

Question Booklet No.

Question Booklet Series :

A

AUAT — 2024
2-Year M.Sc. in Mathematics (P13)
(TEST BASED ON MCQ)

Full Marks : 100

Duration : 2 Hours

Roll No. of the Candidate : _____

Date of Examination : _____

Name of Examination Centre : _____

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Verification

IMPORTANT INSTRUCTIONS

Candidates should read the below instructions carefully and follow them accordingly.

1. The Question Booklet has paper seal pasted on it. Please do **NOT** open the Question Booklet until you are asked to do so by the Invigilator.
2. The candidates must check immediately after breaking the seal that the Question Booklet contains **100 Multiple Choice Questions** in two parts (Part—I and Part—II).
3. Answer of questions of Part—I and Part—II both will have to be given on the **OMR Answer Sheet** provided for this purpose. Fill up the necessary fields that are intended for you by writing and/or shading appropriately. Otherwise the **OMR Answer Sheet cannot** be evaluated and will liable to be rejected. Question numbers progress from **1** to **100** continuously with alternative answers being shown as [A], [B], [C] and [D] for each question. Record your response by completely darkening the corresponding bubble. While responding, you should consider the best alternative answer and shade only one bubble with **black/blue ball point pen only**. For each correct response you will be awarded **1** mark. There will be negative marking for wrong responses. For each wrong response, **-0.25** mark will be awarded. Multiple responses against one **MCQ** will be treated as a wrong response.
4. On leaving the examination hall, candidates must submit the **OMR Answer Sheet**. They are allowed to keep the Question Booklet with them.
5. **OMR Answer Sheet** will be processed by electronic means. Any untoward/irrelevant remarks, folding or putting stray notes on the answer sheet, any damage to the answer sheet will lead to the rejection of the same and the sole liability shall remain with the candidate.
6. Rough Work may be done at the end of the Question Booklet.
7. No candidate will be allowed to leave the examination hall before completion of the examination.
8. Use of any Electronic device like Mobile, Programmable Calculator etc. is strictly prohibited.

DO NOT OPEN THE SEAL UNTIL INSTRUCTED TO DO SO

PART—I
(Core Subject)

1. The idempotent element in a group is

- [A] inverse element of a group
- [B] identity element of a group
- [C] any element of a group
- [D] None of the above

2. The integral $\int_0^{\frac{\pi}{2}} \frac{\sin^m x}{x^n} dx$ converges

- [A] $m > n + 1$
- [B] $m < n + 1$
- [C] $n > m + 1$
- [D] $n < m + 1$

3. Let A and B are two odd order skew-symmetric matrices such that $AB = BA$. Then the matrix AB is a/an

- [A] identity
- [B] skew-symmetric
- [C] symmetric
- [D] orthogonal

4. The differential equation $3xdy - 4ydx = 0$, with initial condition $y(0) = 0$ has

- [A] no solution
- [B] infinitely many solutions
- [C] more than one but finitely many solutions
- [D] unique solution

5. If a complete integral of the partial differential equation $x(p^2 + q^2) = zp$;

$p = \frac{\partial z}{\partial x}$, $q = \frac{\partial z}{\partial y}$ passes through the

curve $x = 0$, $z^2 = 4y$, then the envelope of this family passing through $x = 1$, $y = 1$ has

- [A] $z = \pm 2$
- [B] $z = \pm 3$
- [C] $z = \pm\sqrt{2+2\sqrt{2}}$
- [D] $z = \pm\sqrt{3+3\sqrt{3}}$

6. The radius of convergence of the series

$$\sum_{n=0}^{\infty} \frac{x^{3n}}{3^n}$$

is

- [A] 3
- [B] 3^{-1}
- [C] $3^{\frac{1}{3}}$
- [D] $3^{-\frac{1}{3}}$

7. Let $f: R - \{0\} \rightarrow R$, defined by $f(x) = x + \frac{1}{x^3}$. On which of the following intervals, f is one-one?

- [A] $(0, 1)$
 [B] $(0, 2)$
 [C] $(0, +\infty)$
 [D] $(-\infty, -1)$

8. If z_1 and z_2 be any two complex numbers, such that

$$|z_1 + z_2| = |z_1| + |z_2|$$

then $\arg z_1 - \arg z_2$ is equal to

- [A] 0
 [B] π
 [C] $\frac{\pi}{2}$
 [D] $-\pi$

9. Let $p(x)$ be a quadratic polynomial with $p(0) = 1$. If $p(x)$ leaves the remainder 4, when divided by $x - 1$ and it leaves remainder 6 when it is divided by $x + 1$, then what is the value of $p(-3)$?

- [A] 20
 [B] 30
 [C] -20
 [D] 40

10. If $u(x, y)$ is a homogeneous function of x and y of degree n , then the value of

$$x \frac{\partial^2 u}{\partial x^2} + y \frac{\partial^2 u}{\partial x \partial y}$$

is

- [A] $n \frac{\partial u}{\partial x}$
 [B] $(n - 1) \frac{\partial u}{\partial x}$
 [C] $n \frac{\partial u}{\partial y}$
 [D] $(n - 1) \frac{\partial u}{\partial y}$

11. The value of the double integral

$$\iint_D \sqrt{x^2 + y^2} dx dy$$

where

$$D = \{(x, y) \in R^2 \mid x < x^2 + y^2 < 2x\}$$

is

- [A] 0
 [B] $\frac{7}{9}$
 [C] $\frac{17}{9}$
 [D] $\frac{28}{9}$

12. What is the equation of the plane, which is tangent to the surface $xyz = 4$ at the point $(1, 2, 2)$?

[A] $x + 2y + 4z = 12$

[B] $4x + 2y + z = 12$

[C] $x + 4y + z = 0$

[D] $2x + y + z = 6$

13. Let H and K be two finite normal subgroups of co-prime orders of a group $(G, .)$. Then for all $h \in H$ and $k \in K$, hk is

[A] h^2

[B] k^2

[C] kh

[D] 1

14. The singular solution of the nonlinear first order differential equation

$$8x\left(\frac{dy}{dx}\right)^3 - 12y\left(\frac{dy}{dx}\right)^2 - 27x = 0$$

is

[A] $27x^3 + 4y^3$

[B] $27y^3 + 4x^3$

[C] $27x^2 + 4y^2$

[D] $27y^2 + 4x^2$

15. The principal values of $e^{-\frac{2i}{\pi}}$ is

[A] e^{-2}

[B] e^{2i}

[C] e^{-2i}

[D] e^2

16. The set of real numbers λ for which the boundary value problem $\frac{d^2y}{dx^2} + \lambda y = 0$, $y(0) = 0$, $y(\pi) = 0$ has non-trivial solution is

[A] $(-\infty, 0)$

[B] $\{n^2 : n \text{ is a positive integer}\}$

[C] $\{\sqrt{n} : n \text{ is a positive integer}\}$

[D] $\mathbb{R}$

17. The work done in moving a particle under the action of force $\vec{F} = 5x^2\hat{i} + (zx - y)\hat{j} + 3z\hat{k}$ along the straight line joining $(0,0,0)$ to $(1,1,1)$ is

[A] 0

[B] 1

[C] 3

[D] 4

18. Let G be a cyclic group of order 24. The total number of group isomorphism of G onto itself is

[A] 7

[B] 17

[C] 8

[D] 24

19. The function $f(z) = \log(z + 2)$ is analytic

[A] everywhere in the complex plane

[B] everywhere except $x \leq -2$, and $y = 0$

[C] everywhere except $x \leq 2$, and $y = 0$

[D] everywhere except $x \leq -2$, and $y \leq -2$

20. The function $f(z) = |z|$ is analytic

[A] everywhere

[B] no where

[C] only at $z = 0$

[D] everywhere except at $z = 0$

21. Order of Newton-Raphson method is

[A] 2

[B] 0

[C] 1

[D] 5

22. If $P = \begin{bmatrix} 1 & \frac{1-i}{\sqrt{2}} \\ \frac{1+i}{\sqrt{2}} & 0 \end{bmatrix}$. Then $\det e^P$ is

[A] $2i \sin \sqrt{2}$

[B] e^2

[C] $e^{-2\sqrt{2}}$

[D] e

23. What is the degree of the first order forward difference of a polynomial of degree n ?

[A] n

[B] $n - 2$

[C] $n - 1$

[D] $n - 3$

24. Given a matrix $M = \begin{bmatrix} 2 & 1 \\ 1 & 2 \end{bmatrix}$, which of

the following represents $\cos\left(\frac{\pi M}{6}\right)$?

[A] $\frac{1}{2} \begin{bmatrix} 1 & 2 \\ 2 & 1 \end{bmatrix}$

[B] $\frac{\sqrt{3}}{4} \begin{bmatrix} 1 & -1 \\ -1 & 1 \end{bmatrix}$

[C] $\frac{\sqrt{3}}{4} \begin{bmatrix} 1 & 1 \\ 1 & 1 \end{bmatrix}$

[D] $\frac{1}{2} \begin{bmatrix} 1 & \sqrt{3} \\ \sqrt{3} & 1 \end{bmatrix}$

25. Let $f : X \rightarrow X$ such that $f(f(x)) = x$ for all $x \in X$. Then f is

[A] one-one and onto

[B] one-one but not onto

[C] onto but not one-one

[D] neither one-one nor onto

26. The nature of the equilibrium point of the following linear dynamical system

$$\frac{dx}{dt} = x + 3y, \quad \frac{dy}{dt} = 3x + y \text{ is}$$

[A] stable

[B] unstable

[C] center

[D] saddle

27. The degree of precision of Simpson's 1/3rd rule is

[A] 3

[B] 2

[C] 1

[D] 4

28. If the Integral Domain D is of finite characteristic, then its characteristic is

[A] odd number

[B] even number

[C] prime number

[D] natural number

29. The pay-off matrix of a two person zero-sum game is

1	2	1
0	4	-1
1	3	-2

The number of saddle point is

- [A] 1
- [B] 2
- [C] 3
- [D] 4
30. Let A be a 3×3 matrix with eigenvalues 1, -1, -3. Then
- [A] $A^2 + A$ is non-singular
- [B] $A^2 - A$ is non-singular
- [C] $A^2 + 3A$ is non-singular
- [D] $A^2 - 3A$ is non-singular

31. If $|\vec{a} + \vec{b}| = |\vec{a} - \vec{b}|$. Then the angle between the vectors $\vec{a}$ and $\vec{b}$ is

- [A] 0
- [B] $\frac{\pi}{4}$
- [C] $\frac{\pi}{3}$
- [D] $\frac{\pi}{2}$

32. Which of the following is **not** a convex set?

- [A] $\{(x, y) : |x| \leq 2, |y| \leq 2\}$
- [B] $\{(x, y) : x^2 + y^2 \leq 1\}$
- [C] $\{(x, y) : y^2 \geq 4x\}$
- [D] $\{(x, y) : y^2 \leq 4x\}$

33. The probability density function of a random variable X is $f(x) = 1 - |1 - x|$, $0 < x < 2$ and $f(x) = 0$ elsewhere. The variance of the distribution of X is

- [A] $\frac{1}{6}$
- [B] $\frac{1}{12}$
- [C] $\frac{1}{3}$
- [D] $\frac{1}{4}$

34. A stable asymptotic solution of the equation $x_{n+1} = 1 + \frac{3}{1 + x_n}$ is 2. If we

take $x_n = 2 + \epsilon_n$ and $x_{n+1} = 2 + \epsilon_{n+1}$, where ϵ_n and ϵ_{n+1} are both small, the ratio $\frac{\epsilon_{n+1}}{\epsilon_n}$ is approximately

- [A] $-\frac{1}{2}$
- [B] $-\frac{1}{4}$
- [C] $-\frac{1}{3}$
- [D] $-\frac{2}{3}$

35. If two roots of the equation $2x^3 - x^2 - 18x + 9 = 0$ are equal in magnitude and opposite in sign, then the roots are

[A] $2, -2, \frac{1}{2}$

[B] $2, -2, \frac{1}{4}$

[C] $3, -3, \frac{1}{2}$

[D] $3, -3, \frac{1}{4}$

36. If three positive numbers a , b and c are in Arithmetic Progression, such that $abc = 8$. Then the minimum possible value of b is

[A] 4

[B] $\sqrt{2}$

[C] $\sqrt{8}$

[D] 2

37. If $p(x+1) - 2p(x) + p(x-1) = 4$ for all x , then the expression of $p(x)$ will be

[A] $2x$

[B] $-2x$

[C] $2x^2$

[D] $-2x^2$

38. Two cards are drawn successively from a pack of cards without replacing the first. If the first card is a spade, then the probability that the second card will also be a spade is

[A] $\frac{1}{52}$

[B] $\frac{1}{26}$

[C] $\frac{1}{13}$

[D] $\frac{4}{17}$

39. If $(G, \circ)$ be a group with $a^2 = e$, for all $a \in G$, then G is

[A] Abelian

[B] Non-Abelian

[C] Ring

[D] Field

40. Let S and T be two linear transformations on $\mathbb{R}^3$, defined by $S(x, y, z) = (x, x+y, x-y-z)$ and $T(x, y, z) = (x+2y, y-z, x+y+z)$. Then

[A] S is invertible but T is not

[B] T is invertible but S is not

[C] both S and T are invertible

[D] neither S nor T is invertible

41. The dimension of the vector space

$$W = \left\{ A = (a_{ij})_{n \times n} : a_{ij} \in \mathbb{C}, a_{ij} = -a_{ji} \right\}$$

over the field $\mathbb{R}$ is

[A] n^2

[B] $n(n-1)$

[C] $n^2 - 1$

[D] $\frac{n^2}{2}$

42. $\lim_{n \rightarrow \infty} \frac{2^{n+1} + 3^{n+1}}{2^n + 3^n}$ equals to

[A] 1

[B] 2

[C] $\frac{1}{2}$

[D] 3

43. The equation of the right circular cone, whose vertex is at the origin, axis is the x axis and semi-vertical

angle is $\frac{\pi}{6}$, is

[A] $3x^2 = y^2 + z^2$

[B] $3y^2 = z^2 + x^2$

[C] $3z^2 = x^2 + y^2$

[D] $x^2 = 3(y^2 + z^2)$

44. Suppose that $|3x| + |2y| \leq 1$. Then maximum value of $9x + 8y$ is

[A] 3

[B] 2

[C] 4

[D] 8

45. Let A be a matrix such that $A^3 = -I$. Then which of the following numbers can be an eigenvalue of A ?

[A] 1

[B] 0

[C] -1

[D] $\frac{1}{2} + i\frac{\sqrt{3}}{2}$

46. What is the value of k for which the equations $x^4 + kx^2 + 1 = 0$ and $x^3 + kx + 1 = 0$ have a common root?

[A] 2

[B] 3

[C] -2

[D] -3

47. In the Fourier series of the periodic function

$$f(x) = |\sin x| = \sum_{n=0}^{\infty} (a_n \cos nx + b_n \sin nx)$$

Which of the following coefficients are nonzero?

- [A] a_n for odd n
- [B] a_n for even n
- [C] b_n for odd n
- [D] b_n for even n
48. The matrix $A_{2 \times 2}$ has eigenvalues $e^{\frac{i\pi}{5}}$ and $e^{\frac{i\pi}{6}}$. The smallest n such that $A^n = I_2$ is
- [A] 20
- [B] 30
- [C] 60
- [D] 120
49. If $y(x)$ satisfies the differential equation $\frac{dy}{dx} = y(1 + (\ln y)^2)$ and $y(0) = 1$ for $x \geq 0$, then $y\left(\frac{\pi}{2}\right)$ is
- [A] 0
- [B] 1
- [C] $\frac{\pi}{2}$
- [D] ∞

50. If the straight line $x + y + 2 = 0$ touches the parabola $y^2 = \mu x$, then the value of μ is

- [A] 2
- [B] 4
- [C] 8
- [D] 16

51. The number of units in $\mathbb{Z}_{12}$ is

- [A] 1
- [B] 3
- [C] 4
- [D] 6

52. A particle describes a path $r \cosh(n\theta) = a$ under a force F to pole. The law of force is proportional to

- [A] $\frac{1}{r}$
- [B] $\frac{1}{r^2}$
- [C] $\frac{1}{r^3}$
- [D] None of the above

53. Let $A \in M_2(\mathbb{R})$ be such that its eigenvalues are 1 and -1. Which of the following statements is **correct**?

[A] $A^{-1} = A$

[B] $A^{-1} = -A$

[C] $A^{-1} = \frac{1}{2}A$

[D] No conclusion can be drawn for A^{-1}

54. The coefficient of $(x-1)^2$ in the Taylor series expansion of $f(x) = xe^x$ ($x \in \mathbb{R}$) about the point $x = 1$ is

[A] $\frac{1}{2}$

[B] $\frac{3e}{2}$

[C] $\frac{e}{2}$

[D] $3e$

55. Center of the symmetric group S_3 is

[A] trivial subgroup

[B] two-element subgroup

[C] three-element subgroup

[D] None of the above

56. The sum $\sum_{n=1}^{99} \frac{1}{\sqrt{n+1} + \sqrt{n}}$ is equal to

[A] 11

[B] $\sqrt{99} - 1$

[C] 9

[D] $\frac{1}{\sqrt{99} - 1}$

57. The series $\sum_{n=1}^{\infty} \frac{1}{n^p}$ is convergent if

[A] $p > 1$

[B] $p = 1$

[C] $p > 0$

[D] $|p| < 1$

58. The equation

$$x^n + nx^{n-1} + n(n-1)x^{n-2} + \dots + n(n-1) \dots 2 \cdot x + n! = 0$$

has

[A] multiple root with multiplicity 2

[B] multiple root with multiplicity 3

[C] multiple root with multiplicity 2

[D] no multiple root

59. A particle moves according to the law $v^2 = 4(x \sin x + \cos x)$, where v is the velocity at a distance x . Then its acceleration is

- [A] 0
- [B] $2x \sin x$
- [C] $2x \cos x$
- [D] $2x$

60. The value of the real number α for which the curves $z^2 + \alpha y^2 = 1$ and $y = x^2$ intersect orthogonally is

- [A] 2
- [B] -2
- [C] $\frac{1}{2}$
- [D] $-\frac{1}{2}$

61. The fixed points of the complex valued function $f(z) = \frac{2iz + 5}{z - 2i}$ are

- [A] $1 \pm i$
- [B] $\pm 1 + i$
- [C] $1 \pm 2i$
- [D] $\pm 1 + 2i$

62. The coordinate transformation $x' = 0.8x + 0.6y$, $y' = 0.6x + 0.8y$ represents

- [A] a translation
- [B] a proper rotation
- [C] a reflection
- [D] None of the above

63. How many elements does the set

$\{z \in \mathbb{C} \mid z^{60} = -1, z^k \neq -1, \text{ for } 0 < k < 60\}$ have?

- [A] 45
- [B] 32
- [C] 30
- [D] 24

64. The possible set of eigenvalues of a 4 orthogonal skew-symmetric matrix is

- [A] $\pm i$
- [B] $\pm 2i$
- [C] $\pm 1, \pm i$
- [D] $0, \pm i$

65. If a is an element of a group $(G, \circ)$ of order n and p is prime to n , then the order of the element a^p is

[A] n

[B] np

[C] n^p

[D] 1

66. Let $\mathbb{R}$ be a commutative ring with 1 (unity) but not a field. Let I be a proper ideal of $\mathbb{R}$ such that every element of $\mathbb{R}$ not in I is invertible in $\mathbb{R}$. Then the number of maximal ideal of subfields of $\mathbb{R}$ is

[A] 1

[B] 2

[C] 3

[D] infinite

67. The differential equation $\left| \frac{dy}{dx} \right| + |y| = 0$, with initial condition $y(0) = 1$ has

[A] no solution

[B] infinite solutions

[C] unique solution

[D] None of the above

68. Consider the initial value problem

$$\frac{\partial z}{\partial x} + 2 \frac{\partial z}{\partial y} = 0, \quad \text{with } z(0, y) = 4e^{-2y}.$$

Then the value of $z(1, 1)$ is

[A] $4e^{-2}$

[B] $4e^2$

[C] $2e^{-4}$

[D] $4e^4$

69. The series $\sum_{n=1}^{\infty} \frac{(2n)!}{(n!)^2}$

[A] converges to 1

[B] diverges

[C] converges to $\frac{1}{7}$

[D] converges to $\frac{1}{2}$

70. If a set S contains n elements, then the power set contains _____ number of subsets.

[A] n

[B] n^2

[C] 2^n

[D] n^n

PART—II

(Islamic History and Culture, General English & General Knowledge)

71. Alhamdulillah means

আলহামদুলিল্লাহ এর অর্থ

- [A] Praise be to Allah
- [B] Glory be to Allah
- [C] Allah is almighty
- [D] Allah is the most gracious

72. As per Islam, which of the following is **true** about intoxicants?

ইসলাম অনুসারে মাদকদ্রব্যের ব্যাপারে কোন্ বক্তব্যটি সঠিক?

- [A] Totally allowed
- [B] Marginally allowed
- [C] Marginally forbidden
- [D] Strongly forbidden

73. The *Holy Qur'an* is revealed

‘পবিত্র কুরআন’ অবতীর্ণ হয়েছে

- [A] at a time
- [B] over a period of 12 years
- [C] over a period of 23 years
- [D] over a period of 32 years

74. The saying ‘Cleanliness is half of faith’ is made by

‘পবিত্রতা ঈমানের অর্ধেক’ এই উক্তিটি করেছেন

- [A] Prophet Muhammad
- [B] Hazrat Umar
- [C] Ibn Taymiyya
- [D] Imam Bukhari

75. The prayer at the noon is called

দুপুরের নামাযকে বলা হয়

- [A] Fajr
- [B] Zuhr
- [C] Asar
- [D] Isha

76. Mother of Prophet Muhammad (PBUH) died when he was _____ year(s) old.

পয়গম্বর মুহাম্মদ(সা.) মাতৃহারা হন _____ বছর বয়সে।

- [A] 1
- [B] 3
- [C] 6
- [D] 12

77. Which of the following is a festival of sacrifice?

নিম্নের কোনটি ত্যাগের উৎসব?

- [A] Laylat al-Qadr
- [B] Muharram
- [C] Eid al-Fitr
- [D] Eid al-Adha

78. The first woman martyr in Islam is

ইসলামের প্রথম মহিলা শহীদ হলেন

- [A] Asma
- [B] Nusaybah
- [C] Al-Khansa
- [D] Sumayyah

79. Hijri calendar is enumerated from the time of

কোন সময় থেকে হিজরি ক্যালেন্ডার গণনা করা হয়?

- [A] birth of Prophet Muhammad
- [B] migration of Prophet Muhammad to Madinah
- [C] journey of Prophet Muhammad into heaven
- [D] death of Prophet Muhammad

80. Islam acknowledges

ইসলাম স্বীকৃতি দেয়

- [A] only the last Prophet
- [B] only the last four Prophets
- [C] only the last ten Prophets
- [D] all the Prophets

81. On which day Muslims pray Jummah Prayer?

কোন দিনে মুসলমানরা জুমার নামায পড়ে?

- [A] Sunday
- [B] Saturday
- [C] Tuesday
- [D] Friday

82. The term Waqf refers to ____.

ওয়াকফ শব্দটি বোঝায় ____।

- [A] Bill of exchange
- [B] What is due to the State treasury?
- [C] Promissory note
- [D] Charitable foundation or trust

83. The Arabic term Haq means

আরবি শব্দ হক এর অর্থ হলো

- [A] legal rights
- [B] credit proposal
- [C] taking full responsibility
- [D] kind of sale

84. How many gates of Jannah are there?

জান্নাতের দরজা কয়টি?

- [A] Six
- [B] Seven
- [C] Eight
- [D] Nine

85. Name the Angel who was appointed to deliver messages to Prophet Muhammad (SAW) from Allah (SWT)?

আল্লাহর (সুবাহানাছ ওয়া তায়ালা) পক্ষ থেকে নবী মুহাম্মদ(সা.)-এর কাছে বার্তা পৌঁছে দেওয়ার জন্য নিযুক্ত ফেরেশতার নাম কি?

- [A] Jibreel (AS)
- [B] Mikael (AS)
- [C] Israfil (AS)
- [D] Azrael (AS)

86. Which Country is called the 'Land of Prophets'?

কোন দেশকে 'নবীদের দেশ' বলা হয়?

- [A] Saudi Arabia
- [B] Syria
- [C] Palestine
- [D] Iraq

87. Which word is mentioned most times in the *Holy Qur'an*?

'পবিত্র কুরআনে' কোন শব্দটি সবচেয়ে বেশি বার উল্লেখ করা হয়েছে?

- [A] Qul
- [B] Allah
- [C] Rahman
- [D] Āmana

88. What is the name of the fountain which each person of paradise will drink before entering?

জান্নাতে প্রত্যেক ব্যক্তি প্রবেশের পূর্বে যে ঝর্ণার জল পান করবে তার নাম কি?

- [A] Zamzam
- [B] Kawsar
- [C] Tasneem
- [D] None of the above

89. How many times does 'Bismillah' repeat in the *Holy Qur'an*?

'পবিত্র কুরআনে' কতবার 'বিসমিল্লাহ' এসেছে?

- [A] 112
- [B] 113
- [C] 114
- [D] None of the above

90. Which is the longest Surah in the *Holy Qur'an*?

'পবিত্র কুরআনের' দীর্ঘতম সূরা কোনটি?

- [A] Surah Al - Maidha
- [B] Surah An - Nisa
- [C] Surah Al - Imran
- [D] Surah Al - Baqarah

91. The study of various aspects of ageing is called

- [A] Psephology
- [B] Chronology
- [C] Gerontology
- [D] Entomology

92. The fear of being without your mobile phone is called

- [A] Philophobia
- [B] Claustrophobia
- [C] Ophidiophobia
- [D] Nomophobia

93. His courage won him honour. Identify the type of the underlined noun.

- [A] Proper
- [B] Collective
- [C] Abstract
- [D] Common

94. Fill in the blank with the **correct** alternative.

When I met her ____ years after, she looked old and haggard.

- [A] a few
- [B] the few
- [C] few
- [D] some

95. Choose the **correct** alternative from the given sentences :

- [A] Those never fail who dies in great cause
- [B] They never fail who die in a great cause
- [C] They never fails who dies in a great cause
- [D] They never fails who die in a great cause

96. Who is called the first female teacher of India?

ভারতের প্রথম মহিলা শিক্ষক কাকে বলা হয়?

- [A] Sarojini Naidu
- [B] Savitribai Phule
- [C] Rani Lakshmibai
- [D] None of them

97. Mount Etna is a famous volcano located in

মাউন্ট এটনা একটি বিখ্যাত আগ্নেয়গিরি অবস্থিত

- [A] Argentina
- [B] Italy
- [C] Mexico
- [D] Philippines

98. The Battle of Kalinga was fought in the year

কলিঙ্গের যুদ্ধ কবে সংঘটিত হয়েছিল?

- [A] 540 BC
- [B] 320 AC
- [C] 440 BC
- [D] 261 BC

99. In which year the First World War was fought?

প্রথম বিশ্বযুদ্ধ কত সালে সংঘটিত হয়েছিল?

- [A] 1917 – 1920
- [B] 1914 – 1918
- [C] 1912 – 1916
- [D] 1910 – 1914

100. Which country is the largest tea producer in the world?

বিশ্বের বৃহত্তম চা উৎপাদনকারী দেশ কোনটি?

- [A] India
- [B] China
- [C] Bhutan
- [D] Nepal

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