]

S78. Ans.(b)

Sol. The Inventory Turnover Ratio is calculated by dividing Net Sales by the Average Inventory. This ratio helps measure how many times a company's inventory is sold and replaced over a period.

S79. Ans.(c)

Sol. Lok Adalats (people's courts) offer a statutory mechanism for the resolution of disputes, including those between commercial banks, financial institutions, and their clients, for dues up to Rs. 20 lakh. This is in line with the Legal Services Authority Act, 1987, which provides a legal basis for Lok Adalats and encourages an alternative, less formal, and amicable method of dispute resolution. The Reserve Bank of India has issued guidelines recommending the use of Lok Adalats as a forum for settling such disputes, especially if convened under the civil judiciary. This approach helps reduce the burden on formal court systems and facilitates quicker resolution of disputes cost-effectively and harmoniously.

S80. Ans.(c)

Sol. Critical matters differ from routine matters in terms of the majority required for approval by the Committee of Creditors. While routine matters can pass with a simpler majority of 51% by value, critical matters need a higher threshold, specifically a 66% majority. This ensures that decisions of greater significance have a broader consensus among the creditors.

S81. Ans.(c [redacted] **S83. Ans.(c** [redacted]

Sol. The Central Limit Theorem (CLT) states that as the sample size increases, the distribution of sample means approaches a normal distribution, regardless of the shape of the population distribution. This is a fundamental concept in statistics, as it allows for the use of normal distribution assumptions in hypothesis testing and estimation, even when the population distribution is non-normal.

S84. Ans.(320)

Sol. Tangible Networth= Networth - intangible assets

Capital + reserve - (preliminary expenses + P&L debit balance)

= 200+230-(80+30) = 430-110 = 320

S85. Ans.(d)

Sol. Current Ratio=Current Assets / Current Liabilities

CA= (20+20+400+300)=740

CL=(40+100+400)=540

= 740/540 = 1.37:1

S86. Ans.(d)

Sol. Total outside liabilities/Tangible networth

=720/320 =2.25:1

S87. Ans.(a[redacted]

Sol. St[redacted]

=2000[redacted]

S88. Ans.(b[redacted]

Sol. De[redacted]atio.

12 mo[redacted]

=12/1[redacted]

Debtor[redacted]

=3000[redacted]

= 1.2 m[redacted]

S89. Ans.(b[redacted]

Sol. Th[redacted]r. Given that

20% o[redacted]e Rs. 60 lakh

/ 20%[redacted]

S90. Ans.(d[redacted]

Sol. Go[redacted]identify and

manag[redacted]

S91. Ans.(a)

Sol.

Mean = 400/8

= 50

$$MD\ (Mean) = \left(\sum^{n} |x_i - \bar{x}|\right)/n$$

= 166/8

= 20.75

Coefficient of MD= MD/ Mean

= 20.75/50

= 0.415

S92. Ans.(7.55)

Sol.

$Mode=l+(f1-f0/2f1-f0-f2)h$

$24.5=20+(10-8/20-8-x)10$

$\Rightarrow 24.5=20+(2/12-x)10$

$\Rightarrow 4.5/1=20/12-x$

$\Rightarrow 20=4.5(12-x)$

$\Rightarrow 20/4.5=12-x$

$\Rightarrow 40/9=12-x$

$\Rightarrow x=12-40/9$

$\Rightarrow x=108-40/9$

$\Rightarrow x=68/9$

$\Rightarrow x=7.55$

S93. Ans.(a [redacted]

Sol. Th [redacted] trength and
directi [redacted] +1 indicates
a perfe [redacted] d to infer or
repres [redacted]

A heter [redacted] may appear
to be [redacted] ation is not
meanin [redacted]

The co [redacted] relationship
betwee [redacted] nt does not
necess [redacted] ation is not
sufficie [redacted] required to
establi [redacted]

S94. Ans.(c [redacted]

Sol.

For a confidence level 90%, $\alpha=1-0.90=0.10$, so $z\alpha/2=z0.05$

$z0.05=1.645$

Since $n=120$, $\bar{x}=2.71$, and $s=0.51$

$=2.71\pm1.645(0.51\sqrt{120})$

$=2.71\pm0.0766$

One may be 90% confident that the true average GPA of all students at the university is contained in the interval (2.71−0.08,2.71+0.08)

= (2.63,2.79)

S95. Ans.(39.25)

Sol.

X	x= (X-13)	x^2	Y	y= (Y-41)	y^2	xy
10	-3	9	40	-1	1	3
12	-1	1	38	-3	9	3
13	0	0	43	2	4	0
12	-1	1	45	4	16	-4
16	3	9	37	-4	16	-12
15	2	4	43	2	4	4
$\sum X=78$	$\sum x=0$	$\sum x^2= 24$	$\sum Y= 246$	$\sum y=0$	$\sum y^2= 50$	$\sum xy= -6$

Regression Equation of Y on X

$$Y-\overline{Y} = r\frac{\sigma_y}{\sigma_x}(X-\overline{X})$$

$$b_{yx} = r\frac{\sigma_y}{\sigma_x} = \frac{\Sigma xy}{\Sigma x^2} = -\frac{6}{24} = -0.25$$

$$Y-41 = -0.25\,(X-13)$$

$$Y-41 = -0.25\,X + 3.25$$

$$Y = -0.25\,X + 44.25$$

When X is 20, Y will be

= -0.25(20) + 44.25

= -5 + 44.25

= 39.25

S96. Ans.(d [redacted]

Sol. St [redacted] as random variati [redacted] npredictable and un [redacted] y.

Statem [redacted] ations often requir [redacted] nd trends in data, s [redacted] ts to reveal meani [redacted]

S97. Ans.(c)

Sol. The probability of drawing a spade P(A) = 13/52

The probability of drawing a king P(B) = 4/52

Because one of the kings can belong to a spade, therefore the events are not mutually exclusive.

The probability of drawing a king of spade P(AB)= 1/52

So, the probability of drawing a spade or king is:

P(A or B or Both) = P(A) + P(B) – P(AB)

= 13/52 + 4/52 – 1/52

= 16/52

= 4/13

S98. Ans.(c)

Sol. In linear programming, the **slack** variable represents the difference between the left-hand side and right-hand side of a constraint. A slack variable can be positive, indicating surplus or excess capacity, or zero, indicating that the constraint is binding and the resources are fully utilized. When the value of the **slack** variable is zero, it indicates that the constraint is satisfied without any excess capacity, and the associated resource is considered "scarce" because it is fully consumed.

S99. Ans.(d)

Sol. S[redacted] the normal distrib[redacted]wo types of skewn[redacted]ean and the positiv[redacted]e, the mean and me[redacted]of the mean and th[redacted]In this case, the me[redacted]e.

S100. Ans.(c[redacted]

Sol. R[redacted]s, similar to machi[redacted]estment was in his [redacted] on the idea that im[redacted]an-centered manag[redacted]bbage, who might [redacted]ents in the workp[redacted]