

102/2023-E

Question Booklet
Alpha Code

A

Question Booklet
Serial Number

101421

Total No. of questions : 100

Time : 75 Minutes

Maximum : 100 Marks

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. A blank sheet of paper is attached to the question booklet. This 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.

SEAL

102/2023-E

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. The principles upon which various methods of plane surveying are based :
 - (A) Working from whole to part
 - (B) Measurement from points of reference
 - (C) Both (A) and (B)
 - (D) None of above
2. The representative fraction (RF) of 50cm to a Metre is :
 - (A) 1/1
 - (B) 1/3
 - (C) 1/2
 - (D) None of above
3. The science and art of collecting information from distance without being physical contact :
 - (A) Remote sensing
 - (B) Passive sensing
 - (C) Active sensing
 - (D) All the above
4. The most preferred abrasion test for stones is :
 - (A) Los Angles
 - (B) Dorry's
 - (C) Deval
 - (D) None of above
5. Size of fine aggregate vary from :
 - (A) 4.75 mm to 100 micron
 - (B) 4.75 mm to 75 micron.
 - (C) 4.75 mm to 150 micron
 - (D) 4.75 mm to 600 micron
6. Function of water in cement mortar is :
 - (A) Act as a lubricant
 - (B) Hydration of cement
 - (C) Wet the surface of aggregate
 - (D) All the above
7. The slope of the sides of a Cippoletti weir is :
 - (A) 1H : 6V
 - (B) 1H : 4V
 - (C) 1H : 2V
 - (D) 1H : 1V
8. The pipe which carries water under pressure from reservoir to turbine is :
 - (A) Pen stock
 - (B) Draft tube
 - (C) Both (A) and (B)
 - (D) None

9. Dry stone pitching on the sloping face of an earth dam is known as :
 (A) Reinforcement (B) Rivetment
 (C) Lining (D) Arch dam
10. A canal has a length of L Km and perimeter of its cross section is P.m. The amount required to line the canal, if the cost of lining Rs C/Sqm will be :
 (A) 1000 ALC (B) ALC/10,000
 (C) 1000 PLC (D) ALC/1000
11. The straight graduated edge of an Alidade is called :
 (A) Fiducial edge (B) Marked edge
 (C) Straight edge (D) None of above
12. 'Error due to sag' is an error in chain surveying :
 (A) Cumulative + or - (B) Compensating + or -
 (C) Cumulative + (D) None of above
13. A line passing through the intersection of cross-hairs and the optical centre of the object glass and its continuation :
 (A) Axis of level tube (B) Horizontal axis
 (C) Line of collimation (D) None of above
14. 'Le chatelier apparatus' is used for measuring :
 (A) Setting time test (B) Fineness test
 (C) Soundness test (D) None of above
15. The size of mortar cube to be used for finding compressive strength of cement is :
 (A) 5 cm × 5 cm × 5 cm (B) 10 cm × 10 cm × 10 cm
 (C) 15 cm × 15 cm × 15 cm (D) None of above
16. The process of extracting stone from rock bed is known as :
 (A) Blasting (B) Quarrying
 (C) Dressing (D) None of above
17. The invar tape is made of alloy of :
 (A) Steel and Copper (B) Aluminium and Nickel
 (C) Steel and Nickel (D) None of above

18. Sand stone is an example of :
 (A) Igneous rock (B) Metamorphic rock
 (C) Sedimentary rock (D) None of above
19. An isohyet is a line joining points of :
 (A) Equal rainfall intensity (B) Equal rainfall depth
 (C) Equal evaporation (D) Equal humidity
20. The magnetic bearing of a line is 48 degree 24 minute. Calculate true bearing if the magnetic declination is 5 degree 38 minute east :
 (A) 48 degree 24 minute (B) 54 degree 2 minute
 (C) 5 degree 38 minute (D) None of above
21. The water particles which exist in the pore spaces of a soil mass :
 (A) Gravitational water (B) Hygroscopic water
 (C) Capillary water (D) Pore water
22. A temporary structure erected with a purpose of providing a safe working platform is :
 (A) Centering (B) Shore
 (C) Rake (D) Scaffolding
23. The bond which consists of alternate courses of headers and stretchers is called :
 (A) English bond (B) Flemish bond
 (C) Raking bond (D) Dutch bond
24. The process of applying cement mortar under pressure through a nozzle is called :
 (A) Pressurising (B) Prestressing
 (C) Guniting (D) None
25. The increase in volume of dry sand when water is added is called :
 (A) Honey combing (B) Bulking
 (C) Segregation (D) Bleeding
26. The process of adding water to quick lime to convert it in to hydrated lime is termed as :
 (A) Watering (B) Hydration
 (C) Slaking (D) None

27. The maximum number of trains which can be handled in a yard per day is known as :
(A) Track capacity (B) Yard capacity
(C) Terminal capacity (D) None
28. A wide road or pathway lined with trees on either side is called :
(A) Ingress (B) Avenue
(C) Hedge (D) Mound
29. The fund which is gradually accumulated by way of periodic or annual deposit for the replacement of the building or structure at the end of useful life :
(A) Market fund (B) Sinking fund
(C) Capital fund (D) None
30. A property fetches a net annual income of Rs. 1200.00 deducting all outgoings. If the rate of interest is 6% per annum, the capitalized value of property?
(A) Rs. 15,000/- (B) Rs. 20,000/-
(C) Rs. 12,000/- (D) Rs. 32,000/-
31. The rate of withdrawal or pumping of water from wells without causing failure or drying of wells is known as :
(A) Porosity (B) Yield
(C) Incrustation (D) None
32. The underground conduits or drains through which sewage is conveyed is known as :
(A) Sewerage (B) Invert
(C) Garbage (D) Sewer
33. As per IS recommendation for Fe415 steel maximum depth of neutral axis is :
(A) 0.48 times d (B) 0.53 times d
(C) 0.43 times d (D) None
34. In a structural element function of concrete in tension zone is :
(A) Protect steel bars from corrosion
(B) Give sufficient tensile strength
(C) Give sufficient compressive strength
(D) All the above

35. In a M20 grade of concrete, the target compressive strength of concrete is :
(A) 20 N/mm² (B) More than 20 N/mm²
(C) Less than 20 N/mm² (D) All the above
36. Slenderness ratio of column is the ratio of :
(A) Effective length/least lateral dimension
(B) Effective length/Effective thickness
(C) Actual length/Actual width
(D) All the above
37. As per IS recommendations, the minimum number of main bars in a circular column :
(A) 4 bars (B) 5 bars
(C) 8 bars (D) 6 bars
38. In check for punching shear on footings, critical section is selected :
(A) $d/2$ from face of Column (B) d from face of column
(C) Both (A) and (B) (D) Both (A) and (B) are wrong
39. UCS stands for :
(A) User clearance scheme (B) User coordinate system
(C) Both (A) and (B) (D) None
40. Segregation is the process of :
(A) Splitting up of ingredients from concrete
(B) Mixing of concrete with admixtures
(C) Addition of ingredients of concrete
(D) All the above
41. The workability of concrete can be determined by :
(A) Compaction factor test (B) Rebound hammer test
(C) Plate load test (D) Pile load test
42. Arrangements of various ingredients of concrete by weight or volume :
(A) Batching (B) Grouping
(C) Setting (D) None

43. The process of keeping moisture in concrete by keeping a protective water shield around it is called?
- (A) Ponding (B) Curing
(C) Watering (D) None
44. Better method to transport concrete from mixing place to site :
- (A) Pumping (B) Conveyors
(C) Manual (D) All the above
45. The process of keeping concrete dense and durable by avoiding air voids in it is called :
- (A) Compaction (B) Vibration
(C) Saturation (D) None
46. In 1 cubic meter of M20 grade concrete. Cement required is :
- (A) 1 m^3 (B) 0.225 m^3
(C) 0.5 m^3 (D) None
47. How many bags in 1 m^3 of cement?
- (A) 20 bags (B) 14 bags
(C) 10 bags (D) None
48. All the particles of sand are equally distributed in given sample, such aggregate is :
- (A) Poor graded (B) Well graded
(C) Good graded (D) None
49. Turbidity in water is mainly due to the presence of :
- (A) Suspended impurities (B) Colloidal impurities
(C) Dissolved impurities (D) None
50. Clarifiers are :
- (A) Sedimentation tanks (B) Filter tanks
(C) Open tanks (D) None
51. Disinfection is the process of removing :
- (A) All ingredients in water (B) Pathogenic bacterias in water
(C) Hardness of water (D) Acidity in water

52. In Fe500 bars, 500 designates :
 (A) Yield stress (B) Ultimate stress
 (C) Breaking stress (D) None
53. As per IS specification Shear reinforcement can be provided by :
 (A) Stirrups (B) Bent-up bars
 (C) Both (A) and (B) (D) None
54. In a simply supported beam with UD load P kN/m and span X_m , maximum shear force?
 (A) $PX/2$ (B) $WL/2$
 (C) $PX^2/2$ (D) $WL^2/2$
55. Point of contraflexure is a point where :
 (A) Shear force is Zero (B) Shear force is maximum
 (C) Bending moment is Zero (D) Bending moment is maximum
56. The center to center distance between two consecutive bolts in a single row is :
 (A) End distance (B) Pitch distance
 (C) Gauge distance (D) None
57. The throat thickness(t) of a welded joint = $k \times$ size of weld, the value of K depends :
 (A) Mean thickness of plates (B) Size of plates
 (C) Angle between fusion faces (D) None
58. As per IS design bond stress of Torsion bars :
 (A) 25% more than Plain (B) 60% more than plain
 (C) Same as that of plain (D) None
59. In a stair number of steps in each flight should be :
 (A) 12 Nos (B) Not more than 12 Nos
 (C) More than 12 Nos (D) None
60. In a roof the projection of common rafter beyond the face of wall at its bottom :
 (A) Eave Projection (B) Ridge
 (C) Wall Plate (D) None

61. A structural horizontal element over small openings :
(A) Beam (B) Arches
(C) Lintel (D) None
62. Pigment is a constituent of paint which imparts?
(A) Strength (B) Colour
(C) Smell (D) None
63. A system capable of holding and using information describing places on earth surface :
(A) GIS (B) GPS
(C) Both (A) and (B) (D) None
64. Surface area test on cement is used for finding :
(A) Setting time (B) Consistence
(C) Fineness (D) None
65. Non-destructive test on concrete (NDT) is :
(A) Rebound hammer test (B) Cube test
(C) Slump test (D) None
66. The number of 8" × 8" size tiles require for flooring in a toilet of size 2 m × 1.2 m. :
(A) 20 Nos (B) 60 Nos
(C) 50 Nos (D) None
67. The isolated column footing is a :
(A) Shallow foundation (B) Normal foundation
(C) Deep foundation (D) Strip foundation
68. The angle which a line makes with the prolongation of the preceding line.
(A) Included angle (B) Deflection angles
(C) Acute angle (D) None
69. As per IS recommendation spacing of main bars in slab.
(A) 3d or 300 mm (B) 5d or 450 mm
(C) 1.5d (D) 5d

70. The commercial name of Calcium oxide is :
(A) Quick lime (B) Fat lime
(C) Slaked lime (D) Hydrated lime
71. Cheruvayal Raman got Padmasree for his contribution in which field?
(A) Sericulture (B) Agriculture
(C) Dairy (D) Horticulture
72. Who directed *The Elephant Whisperers*?
(A) Kartiki Gonsalves (B) Achin Jain
(C) Neeraj Ghaywan (D) Ram Kamal Mukherjee
73. Kurichya revolt in Kerala was led by :
(A) Thalakkal Chandu (B) Edachena Kunkan
(C) Chemban Pocker (D) Raman Nambi
74. Which is not an integral part of the government?
(A) Legislature (B) Judiciary
(C) Office of prime minister (D) Executive
75. Largest jute producing state of jute in India :
(A) Andhra Pradesh (B) Madhya Pradesh
(C) West Bengal (D) Kerala
76. Who was founder of Samatwa Samaj?
(A) Vaikunta Swamikal (B) Ayyankali
(C) Vagbhatananda (D) Vivekananda
77. National Human Rights Commission came into existence in which year?
(A) 1998 (B) 1993
(C) 1992 (D) 1989
78. What is silico sapiens?
(A) Robots (B) Hardware
(C) Artificial Intelligence (D) Computer

79. The present secretary general of UN Antonio Guterres belongs to which nation?
 (A) Portugal (B) Italy
 (C) Ghana (D) Belgium
80. Title of the book which received Vayalar award 2022?
 (A) Oru Virginian Veyilkaalam
 (B) Meesha
 (C) Nireeshwaran
 (D) Manthalirile 20 Communist Varshangal
81. She said to me, "Will you give me your textbook for a while?" Convert the sentence into indirect speech.
 (A) She asked me to give her my textbook for a while.
 (B) She asked me if I would give her my text book for a while.
 (C) She asked me whether I will give her my textbook for a while.
 (D) She asked me will I give her my textbook for a while.
82. A flock of sheep _____ straying all over the road and causing confusion among the traffic.
 (A) is being (B) is
 (C) was (D) were
83. Our/long/we/choose /before/we/them/and/experience/happiness/misery. Reorder the words into a meaningful sentence :
 (A) Long before we choose our happiness and misery we experience them.
 (B) We choose our happiness and misery long before we experience them.
 (C) We experience our happiness and misery long before we choose them.
 (D) Our happiness and misery we choose, long before we experience them.
84. Wine is good _____ you, but it is expensive _____ England because there is a fairly high tax _____ it. Add suitable prepositions.
 (A) for, in, on (B) to, in, in
 (C) with, at, for (D) to, to, at
85. In a world that often prioritizes self-interest, he stands out as one who genuinely cares about the wellbeing and joy of others first. Write one word substitute for the words in italics :
 (A) Humanist (B) Curator
 (C) Altruist (D) Androphile

86. The vendor offered to exchange the goods. The vendor offered to refund the money. Combine the sentences by using suitable correlative :
- (A) The vendor offered to either the exchange of goods or refund the money.
(B) The vendor offered either to exchange the goods, or to refund the money.
(C) The vendor offered to exchange either the goods or refund the money.
(D) The vendor either offered the exchange of goods or the refund of money.
87. Synonym of the word 'transient' :
- (A) Permanent (B) Enduring
(C) Perpetual (D) Temporary
88. I came home early to spend time with you. Frame appropriate question :
- (A) Why you came home early?
(B) Why had you come home early?
(C) Why did you come home early?
(D) Why do you come home early?
89. Strawberries are sweeter than raspberries. Change into positive degree :
- (A) Raspberries are not as sweet as strawberries.
(B) Raspberries are not much sweet as strawberries.
(C) Raspberries are not sweet as strawberries.
(D) Strawberries are not so sweet as raspberries.
90. It is time to do away with outdated traditions and embrace a more progressive approach. Write the meaning of the phrasal verb in italics :
- (A) Spread (B) Abolish
(C) Happen (D) Obtain
91. Who wrote the famous Book Mahakshethrangalude Munnil?
- (A) Changampuzha Krishna Pillai (B) Kuttippuzha Krishna Pillai
(C) Nalangal Krishna Pillai (D) Muzhangattuvila Krishna Pillai
92. Which King declared the Temple entry proclamation?
- (A) Uthradam Thirunal Marthanda Varma
(B) Chithira Thirunal Balarama Varma
(C) Avittam Thirunal Balarama Varma
(D) Vishakham Thirunal Rama Varma

93. Who was the President of the First Devaswom Board formed in 1949?
(A) K.P. Padmanabha Menon (B) T.K. Madhavan
(C) Mannath Padmanabhan (D) K.P. Kesava Menon
94. To which temple is Krishnanattam related?
(A) Padmanabhaswami Temple (B) Thaliyil Temple
(C) Aranmula Temple (D) Guruvayoor Temple
95. How many Slokas are there in Valmeeki Ramayana?
(A) 24 Thousand (B) 18 Thousand
(C) 36 Thousand (D) 21 Thousand
96. Who is the Author of Thanthrasamuchayam?
(A) Chennas Naryanan Nampoothirippad
(B) Kanippayur Sankaran Nampoothirippad
(C) Chandramana Kesavan Nampoothiri
(D) Thazhaman kandararu Maheswararu
97. In which year was the Cochin Devaswon Board formed?
(A) 1939 (B) 1949
(C) 1959 (D) 1969
98. Who among the following is not related to the Vaikkam Sathyagraha?
(A) T.K. Madhavan (B) K. Kelappan
(C) K.P. Kesava Menon (D) K. Bhaskaran Nair
99. In which year was the Travancore Cochin Hindu Religious Institution Act established?
(A) 1945 (B) 1955
(C) 1950 (D) 1960
100. Who wrote the Brahmasutrabhashyam?
(A) Sree Ramahamsan (B) Sree Sankaracharya
(C) Padmapadan (D) Govindapadar