

143/2017

Question Booklet
Alpha Code

A

Question Booklet
Serial Number

150601

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

143/2017

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. The total number of votes polled to the candidate, Gopal Krishna Gandhi in the Vice-Presidential election was :
(A) 244
(B) 516
(C) 771
(D) 344
2. Who was the Speaker of the Fourteenth Lok Sabha?
(A) Meira Kumar
(B) P.A. Sangma
(C) G.M.C. Balayogi
(D) Somanath Chatterjee
3. Which of the following city ranked first in the recent survey conducted by the National Institute of Urban Affairs?
(A) Chennai
(B) New Delhi
(C) Cochi
(D) Jaipur
4. Who described Tagore as the *World Poet* for the first time?
(A) Subhash Chandra Bose
(B) Brahma Bandav Upadhyay
(C) Gandhiji
(D) Nehru
5. The world's highest post office, Hikkim is situated at a height of :
(A) 14765 Feet
(B) 14067 Feet
(C) 14657 Feet
(D) 14567 Feet
6. Who opened school for the Muslim women at Calcutta in 1911?
(A) Lord Curzon
(B) Tagore
(C) Begum Rokeya Sakhawat Hossain
(D) Pandita Ramabai
7. The Sree Moolam Popular Assembly held its first meeting in :
(A) 1914
(B) 1904
(C) 1907
(D) 1908

A

8. The journal *Turki Samachar* was started by :
(A) Makhti Tangal
(B) E. Moidu Moulavi
(C) P. Krishna Pillal
(D) Hamadani Tangal
9. *Pratyaksha Raksha Daiva Sabha* was founded by :
(A) Mannathu Padmanabhan
(B) Pandit Karuppan
(C) Poikayil Kumara Guru
(D) Dr. Palpu
10. Government Sanskrit College at Thiruvananthapuram was founded during the reign of :
(A) Sree Moolam Tirunal Rama Varma
(B) Vishakam Tirunal Rama Varma
(C) Ayilyam Tirunal Rama Varma
(D) Swathi Tirunal Rama Varma
11. The Synod of Diamper was held in :
(A) 1499
(B) 1599
(C) 1509
(D) 1589
12. Which of the following is a Tiger Reserves in Kerala?
(A) Peppara Wildlife Sanctuary
(B) Aralam Wildlife Sanctuary
(C) Chinnar Wildlife Sanctuary
(D) Parambikulam Wildlife Sanctuary
13. Teak plantation in Kerala was started at Nilampur in :
(A) 1842
(B) 1742
(C) 1902
(D) 1782
14. The present Chairman of NITI Aayog is :
(A) Rajiv Kumar
(B) Arvind Panagariya
(C) Arun Jaitley
(D) Prime Minister
15. The Kadalundi-Vallikkunnu Reserve is a :
(A) Vested Forest
(B) Community Reserve Forest
(C) Reserved Forest
(D) Evergreen Forest

16. The *only key to the solution of the world's problems and of India's problems lies in socialism* was a statement made by :
(A) Gandhiji (B) M.N. Roy
(C) Nehru (D) Lenin
17. *India indeed, the world will not see the like of him again* was a famous remark made about Mahatma Gandhi by :
(A) Clement Atlee (B) Lord Mountbatten
(C) Nehru (D) Winston Churchill
18. *Here lay the woman who was the only man among the rebels* was a remark made about Rani Lakshmi Bai of Jhansi by :
(A) Hugh Rose (B) Havelock
(C) Outram (D) Nicholson
19. *My boy, no, you are an Indian first and then a Muslim* was the words of
(A) Gandhiji (B) Tej Bahadur Sarup
(C) M. A. Jinnah (D) Maulan Abdul kalam Azad
20. *All Kerala Temple Entry Day* was observed on :
(A) September 21, 1932 (B) October 21, 1932
(C) October 2, 1932 (D) November 1, 1931
21. The letters are designated by their :
(A) breadth (B) height
(C) width (D) thickness
22. The earliest possible time for the activity to start without changing the sequence of the activities in the network is :
(A) earliest start time (B) earliest finish time
(C) latest start time (D) latest finish time
23. The moment of inertia is expressed in :
(A) mm^2 (B) mm^3
(C) mm (D) mm^4
24. Stone generally referred for railway ballast is :
(A) marble (B) slate
(C) basalt (D) sand stone

25. In detailed estimate the area is worked out to the nearest of :
(A) 0.001 m^3 (B) 0.005 m^3
(C) 0.01 m^2 (D) 0.01 m^3
26. The covering on the exposed top of wall is called :
(A) corbel (B) coping
(C) cornice (D) lacing
27. The point through which the buoyant force is acting is called :
(A) centre of buoyancy (B) centre of pressure
(C) centre of gravity (D) centroid
28. The period of water required by a crop during the entire period of crop in field is :
(A) duty (B) delta
(C) base period (D) total period
29. Turbidity of water is due to :
(A) dissolved solids (B) floating solids
(C) colloidal solids (D) suspended solids
30. Time concentration depends on :
(A) duration of rainfall (B) intensity of rainfall
(C) slope of catchment (D) evaporation
31. A flat slab is supported on :
(A) beams
(B) columns monolithically built with slab
(C) column
(D) beam and columns
32. The guage is slightly widened on :
(A) tracks for fast train (B) points
(C) crossing (D) curves
33. The primary object of providing camber is :
(A) easy drainage (B) easy over
(C) best appearance (D) down traffic

34. The process of attracting interest and applications for a vacant position in organizational structure is :
- (A) selection (B) appointment
(C) vacancy (D) recruitment
35. IS 10711-1983 recommended un trimmed size of A_0 sheet is :
- (A) 841×1189 (B) 821×1159
(C) 811×574 (D) 841×594
36. In which surveying the curvature of the earth is accounted?
- (A) plane surveying (B) geodetic surveying
(C) ariel surveying (D) engineering surveying
37. The ratio of lateral strain to linear strain is :
- (A) bulk modulus (B) modulus of elasticity
(C) modulus of rigidity (D) poissons ratio
38. White cement should have least percentage of :
- (A) silica (B) iron oxide
(C) aluminium oxide (D) magnesium oxide
39. The portion of brick obtained by cutting it in transverse direction is called :
- (A) beveled closer (B) king closer
(C) queen closer (D) bat
40. Contractors profit is generally taken as :
- (A) 10% (B) 20%
(C) 15% (D) 5%
41. When the fluid is at rest the shear stress is :
- (A) maximum (B) minimum
(C) average (D) zero
42. The runoff from a catchment can be computed :
- (A) daily (B) monthly
(C) yearly (D) all the above

43. One of the agent responsible for disinfection is :
(A) ozone (B) heat
(C) lime (D) oxygen
44. The ratio of effective length of the column to the least radius of gyration of the cross section is called :
(A) slenderness ratio (B) poissons ratio
(C) length by breadth ratio (D) length by height ratio
45. The best system of a railway-highway crossing is :
(A) level crossing (B) road over rail track
(C) road under rail track (D) road and rail parallel
46. An example of rigid pavement is
(A) earthen road (B) bitumen road
(C) concrete road (D) gravel road
47. Which of the following earth moving equipment is a mobile type?
(A) bull dozer (B) dragline
(C) shavel (D) back hose
48. Porosity is determined by
(A) total volume/volume of voids (B) volume of voids/total volume
(C) weight of soil/total weight (D) total weight of soil/volume of soil
49. Pit out tube is used for the measurement of
(A) velocity at point (B) discharge
(C) flow (D) pressure
50. A curve traced by the end of a thread while unwinding from a cylinder or polygon ,the thread being tight is called :
(A) helix (B) ellipse
(C) involute (D) parabola
51. An example of level surface is :
(A) surface of still lake (B) sea surface
(C) earth surface (D) rcservoir surface

52. The approximate weight per m^3 of steel is taken as :
- (A) 1440 kg (B) 2600 kg
(C) 7850 kg (D) 2800 kg
53. The centre of gravity of hemi sphere is :
- (A) $4r/3\pi$ from base (B) $h/3$ from top
(C) $3r/8$ from base (D) $h/4$ from bottom
54. When shear force at a point is zero, then the bending moment at that point is :
- (A) zero (B) maximum
(C) infinity (D) minimum
55. The water required for irrigation is supplied in accordance with the crop requirement throughout the crop period is called :
- (A) perenial irrigation (B) flood irrigation
(C) direct irrigation (D) canal irrigation
56. The best pipe for water mains for long life is :
- (A) cement concrete (B) cast iron
(C) steel (D) aluminium
57. The heating of limestone to redness in contact with air is known as :
- (A) oxidation (B) drying
(C) hydration (D) calcination
58. Strength of cement concrete depends on :
- (A) quantity of aggregate (B) quality of cement
(C) water cement ratio (D) quality of aggregate
59. Brass is an alloy of :
- (A) nickel and zinc (B) silver and tin
(C) lead and zinc (D) copper and zinc
60. The main reinforcement in RCC cantilever members is placed at :
- (A) top fibre (B) side fibre
(C) bottom fibre (D) top and side fibre

61. The maximum shear stress in a steel member shall not exceed :
(A) 0.56 f_y (B) 0.66 f_y
(C) 0.45 f_y (D) 0.6 f_y
62. The bond which consist of alternate courses of headers and stretchers is known as :
(A) English bond (B) Racking bond
(C) Dutch bond (D) Flemish bond
63. An arrangement for supporting an unsafe structure temporarily till it is rendered safe or dismantled is known as :
(A) scaffolding (B) shoring
(C) centring (D) racking
64. BOD stands for :
(A) bio oxygen demand (B) bio chemical oxygen demand
(C) biological oxygen demand (D) biotic oxygen demand
65. The primary function of ballast in railway is to :
(A) maintain guage (B) prevent growth of vegetation
(C) irregularities in sleepers (D) provide elasticity
66. The signal that regulate the speed in railway is :
(A) outer signal (B) starter signal
(C) home signal (D) stop signal
67. The minimum size of silt particles is :
(A) 0.06 mm (B) 0.05 mm
(C) 0.002 mm (D) 0.008 mm
68. The aggregate is heat in bitumen road construction of premix method is for :
(A) easy workability (B) get homogenous mix
(C) easy spreading (D) minimize quantity of bitumen
69. The effective size of soil is :
(A) D_{60} (B) D_{30}
(C) D_{90} (D) D_{10}

70. An undertaking by a person or firm to do any work with certain terms and conditions invariably be in writing is known as :
- (A) tender (B) quotation
(C) contract (D) agreement
71. The bearing of a line OP is 25° and bearing of line OQ is 124° , then the angle POQ is
- (A) 56° (B) 99°
(C) 149° (D) 81°
72. The technique of finding the fair price of an existing property is known as :
- (A) estimation (B) pricing
(C) valuation (D) costing
73. The quantity of cement required for plastering with cement mortar 1:6 is :
- (A) 288 kg (B) 72 kg
(C) 360 kg (D) 240 kg
74. A simply supported beam carrying a uniformly distributed load, the bending moment is
- (A) $wl^2/8$ (B) $wl/2$
(C) wl (D) $wl^2/4$
75. The point where the shear force changes the sign is called :
- (A) bending moment (B) point of contra flexure
(C) point of cuncurrency (D) the point of maximum shear
76. The amount of water can be supplied from the reservoir in a specified interval of time is :
- (A) yield (B) primary yield
(C) secondary yield (D) average yield
77. Air valves are provided in pipe lines at :
- (A) saddles (B) 1 km intervals
(C) dead ends (D) summits
78. The sample of cement is said to be sound when it is not contain :
- (A) free lime (B) alumina
(C) iron oxide (D) silica

79. The permissible stress in axial tension on the net effective area of the steel section shall not exceed :
- (A) 0.66 f_y (B) 0.45 f_y
(C) 0.65 f_y (D) 0.6 f_y
80. A roof which slopes in all the four direction is :
- (A) gabled roof (B) hip roof
(C) dual roof (D) close coupled roof
81. A door in which the shutter is formed by joining the vertical wooden boards side by side with tongue and grooved joint and fixed together by horizontal support is called :
- (A) paneled door (B) battened and ledged door
(C) flush door (D) sash door
82. A unit working purely on the action of anaerobic bacteria is :
- (A) trickling filter (B) sludge tank
(C) contact beds (D) septic tank
83. The primary function of sleeper is to :
- (A) take load from rails (B) stability to the track
(C) maintain guage (D) given cushioning action
84. Which of the soil is a cohesionless soil?
- (A) sand (B) silt
(C) clay (D) shale
85. The magnetic bearing of a line AB is N 88°30' E. Its true bearing is S 88°30' E the declination is :
- (A) zero degree (B) 3' W
(C) 3' E (D) 91°30'
86. The stadia intercept on a fixed point with staff held vertical is 0.4 m. The tacheometer is fitted with anallactic lens. The horizontal distance from instrument station to fixed point is :
- (A) 40 m (B) 4 m
(C) 4.5 m (D) zero

87. When a solid shaft is subjected to torsion, the shear stress induced in the shaft at its center is :
 (A) minimum (B) zero
 (C) maximum (D) two times
88. A force of 20N is applied perpendicular to the edge of a door of 0.9 m wide, what is moment of the force about the hinch?
 (A) 18 N-m (B) 19.1 N-m
 (C) 22.2 N-m (D) 0.45 N-m
89. The length of a line measured with a 30 m chain was found to be 240 m. If the chain was 4 cm too short. The true length of the line is :
 (A) 240.32 m (B) 243.2 m
 (C) 239.68 m (D) 236.8 m
90. A simply supported beam 2 m long is carrying a uniformly distributed load of 8 KN over the entire span. The maximum bending moment is :
 (A) 8 KN-m (B) 4 KN-m
 (C) 64 KN-m (D) 16 KN-m
91. In leveling between A & B on opposite sides of a river, the level was set up near A and the staff reading are 1.575 m and 2.945 m. The level was then move near to B, the staff reading on A & B are 1.900 m and 3.275 m. The true difference between A & B is :
 (A) 1.373 m (B) 2.260 m
 (C) 2.587m (D) 0.328 m
92. A steel wire of 4mm diameter is bent into a circular shape of 4 m radius. Take youngs modulus E as $200 \times 10^3 \text{ N/mm}^2$. The maximum stress induced in the wire is :
 (A) 40 N/mm² (B) 80 N/mm²
 (C) 100 N/mm² (D) 150 N/mm²
93. Which instrument is used to enlarge or reduce a plan in surveying?
 (A) pentagraph (B) planimeter
 (C) hydrometer (D) hydrograph

94. The combined correction for a distances of 1 km is :
- (A) 0.0112 m (B) 0.0785 m
(C) 0.0673 m (D) 0.0735 m
95. A rectangular section 60 mm breadth and 100 mm depth is subjected to a moment of 10 KNm. The maximum bending stress is :
- (A) 200 N/mm² (B) 150 N/mm²
(C) 250 N/mm² (D) 100 N/mm²
96. The major overturning force in the case of gravity dam is :
- (A) silt pressure (B) water pressure
(C) wind pressure (D) dam weight
97. The life of a tree can be estimated on the basis of :
- (A) height of tree (B) diameter of tree
(C) number of annual rings (D) colour of bark
98. In the limit state design method, the over reinforced sections are :
- (A) not permitted (B) permitted
(C) permitted only extreme case (D) permitted only the initial stage
99. A stair in which all the steps are winders is :
- (A) bifurcate (B) helical
(C) spiral (D) circular
100. The depth of flow at which specific energy is minimum is called :
- (A) normal depth (B) critical depth
(C) over all depth (D) average depth