

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE ASKED TO DO SO.

2020

TEST BOOKLET

TEST BOOKLET SERIES

Time allowed : 1 $\frac{1}{2}$ hours

Full marks : 100

Answer *all* the questions.

Questions are of equal value.



Serial No. **31129**

Roll No.:

Signature of the Candidate:

INSTRUCTIONS

Candidates should read the following instructions carefully before answering the questions:

1. This booklet consists of 12 pages including this front page, containing 100 questions. **Verify the Page Nos. and Test Booklet series on each page and bring at once to the Invigilator's notice any discrepancy.**
2. Answers will have to be given in the Special Answer-Sheet supplied for the purpose.
3. Before you proceed to mark in the Answer-Sheet in response to various items in the Test Booklet, you have to fill in some particulars in the Answer-Sheet as per instructions sent to you in the Admit Card. **Do not fold the Answer-Sheet as this will result in error in your marks.**
4. All questions are of multiple-choice answer-type. You will find **four** probable answers (A), (B), (C) and (D) against each question. Find out which of the four answers appears to you to be correct or the best. Now darken the circle corresponding to the letter of the selected answer in the Answer-Sheet with **Black Ball Point Pen** as per instructions printed on the reverse of the Admit Card and in the Answer-Sheet.
5. One and only one circle is to be fully blackened for answer. Any spot in any other circle (multiple circle) or in wrong circle will be considered as wrong answer. If more than one circle is encoded for a particular answer, it will be treated as a wrong answer.
6. **There will be negative marking of $\frac{1}{3}$ mark for each wrong answer.**
7. **There is a blank page at the end of this Booklet for Rough Work.**
8. **The Special Answer-Sheet should be handed over to the Invigilator before leaving the Examination Hall. You are permitted to take away the used Test Booklet after completion of the examination.**

1. Fill in the blank with proper article:

My mother bought me _____ new pair of shoes.

- (A) a
- (B) an
- (C) the
- (D) None of these

2. Find the odd one out from the series:

- 1. Lunch box and Tiffin box
- 2. Tool box and Sound box
- 3. First-Aid box and Medicine box
- 4. Make-up box and Jewellery box

- (A) 1
- (B) 2
- (C) 3
- (D) 4

3. People usually cover up their _____.

- (A) mistakes
- (B) success
- (C) bad manners
- (D) achievements

4. Fill in the blank with the most appropriate preposition in the following question:

She was blind _____ the left eye.

- (A) to
- (B) on
- (C) from
- (D) in

5. We found this document by chance.

— 'Finding by chance' is expressed by which of the following phrasal verb?

- (A) Look up
- (B) Come upon
- (C) Come up
- (D) Pull up

6. Find the odd one out from the series:

- 1. Chalk 2. Duster
- 3. Broomstick 4. Mopper

- (A) 1
- (B) 2
- (C) 3
- (D) 4

7. Fill in the blank with the most appropriate preposition in the following question:

This is my application _____ leave.

- (A) for
- (B) of
- (C) from
- (D) on

8. Fill in the blank with the most suitable phrasal verb:

We have no alternative plan to _____ on.

- (A) fall back
- (B) fall out
- (C) fall for
- (D) fall off

9. Fill in the blank with the most suitable alternative:

The second lot of seeds is _____ productive than the first lot.

- (A) many
- (B) more
- (C) most
- (D) very

10. Fill in the blank with the most appropriate preposition in the following question:

Sir, I could not attend work _____ Monday.

- (A) to
- (B) from
- (C) since
- (D) for

11. You have to plan according to the size of the land.
— In this sentence, the word 'plan' is used as a/an

- (A) Noun
- (B) Pronoun
- (C) Verb
- (D) Adjective

12. Fill in the blank with the most appropriate collective noun word:

Please handover the _____ of keys to the guard.

- (A) bunch
- (B) group
- (C) pack
- (D) bouquet

13. Clear the _____ of dead leaves.

- (A) stock
- (B) group
- (C) heap
- (D) swarm

14. Fill in the blank with the most suitable word in the following sentence:

I live in this house but this house is not owned by _____.

- (A) my
- (B) me
- (C) myself
- (D) mine

15. Pruning of the trees is an art. The gardener, therefore, is

- (A) a manager
- (B) a teacher
- (C) an artist
- (D) a student

16. Fill in the blank with correct alternative:
You may _____ your job for your insincerity.

- (A) lose
- (B) loose
- (C) loss
- (D) lost

17. The grass is green.

— In this sentence, the word 'green' is

- (A) a noun
- (B) a pronoun
- (C) a verb
- (D) an adjective

18. Fill in the blank with the most appropriate preposition in the following question:

What is the time _____ your watch?

- (A) by
- (B) at
- (C) in
- (D) on

19. Fill in the blank with the most suitable word in the following sentence:

I do not know the _____ of this machine.

- (A) application
- (B) apply
- (C) useful
- (D) use

20. Fill in the blank with the appropriate verb-form:

Sir, our list of grievances here _____ a long one.

- (A) are
- (B) were
- (C) is
- (D) was

21. In an isosceles triangle ABC, $AC = BC$ and $AB^2 = 2 \cdot AC^2$. Then $\angle C$ is

- (A) 30°
- (B) 90°
- (C) 45°
- (D) 60°

22. A circle is inscribed in a square. If the length of a side of the square is 5 cm., then the radius of the circle is

- (A) $5\sqrt{2}$ cm.
- (B) $10\sqrt{2}$ cm.
- (C) 2.5 cm.
- (D) 10 cm.

23. If the ratio of cost price and selling price is 10 : 11, then the percentage of profit is

- (A) 9
- (B) 11
- (C) $10\frac{1}{9}$
- (D) 10

24. The slant height and the radius of base of a right circular cone are respectively 15 cm. and 8 cm. Its curved surface area is

- (A) 240π sq.cm.
- (B) 60π sq.cm.
- (C) 68π sq.cm.
- (D) 120π sq.cm.

25. If the lengths of two diagonals of a rhombus be 24 cm. and 10 cm., then the perimeter of the rhombus is

- (A) 13 cm.
- (B) 26 cm.
- (C) 52 cm.
- (D) 25 cm.

26. If the ratio of volumes of two right circular cones be 1 : 4 and the ratio of the radii of their bases be 4 : 5, then the ratio of their heights is

- (A) 1 : 5
- (B) 5 : 4
- (C) 25 : 16
- (D) 25 : 64

27. If the length of a side of a rhombus be 6 cm. and one of the angles between the sides be 60° , then the area of the rhombus in square centimetre is

- (A) $9\sqrt{3}$
- (B) $18\sqrt{3}$
- (C) $36\sqrt{3}$
- (D) $6\sqrt{3}$

28. AB and CD are two chords of equal length of a circle with centre O. If $\angle AOB = 60^\circ$, then $\angle COD$ is

- (A) 40°
- (B) 30°
- (C) 60°
- (D) 90°

29. A invests 5 thousand rupees for 9 months and B invests 6 thousand rupees for 5 months in a partnership business. Then the ratio in which profit/loss will be shared is

- (A) 3 : 2
- (B) 5 : 6
- (C) 6 : 5
- (D) 9 : 5

30. If a be a positive number and $a : \frac{27}{64} = \frac{3}{4} : a$, then a is equal to

- (A) $\frac{81}{256}$
- (B) 16
- (C) $\frac{9}{16}$
- (D) $\frac{16}{9}$

31. If I be the simple interest on a sum of Rs. p at the rate of $r\%$ per annum for t years, then

- (A) $I = prt$
- (B) $prtI = 100$
- (C) $prt = 100I$
- (D) None of the above

32. If Rs. 100 amounts to Rs. 121 after 2 years at a compound interest compounded annually, the rate of interest is

- (A) 10%
- (B) 20%
- (C) 5%
- (D) $10\frac{1}{2}\%$

33. A parallelogram, a rectangle and a triangle are drawn with the same base and between given parallel lines. If their respective areas are P , R and T , then

- (A) $P = R = 2T$
- (B) $P = R = \frac{T}{2}$
- (C) $R = T = 2P$
- (D) $P = R = T$

34. If the curved surface area of a solid sphere be numerically equal to 3 times its volume, then the radius of the sphere is

- (A) 1 unit
- (B) 2 units
- (C) 3 units
- (D) 4 units

35. The number of square tiles of dimension 2 decimetre \times 2 decimetre required to fill up a rectangular area of length 6 metre and breadth 4 metre is

- (A) 6000
- (B) 2400
- (C) 600
- (D) 1800

36. The ratio of radii of two solid right circular cylinders is 2 : 3 and the ratio of their heights is 5 : 3. Then the ratio of their curved surfaces is

- (A) 2 : 5
- (B) 8 : 7
- (C) 10 : 9
- (D) 16 : 9

37. If a principal doubles itself in 10 years at a simple interest, then the rate of interest per annum is

- (A) 5%
- (B) 10%
- (C) 15%
- (D) 20%

38. A shirt is sold at Rs. 360 at a loss of 10%. The cost price of the shirt is

- (A) Rs. 380
- (B) Rs. 400
- (C) Rs. 420
- (D) Rs. 450

39. The ratio of areas of circumcircle and incircle of an equilateral triangle is

- (A) 4 : 1
- (B) 1 : 4
- (C) 2 : 1
- (D) 1 : 2

40. The ratio of speeds of the hour hand and the minute hand of an analogue clock is

- (A) 1 : 12
- (B) 12 : 1
- (C) 60 : 1
- (D) 1 : 60

41. Which of the following is a ripening hormone?

- (A) GA-3
- (B) Auxin
- (C) Cytokinin
- (D) Ethylene

42. In a forest ecosystem, green plants are

- (A) the primary producers.
- (B) the secondary consumers.
- (C) the decomposers.
- (D) both secondary consumers and decomposers.

43. Which state is the largest producer of Sugarcane in India?

- (A) Maharashtra
- (B) Uttar Pradesh
- (C) Madhya Pradesh
- (D) West Bengal

44. Respiratory pigment in human body is

- (A) Carotinoids
- (B) Water
- (C) Blood
- (D) Haemoglobin

45. What is the name of common currency, that was renamed from 'CFA Franc' by 8 West African Nations recently?

- (A) Ero
- (B) Euro
- (C) Echo
- (D) Eco

46. Which city in Madhya Pradesh, India is known as 'City of Lakes'?

- (A) Bhopal
- (B) Ujjain
- (C) Indore
- (D) Gwalior

47. The fruit of banana is botanically a

- (A) Pepo
- (B) Berry
- (C) Pome
- (D) Drupe

48. In plants, extra-chromosomal DNA is found in

- (A) Nucleus
- (B) Chloroplast
- (C) Ribosome
- (D) Golgi bodies

49. Study of, and the selection, planting, care, and removal of individual trees, shrubs, vines, and other perennial woody plants is known as

- (A) Olericulture
- (B) Floriculture
- (C) Arboriculture
- (D) Viticulture

50. Which one of the following is the national flower of India?

- (A) Rose
- (B) Lotus
- (C) Rafflesia
- (D) Wolffia

51. The enzyme responsible for primary carboxylation in C_3 plants is
- (A) Pyruvate Carboxylase
 - (B) Succinate dehydrogenase
 - (C) Hexokinase
 - (D) RuBP Carboxylase-Oxygenase (RuBisCO)
52. In anatomical studies, xylem tissues can be stained by
- (A) Methylene blue
 - (B) Safranin
 - (C) Light green
 - (D) Bismarck brown
53. The edible part of potato is
- (A) Root
 - (B) Tuber
 - (C) Rhizome
 - (D) Corm
54. Binomial nomenclature was invented by
- (A) Carl Linnaeus
 - (B) Aristotle
 - (C) Thomas Hunt Morgan
 - (D) Johann Gregor Mendel
55. In plants, meiotic cell division takes place in the
- (A) root tip
 - (B) shoot tip
 - (C) flowers
 - (D) fruits
56. Which of the following plant is a Bryophyte?
- (A) *Oriza sativa*
 - (B) *Pteris biaurita*
 - (C) *Ginkgo biloba*
 - (D) *Riccia discolor*
57. Transhumance is associated with
- (A) Pastoralism
 - (B) Agriculture
 - (C) Forests
 - (D) None of the above
58. Palghat Pass connects
- (A) Tamil Nadu and Kerala
 - (B) Karnataka and Kerala
 - (C) Andhra Pradesh and Tamil Nadu
 - (D) Karnataka and Tamil Nadu
59. Who received the 50th Dadasaheb Phalke Award for the Ceremonial year 2018 for the outstanding contribution for the growth and development of Indian Cinema?
- (A) Sanjay Dutt
 - (B) Lata Mangeskar
 - (C) Amitabh Bachchan
 - (D) Vinod Khanna
60. Electron was discovered by
- (A) J.J. Thomson
 - (B) E. Rutherford
 - (C) J. Chadwick
 - (D) None of them

61. Who among the following is known as 'Father of Green Revolution in India'?
- (A) M.S. Swaminathan
 - (B) Norman Borlaug
 - (C) K. Subramaniam
 - (D) C. Subramaniam
62. Thorium and Beryllium are
- (A) Metallic minerals
 - (B) Earth material
 - (C) Atomic minerals
 - (D) Precious metals
63. Gametophytic plant body contains the chromosome number
- (A) $4n$
 - (B) n
 - (C) $3n$
 - (D) $2n$
64. Oxidation is a process which involves
- (A) addition of Oxygen.
 - (B) addition of Hydrogen.
 - (C) removal of Oxygen.
 - (D) addition of Nitrogen.
65. Nucleus is absent in
- (A) Erythrocyte (Red Blood Cell)
 - (B) Cancer cell
 - (C) Stem cell
 - (D) Leucocyte (White Blood Cell)
66. Down syndrome is a/an
- (A) Infectious disease
 - (B) Genetic disease
 - (C) Epidemic disease
 - (D) Mutated disease
67. The Law of Segregation and The Law of Independent Assortment were discovered by
- (A) Johann Gregor Mendel
 - (B) Thomas Hunt Morgan
 - (C) Govindjee
 - (D) M. D. Hatch
68. Root develops from which part of the Embryo?
- (A) Plumule
 - (B) Radicle
 - (C) Cotyledon
 - (D) Epicotyl
69. Mitotic cell division takes place in the
- (A) eukaryotic somatic cells
 - (B) prokaryotic cells
 - (C) eukaryotic egg cells
 - (D) eukaryotic sperm cells
70. In which province of China did the COVID-19 outbreak start?
- (A) Hubei
 - (B) Hunan
 - (C) Henan
 - (D) Guangdong

71. Corona Virus (COVID 19) is a
- (A) Single stranded DNA virus
 - (B) Single stranded RNA virus
 - (C) Double stranded DNA virus
 - (D) Double stranded RNA virus

72. The main component of Biogas is
- (A) Hydrogen
 - (B) Helium
 - (C) Methane
 - (D) Nitrogen

73. The middle lamella is a layer which cements the cell walls of two adjoining plant cells together and is made up of

- (A) Calcium and Magnesium pectates
- (B) Calcium and Magnesium lactates
- (C) Iron and Cadmium pectates
- (D) Iron and Cadmium lactates

74. Which of the following is not a tribe of Andaman and Nicobar Islands of India?

- (A) Jarawa
- (B) Onge
- (C) Sentinelese
- (D) Angami

75. Acharya Jagadish Chandra Bose Indian Botanic Garden is situated in

- (A) Darjeeling of West Bengal
- (B) Mysore of Karnataka
- (C) Howrah of West Bengal
- (D) Lucknow of U.P.

76. Which of the following tissue conducting water and minerals from the roots to the other parts of plants?

- (A) Transfusion tissue
- (B) Xylem tissue
- (C) Phloem tissue
- (D) Collenchyma tissue

77. Germination of seed while it still remains attached with the parent source:

- (A) Ovipary
- (B) Apomixis
- (C) Vivipary
- (D) Asepsis

78. In plants, protostele contains no

- (A) Xylem
- (B) Pith
- (C) Phloem
- (D) Transfusion tissue

79. The process of change in the species structure of an ecological community over time is called

- (A) Population genetics
- (B) Plant succession
- (C) Ecological niche
- (D) Ecological pyramid

80. Nathula Pass is located in

- (A) Sikkim
- (B) Bhutan
- (C) Arunachal Pradesh
- (D) None of the above

81. *Pinus roxburghii* is an example of a/an
(A) Angiosperm
(B) Gymnosperm
(C) Pteridophyte
(D) Alga
82. Proteins are basically composed of
(A) nucleotide residues
(B) amino acid residues
(C) fatty acid residues
(D) carbohydrate residues
83. Bacterial cell contains
(A) 80s Ribosome
(B) 70s Ribosome
(C) 60s Ribosome
(D) 30s Ribosome
84. Which of the following is the least densely populated country in the world?
(A) Nauru
(B) Mongolia
(C) Iceland
(D) Greenland
85. Luni river originates in
(A) Punjab
(B) Rajasthan
(C) Gujarat
(D) Himachal Pradesh
86. Which one compound of the following is a sugar-alcohol?
(A) Glucuronic acid
(B) Starch
(C) Mannitol
(D) Pectin
87. Blood consist of which fluid medium?
(A) Lymph
(B) Platelets
(C) Plasma
(D) Eosinophil
88. Taj Mahal is threatened due to the presence of which gas in the atmosphere?
(A) Chlorine
(B) Sulphur Dioxide
(C) Oxygen
(D) Hydrocarbon
89. Carbohydrates in the plants are stored in the form of
(A) Glycogen
(B) Starch
(C) Glucose
(D) Maltose
90. Which one of the following genus is an alga?
(A) *Mucor* sp.
(B) *Pteris* sp.
(C) *Riccia* sp.
(D) *Volvox* sp.

91. In the geologic time scale, we are living in which age?
- (A) Gelasian
 - (B) Meghalayan
 - (C) Greenlandian
 - (D) Northgrippian
92. Azithromycin is a/an
- (A) Fat-soluble vitamin
 - (B) Antibiotic
 - (C) Antibody
 - (D) Water-soluble vitamin
93. Considering the comparable molecular structures between an enzyme and its substrate,
- (A) the substrate molecule is larger than the enzyme molecule.
 - (B) the substrate molecule is smaller than the enzyme molecule.
 - (C) the substrate molecule is alike to the enzyme molecule.
 - (D) the substrate molecule is double to the enzyme molecule.
94. What is the India's rank in the HDI as per UNDP's 'Human Development Report, 2019—Beyond income, Beyond averages, Beyond today: Inequalities in human development in the 21st century'?
- (A) 132
 - (B) 129
 - (C) 125
 - (D) 145
95. How many states and union territories are there in India?
- (A) 28 states and 9 union territories
 - (B) 29 states and 7 union territories
 - (C) 29 states and 8 union territories
 - (D) 28 states and 8 union territories
96. pH of pure water at 25°C is
- (A) 6.0
 - (B) 8.0
 - (C) 14.0
 - (D) 7.0
97. The theory of organic evolution was first postulated by
- (A) Charles Darwin
 - (B) David Baltimore
 - (C) Jean-Baptiste de Lamarck
 - (D) Frederick Sanger
98. Light-emitting pigment in biological systems is known as
- (A) Luciferin
 - (B) Rhodopsin
 - (C) Phytochrome
 - (D) Urochrome
99. What is the main source of irrigation in North India?
- (A) Canals
 - (B) Tanks
 - (C) Tubewells
 - (D) Wells
100. In a 'Cell Cycle' DNA replication takes place in
- (A) G₁ Phase
 - (B) S Phase
 - (C) G₀ Phase
 - (D) G₂ Phase

Space for Rough Work

Udayan Palan
Pratyakshi Sahayak

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