

065/2022

Question Booklet
Alpha Code

A

Question Booklet
Serial Number

Total No. of Questions : 100

Maximum : 100 Marks

Time : 1 Hour 30 Minutes

INSTRUCTIONS TO CANDIDATES

1. The question paper will be given in the form of a Question Booklet. There will be four versions of question booklets with Question Booklet Alpha Code viz. A, B, C & D.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the question booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a question booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator IMMEDIATELY.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your question booklet is un-numbered, please get it replaced by new question booklet with same alpha code.
6. The question booklet will be sealed at the middle of the right margin. Candidate should not open the question booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the question booklet supplied to him contains all the 100 questions in serial order. The question booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. Blank sheets of paper is attached to the question booklet. These may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball-Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

065/2022-A



1. In Cobb-Douglas production function elasticity of factor substitution is equal to-
(A) Zero (B) Infinity
(C) One (D) $0 < \epsilon_s < 1$
2. Point of inflexion is the point at which
(A) marginal product increases.
(B) marginal product decreased.
(C) marginal product is at its maximum.
(D) marginal product becomes zero.
3. If two goods were perfect complements, their indifference curves would be-
(A) Right angle (B) Parabolic
(C) Straight lines (D) Rectangular hyperbolas
4. For a Giffen good
(A) Negative substitution effect outweighs positive income effect
(B) Positive income effect outweighs negative substitution effect
(C) Negative income effect outweighs positive substitution effect
(D) Positive substitution effect outweighs negative income effect
5. The optimum capital stock is achieved when the user cost of capital is equal to
(A) The interest rate (B) The depreciation rate
(C) Tobin's Q (D) The marginal product of capital
6. Non-Accelerating Inflation Rate of Unemployment (NAIRU) means :
(A) A rate of inflation which makes the rate of unemployment zero.
(B) A rate of unemployment for which change in the rate of inflation is zero.
(C) A rate of inflation for which the change in the rate of unemployment is zero.
(D) A rate of unemployment which is equal to the rate of inflation.
7. Which amongst the following is not correctly matched ?
(A) New Classical Economics – Robert Lucas
(B) Multiple effect of Balanced Budget – T.H. Haavelmo
(C) New Keynesian Economics – Paul Romer
(D) Permanent Income Hypothesis – M. Friedman
8. The negative relationship between the gap between actual GNP and its trend and the difference between actual unemployment rate and its equilibrium value is called-
(A) The Aggregate Supply Curve
(B) Okun's Law
(C) The Natural Rate of Unemployment
(D) The Phillips Curve

9. If the mean and variance of a given distribution is 8 and 0.25, the coefficient of variation will be
 (A) 4.75 per cent (B) 7.25 per cent
 (C) 5.75 per cent (D) 6.25 per cent
10. What is the meaning of the term “heteroscedasticity” ?
 (A) The variance of the error term is not constant.
 (B) The variance of dependent variable is not constant.
 (C) The errors are not linearly independent of one another.
 (D) The errors have non-zero mean.
11. Given the arithmetic mean = 45, mode = 48, the median =
 (A) 45 (B) 46
 (C) 47 (D) 48
12. The analysis of variance (ANOVA) is carried out by using
 (A) t-test (B) Z-test
 (C) χ^2 -test (D) F-test
13. In Solow's growth model, the output per capita is a function of
 (A) Labour-output ratio (B) Capital-output ratio
 (C) Capital-labour ratio (D) Technical progress
14. “The absorption approach” of analyzing balance of payments was formulated by
 (A) M. Friedman (B) Marshall and Learner
 (C) Haberler (D) Sydney Alexander
15. The ability to pay principle of taxation is logically most consistent with the normative notion of
 (A) Tax Neutrality (B) Vertical equity
 (C) Value-added taxation (D) Horizontal equity
16. The basic rationale of the theory of "Big-Push" is based on the idea of
 (A) Size of population (B) Internal Economies
 (C) External Economies (D) All of the above
17. Who is the author of the book “Capital in the Twenty First Century” ?
 (A) Joseph Stiglitz (B) Amartya Sen
 (C) Jagdish Bhagwati (D) Thomas Piketty
18. The balance of payment in the current account balance is also known as
 (A) Capital transfer (B) Visible Trade Balance
 (C) Gain from trade (D) None
19. As per tax proposal of Union Budget 2022-23 any income from transfer of any virtual digital asset, such as crypto currencies, shall be taxed at the rate of
 (A) 10 per cent (B) 20 per cent
 (C) 30 per cent (D) 35 per cent

20. Who is the Chairman of 15th Finance Commission ?
 (A) Y.V. Reddy (B) Urjit Patel
 (C) N.K. Singh (D) C. Rangarajan
21. The number of subgroups of a cyclic group of order 100
 (A) 40 (B) 9
 (C) 10 (D) 15
22. The gcd of 1819 and 3587 is
 (A) 13 (B) 9
 (C) 17 (D) 6
23. The linear congruence $15x \equiv 4 \pmod{8}$ has (upto modulo 8)
 (A) a unique solution (B) infinite solutions
 (C) no solution (D) cannot be determined
24. In S_4 , if (1) denotes the identity permutation and $\sigma = (12)(13)(14)$, then which of the following is true ?
 (A) $\sigma^2 = (1)$ (B) $\sigma^4 = (1)$
 (C) $\sigma^3 = (1)$ (D) $\sigma^5 = (1)$
25. Let $T : \mathbb{R}^3 \rightarrow \mathbb{R}^3$ be a linear transformation defined by $T(x, y, z) = (x + y, x - y, x)$. The rank of T is
 (A) 2 (B) 3
 (C) 1 (D) 6
26. The value of the determinant

$$\begin{bmatrix} 1 & 0 & -1 & 1 \\ -1 & 1 & 0 & -1 \\ 1 & 0 & -1 & 1 \\ -1 & -1 & 1 & 0 \end{bmatrix}$$
 is
 (A) 1 (B) -1
 (C) 2 (D) 0
27. Which of the following is true for the matrix ?

$$\begin{bmatrix} 4 & 0 & -1 \\ 0 & 7 & -2 \\ 0 & 0 & 3 \end{bmatrix}$$

 (A) diagonalizable (B) rank is 2
 (C) symmetric (D) not invertible
28. The system of equations $x + 2y - z = 4$, $2x - z = 1$ and $x - 2y = -3$ has
 (A) a unique solution (B) no solution
 (C) infinitely many solutions (D) None of the above

29. If $A = \{p, q, r\}$ and $B = \{a, b, c, d\}$, then the number of functions possible from A to B is
 (A) 12 (B) 64
 (C) 16 (D) 9
30. $\lim_{x \rightarrow 0} \frac{|x|}{x} =$
 (A) 1 (B) -1
 (C) 0 (D) Does not exist
31. $\int x^2 \sqrt{x-1} dx$ is
 (A) $\frac{2}{7}(x-1)^{7/2} + \frac{4}{5}(x-1)^{5/2} + \frac{2}{3}(x-1)^{3/2} + C$
 (B) $\frac{7}{2}(x-1)^{7/2} + \frac{5}{4}(x-1)^{5/2} + \frac{3}{2}(x-1)^{1/2} + C$
 (C) $\frac{4}{5}(x-1)^{7/3} + \frac{3}{2}(x-1)^{3/5} + \frac{5}{4}(x-1)^{2/3} + C$
 (D) $\frac{2}{3}(x-1)^{7/5} + \frac{7}{2}(x-1)^{2/5} + \frac{5}{2}(x-1)^{1/3} + C$
32. Solution of the initial value problem $y' + 4y = e^{-x}$; $y(0) = 0$ is
 (A) $y = \frac{1}{3} [e^{-x} - e^{-4x}]$ (B) $y = \frac{1}{2} [e^{-x} - e^{-4x}]$
 (C) $y = \frac{1}{3} [e^{-4x} - e^{-x}]$ (D) $y = \frac{1}{4} [e^{-x} - e^{-4x}]$
33. A harmonic conjugate of $x^2 - y^2$ is
 (A) xy (B) y^2x
 (C) $2xy$ (D) $2yx^2$
34. Evaluate $\int_c \frac{z^2 + 3z + 7}{z - 2} dz$, where c is the circle $|z| = \frac{9}{5}$
 (A) 0 (B) $\frac{10}{3}$
 (C) $\frac{7}{2}$ (D) 1
35. If $f(z) = U(x, y) + iV(x, y)$ is analytic in a domain D , then which of the following is true?
 (A) U and V are harmonic.
 (B) $f(z)$ is an entire function.
 (C) $f(z)$ satisfies Cauchy-Riemann equations.
 (D) Both (A) and (C).

36. If $f(z) = \frac{\sin z}{z}$, then $z = 0$ is a
 (A) Pole of order 1 (B) Isolated essential singularity
 (C) Removable singularity (D) Non-isolated essential singularity
37. Limit of the sequence $\left(\frac{x^2 - 1}{2x^2 + 3}\right)$ is
 (A) $\frac{1}{2}$ (B) $-\frac{1}{2}$
 (C) $\frac{1}{5}$ (D) -1
38. Which of the following is true ?
 (A) Subset of a countable set is countable.
 (B) Set of rational numbers is uncountable.
 (C) The set $I = \{x \in \mathbb{R} : 0 \leq x \leq 1\}$ is countable.
 (D) Finite set is not countable.
39. The series $\sum_{n=1}^{\infty} \frac{(-1)^{n+1}}{n}$ is
 (A) Convergent (B) $\lim_{n \rightarrow \infty} \frac{(-1)^n}{n} = 1$
 (C) Absolutely convergent (D) Divergent
40. Which of the following property is false for Riemann Integrable functions ?
 (A) Positivity property
 (B) Composition of integrable functions is always integrable
 (C) Sum of two integrable functions is integrable.
 (D) Constant multiple of an integrable function is integrable.
41. What percentage of values lies between first and third quartiles ?
 (A) 25% (B) 50%
 (C) 75% (D) 100%
42. The variance of first $2n$ natural numbers is
 (A) $\frac{n^2 - 1}{12}$ (B) $\frac{2n^2 - 1}{12}$
 (C) $\frac{3n^2 - 1}{12}$ (D) $\frac{4n^2 - 1}{12}$
43. The probability of two persons being born on the same day (ignoring date)
 (A) $1/30$ (B) $1/31$
 (C) $1/7$ (D) $1/365$

44. A problem in Statistics is given to 2 students A & B and they have equal chance to solve the problem. What is the probability that the problem is solved ?
 (A) $1/4$ (B) $1/2$
 (C) $3/4$ (D) 0
45. If $X \sim B(n, p)$, then the distribution of $Y = n - X$ is
 (A) $B(n, 1)$ (B) $B(1, n)$
 (C) $B(n, p)$ (D) $B(n, q)$
46. The mode of the Geometric distribution $p(x) = (1/2)^x, x = 1, 2, \dots$ is
 (A) 0 (B) $1/2$
 (C) 1 (D) does not exist
47. The point of inflexion of standard normal curve is
 (A) $+1$ (B) -1
 (C) both $+1$ & -1 (D) None
48. If T is a statistic which follows student's with 10 degrees of freedom, then what is the distribution of T^2 ?
 (A) Chi-square with 10 d.f. (B) Chi-square with 20 d.f.
 (C) F with 1, 10 d.f. (D) F with 10, 1 d.f.
49. Given the two lines of regression as $3x - 4y + 8 = 0$ and $4x - 3y = 1$, the means of x & y are
 (A) $4, 5$ (B) $5, 4$
 (C) $3, 4$ (D) $4, 3$
50. The minimum variance of the unbiased estimator of λ of Poisson distribution is
 (A) λ (B) λ/n
 (C) n/λ (D) None
51. The degrees of freedom for chi-square in case of contingency table of order 5×4 is
 (A) 12 (B) 11
 (C) 10 (D) 9
52. A sample of 9 items from an infinite population having SD6, yielded total scores as 160. The standard error of sampling distribution of means is
 (A) 1 (B) 2
 (C) 3 (D) 4
53. The number of possible samples of size n from a population of N units with replacement is
 (A) $N!$ (B) NC_n
 (C) NP_n (D) ∞

54. While analysing the data of 4×4 Latin square design, the error df in analysis of variance is equal to
 (A) 16 (B) 8
 (C) 6 (D) 4
55. In a 3^3 factorial with factors A, B and C each at 3 level, the interaction A^2BC^2 is same as the interaction
 (A) ABC (B) AB^2C
 (C) AB^2C^2 (D) A^2BC
56. A life table consists of
 (A) Seven columns (B) Eight columns
 (C) Nine columns (D) None
57. Value of b in the trend line $y = a + bx$ is
 (A) Always positive (B) Always negative
 (C) Neither positive nor negative (D) Both positive or negative
58. If Laspeyre's price index is 100 and Paasche's price index is 144 then Fisher's index number is
 (A) 100 (B) 144
 (C) 122 (D) 120
59. In determining the real Economic growth the price index number is used to
 (A) Evaluate the value of National products
 (B) Deflate the GNP value
 (C) Both (A) & (B)
 (D) None
60. The MGF of a random variable for which $\mu_r^1 = r!$ is
 (A) $(1 - t)^{-1}$ (B) $(1 + t)^{-1}$
 (C) $(1 - t)^{-2}$ (D) $(1 + t)^{-2}$
61. Which among the following statement related to scientific management is not correct ?
 (A) Applicable to shop floor level of a factory
 (B) Helps to increase productivity
 (C) Developed by observations and experimentation
 (D) Unity of command is strictly followed
62. Unity of command :
 (A) Implies that employee should get orders from and report to one boss.
 (B) Help to fix the responsibility of each person in the organization.
 (C) States that subordinate should receive orders from all the superiors.
 (D) Both (A) & (B) are correct.

63. The function of middle level management includes :
- (A) Assigning necessary duties and responsibilities to their departments
 - (B) Reducing the wastage of resources
 - (C) Ensuring that the safety standards are maintained within the organisation
 - (D) All of these
64. Henry Fayol and F.W. Taylor belongs to the management school of _____
- (A) Behavioural
 - (B) Classical
 - (C) Neo-classical
 - (D) Contingency
65. Which one of the following is an element of directing ?
- (A) Motivating employees
 - (B) Preparation of budget
 - (C) Delegating authority
 - (D) Performance appraisal of employees
66. Patent is an example of _____ assets.
- (A) intangible
 - (B) tangible
 - (C) fictitious
 - (D) current
67. According to revenue recognition principle, revenue is recognised :
- (A) At the end of accounting year
 - (B) When cash received against such transaction
 - (C) When advance received
 - (D) When services are rendered or the product is delivered to the customer
68. Which of the following equation is incorrect ?
- (A) Assets – Liabilities = Capital
 - (B) Liabilities + Capital = Assets
 - (C) Assets + Liabilities = Capital
 - (D) Assets – Capital = Liabilities
69. Accounting standards related to depreciation accounting is
- (A) AS-2
 - (B) AS-4
 - (C) AS-9
 - (D) AS-6
70. Overhead is the total of :
- (A) Direct cost
 - (B) Indirect cost
 - (C) Direct cost and factory cost
 - (D) Indirect and direct cost
71. Identify the correct statement.
- (A) SENSEX is an index of Bombay Stock Exchange.
 - (B) Commercial Papers are issued by commercial banks.
 - (C) Bull expect a fall in the price of securities in the near future.
 - (D) SEBI is the regulator of Indian money market.
72. The first dematerialized exchange in India where fully automated screen-based electronic trading system was introduced :
- (A) Bombay Stock Exchange
 - (B) Multi Commodity Exchange
 - (C) National Stock Exchange
 - (D) Over-the-Counter Exchange of India

73. Identify the correct statement related to SEBI.
- (A) Established as a statutory body in 1988
 - (B) Check price rigging of securities
 - (C) Headquarters at New Delhi
 - (D) Both (A) & (B)
74. Which among the following is not a method of floatation of capital ?
- (A) Initial Public offering
 - (B) Rights issue
 - (C) Private placement
 - (D) None of these
75. The market through which RBI can implement its monetary policies is :
- (A) Money market
 - (B) Capital market
 - (C) Forex market
 - (D) Debt market
76. Which of the following is not an asset held by Commercial Banks ?
- (A) Bills discounted
 - (B) Current Account Deposits
 - (C) Money Lent at short Notice
 - (D) Credit Balances with RBI
77. The ownership of Indian Public Sector Banks rest :
- (A) Wholly with Government of India
 - (B) Jointly with Government of India and share-holders from the public
 - (C) Jointly with Government of India and State Bank of India
 - (D) Wholly with the Reserve Bank of India
78. The maximum amount stipulation for RTGS transactions is :
- (A) ₹ 2 lakh
 - (B) ₹ 10 lakh
 - (C) ₹ 50 lakh
 - (D) No limit
79. The banks that are covered under the Banking Ombudsman Scheme include :
- (A) Scheduled commercial banks
 - (B) Regional rural banks
 - (C) Scheduled Primary Co-operative Banks
 - (D) All of these
80. Which of the following is not a service provided by retail banks ?
- (A) Home and auto loans
 - (B) Certificate of Deposit
 - (C) Credit cards
 - (D) Consultancy
81. Keezhariyur bomb case is an incident in Kerala which is related to
- (A) Khilafat Movement
 - (B) Salt Satyagraha
 - (C) Nivarthana Agitation
 - (D) Quit India Movement

82. Which among the following statement/s in connection with the Christian missionaries of Kerala is/are correct ?
1. W. T. Ringletaube and Rev. Mead worked for the promotion of education in Travancore.
 2. Rev. J. Dawson started an English school in Mattanchery in 1818.
 3. Herman Gundert worked in the education of Malabar as part of Basel Evangelical Mission.
- (A) 1 is correct (B) 1 & 2 are correct
(C) 2 & 3 are correct (D) All are correct
83. Which of the following is incorrect pair ?
- (A) Chatambi Swamikal Niroopanam – Vedadikara
(B) Brahmananda Sivayogi – Jatikummi
(C) Sree Narayana Guru – Kalinadakam
(D) Vaikunda Swamikal – Arul Nool
84. Who among the following Keralite is not nominated to the Constituent Assembly of India ?
- (A) Ammu Swaminathan (B) Dakshayani Velayudhan
(C) A.V. Kuttimalu Amma (D) Annie Mascarene
85. Which among the following is/are correct in connection with Manipravalam poems which are a mixture of Sanskrit and Malayalam ?
- i. Vaisika Tantram
 - ii. Unniyachi Charitham
 - iii. Kodiya Viraham
 - iv. Chandrotsavam
- (A) i and ii are correct (B) i, ii, iii are correct
(C) ii and iii are correct (D) all are correct
86. Which of the following literary journal started by Kumaranasan in 1904 to serve as a voice of the underprivileged communities in Kerala ?
- (A) Malayalee (B) Swadeshabhimani
(C) Vivekodayam (D) Mithavadi
87. Who is known as Kumaragurau ?
- (A) Poikayil Yohannan (B) Blessed Elias Kuriakos Chavara
(C) Palakunnath Abraham Malpan (D) M.C. Joseph
88. The drama 'Abraiyakutty' an independent Malayalam translation of William Shakespeare's 'The Taming of Shrew'. Who wrote the drama 'Abraiyakutty' ?
- (A) Kattakayam Cheriyan Mapilai (B) Paremakkal Thoma Kattannar
(C) Kandathil Varghese Mapilai (D) Mary John Thottam
89. Which among the following is not a work by Changampuzha Krishna Pillai ?
- (A) Vazhakkula (B) Divaswapnam
(C) Bashpanjali (D) Neerunna Theechoola

90. Which among the following statement/s about the development of Malayalam language is/are correct ?
1. The Hortus Malabaricus was the first book containing the earliest passages in Malayalam letters.
 2. Samshepa Vedartham was the first fully fledged Malayalam work printed in Malayalam language.
 3. Varthamana Pusthakam of Kariyattil Ouseph Kattanar was the first travel account in Malayalam literature.
- (A) 1 & 2 are correct (B) 2 & 3 are correct
(C) Only 2 is correct (D) All are correct
91. Which one of the fundamental rights according to Ambedkar 'as heart and soul of the Indian Constitution' ?
- (A) Right to life and personal liberty (B) Right to constitutional remedies
(C) Right against exploitation (D) Right to equality
92. Consider the following statements :
- Statement A :** In Indian federalism the Union Legislature alone enjoys the Residuary powers.
- Statement B :** In Indian federalism both Union Legislature and State Legislature enjoys the Residuary powers.
- Select the correct answer.
- (A) Statement A is correct, B is incorrect.
(B) Both statements are correct.
(C) Statement B is correct, A is incorrect.
(D) Both statements are incorrect.
93. Which of the following statement/s about Directive Principles of State Policy is/are true ?
- i. Directive Principles are non-justiciable rights
 - ii. Promotion of international peace
 - iii. Uniform civil code
 - iv. Right to food
- (A) i only (B) i, ii and iii (C) i, iii and iv (D) i and iv
94. Which of the following pairs are correctly matched ?
- i. 42nd Constitutional Amendment – Fundamental duties.
 - ii. Fundamental Rights – Part III
 - iii. Indian Foreign Service – All India Service
 - iv. Art. 368 – Amendment procedure
- (A) i, ii and iii (B) iii and iv
(C) i, ii and iv (D) ii and iii
95. Which of the following statement/s regarding Dandi March is/are not correct ?
- i. Organised as part of Quit India movement
 - ii. From Sabarmati to Dandi
 - iii. Started on 12 March, 1930
- (A) i only (B) ii and iii
(C) i and ii (D) i and iii

96. Who among the following is not a member of the committee for the recommendation of the Chief Information Commissioner and Information Commissioners ?
- (A) Prime Minister
 - (B) Chief Justice of India
 - (C) Leader of opposition
 - (D) A Union cabinet minister nominated by the Prime Minister
97. Which of the following statement/s about Ujjawala Scheme is/are not true ?
- i. Launched by Prime Minister's Office
 - ii. For prevention of trafficking, rescue and rehabilitation of the victims
 - iii. Voluntary organisations are also an implementing agency
 - iv. Formation and functioning of community vigilant groups
- (A) i and ii
 - (B) iii and iv
 - (C) i only
 - (D) i and iii
98. Read the following statements regarding National Food Security Act, 2013 :
- i. Aims to provide food and nutritional security
 - ii. Reinforced women empowerment
 - iii. Provision for food security allowance
 - iv. The Act provides for coverage upto 60% rural population and upto 40% urban population.
- Which among the codes given below is true ?
- (A) iv only
 - (B) i and iii
 - (C) i, ii and iii
 - (D) i, iii and iv
99. Consider the following statements :
- Statement 1 :** The 42nd Constitutional Amendment added words 'socialist and secular' to the Preamble of the Indian Constitution.
- Statement 2 :** 42nd Constitutional Amendment added the word 'integrity' to the Preamble of the Indian Constitution.
- Select the correct answer
- (A) Statement A is correct, B is incorrect
 - (B) Statement A is incorrect, B is correct
 - (C) Both statements are incorrect
 - (D) Both statements are correct
100. Which of the following statement/s about MGNREG Act is/are not correct ?
- i. Give importance to skilled manual work
 - ii. Aims to provide not less than 150 days of work in a financial year
 - iii. Panchayat is an implementing agency
 - iv. Central Employment Guarantee Council is a monitoring authority
- (A) i and ii
 - (B) i and iv
 - (C) ii and iii
 - (D) iv only

SPACE FOR ROUGH WORK

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