

02/2019

Question Booklet  
Alpha Code

A

Question Booklet  
Serial Number

100157

Total Number of Questions : 100

Time : 75 Minutes

Maximum Marks : 100

### 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.



02/2019

1. Which river is known as *Dakshina Bhageerathu* ?  
(A) Kaveri (B) Periyar (C) Pamba (D) Krishna
2. Zemu Glacier can be seen in :  
(A) Kashmir (B) Sikkim  
(C) Arunachal Pradesh (D) Jammu
3. Chilika Lake is in :  
(A) Odisha (B) Kerala (C) Pulicat (D) Kashmir
4. Name the largest mangrove forest of the world :  
(A) Deccan (B) Malwa (C) Garo (D) Sunderbans
5. Name the social reformer who became the member of the Sree Mullam Praja Sabha in 1911.  
(A) Sree Narayana Guru (B) Ayyankali  
(C) Ayyappan (D) T.K. Madhavan
6. First War of Indian Independence took place during the period of :  
(A) Lord Lytton (B) Lord Dalhousie  
(C) Lord Mountbatten (D) Lord Canning
7. The policy of which group of Indian leaders was known as 'Political Mendicancy' ?  
(A) Socialist leaders (B) Moderate leaders  
(C) Extremists leaders (D) Revolutionary leaders
8. The term *Ghadr* means :  
(A) Rebellion (B) Swaraj (C) Freedom (D) Solidarity
9. In which language was the newspaper '*Kesari*' published ?  
(A) Bengali (B) Tamil (C) Marathi (D) Gujarathi
10. Name the freedom fighter who formed the Forward Bloc in 1939.  
(A) Gandhiji (B) Gokhale  
(C) Lal Bahadur Shastri (D) Subhash Chandra Bose

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11. Who proposed the Sarvodaya Plan ?  
(A) M.N. Roy (B) J.P. Narayanan (C) Gandhiji (D) Tilak
12. Which soil is formed as a result of the monsoons ?  
(A) Black Soil (B) Red Soil (C) Alluvial Soil (D) Laterite Soil
13. Name the player who won the Golden Boot Award in 2018 FIFA World Cup.  
(A) Luka Modric (B) Harry Kane  
(C) Christian Eriksen (D) Dele Alli
14. Which model was introduced in the First Five Year Plan ?  
(A) Harrod-Domar model (B) Mahalanobis model  
(C) Open Consistency model (D) Nehruvian model
15. In 2017 Manushi Chhillar was selected as the :  
(A) Miss Asia-Pacific (B) Miss World  
(C) Miss Earth (D) Miss Universe
16. Who was the Bangladeshi economist and social entrepreneur to win the Nobel Peace Prize in 2006 ?  
(A) Iqbal Quadir (B) Shirin Ebadi  
(C) Sheikh Hasina (D) Muhammed Yunus
17. From the given options find out the player who was honored with 'Rajiv Gandhi Khel Ratna' in 2018 ?  
(A) Tarak Sinha (B) Hima Das (C) Mirabai Chanu (D) P.V. Sindhu
18. Which Indian pair won gold medal in Men's Double Tennis at 2018 Asian Games ?  
(A) Rohan Bopanna and Diviji Sharan  
(B) Leander Paes and Mahesh Bhupati  
(C) Rohan Bopanna and Vishnu Vardhan  
(D) Diviji Sharan and Mahesh Bhupati



19. Who authored the book *Jati Lakshnam* ?  
(A) Sankaracharyar (B) Sree Narayana Guru  
(C) Ayyankali (D) Vaikunta Swamikkal
20. Who won the Best Director Award in the 65<sup>th</sup> National Film Awards ?  
(A) Ridhi Sen (B) Ganesh Acharya  
(C) Jayaraj (D) Adoor Gopalakrishnan
21. The first model of landscape evolution to gain widespread acceptance within the discipline was proposed by :  
(A) W.M. Davis (B) Walter Penck  
(C) L. King (D) J.T. Hack
22. The total length of all the streams and rivers in a drainage basin divided by the total area of the drainage basin is :  
(A) Stream frequency (B) Elongation ratio  
(C) Form factor (D) Drainage density
23. A deposition landform in which an island is attached to the mainland by a narrow piece of land such as a spit or bar :  
(A) Sea arch (B) Sea cliff (C) Tombolo (D) Delta
24. Athirappilly waterfalls is in the \_\_\_\_\_ River.  
(A) Periyar (B) Chalakudy (C) Minachil (D) Pampa
25. The Theme of the World Environment Day 2018 was :  
(A) Go wild for life  
(B) Think. Eat. Save  
(C) Green Economy : Does it include you ?  
(D) Beat Plastic Pollution
26. The type of landslide which is a variety of very rapid to extremely rapid debris flow :  
(A) Rock fall (B) Creep  
(C) Debris avalanche (D) Earth flow

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27. The Mexican volcano that has erupted most recently in June 2018 is :  
 (A) Fuego (B) Kilauea (C) Mount Etna (D) Vesuvius
28. A common construction material of Kerala which is a product of in-situ weathering is :  
 (A) Charnockite (B) Laterite (C) Slate (D) Limestone
29.  $2/m \ 2/m \ 2/m$  is the Hermann-Mauguin Symbol for the \_\_\_\_\_ class.  
 (A) Rhombic-dipyramidal (B) Dihexagonal-dipyramidal  
 (C) Hexoctahedral (D) Pedial
30. Example for a basic refractory mineral is :  
 (A) Kyanite (B) Sillimanite (C) Chromite (D) Magnesite
31. The feldspar with the formula  $BaAl_2Si_2O_8$  :  
 (A) Orthoclase (B) Celsian (C) Sanidine (D) Albite
32. Cross hatched twin is associated with :  
 (A) Albite (B) Garnet (C) Baryte (D) Microcline
33. Example for a biaxial mineral is :  
 (A) Galena (B) Beryl (C) Zircon (D) Gypsum
34. A chalcophile element among the following is :  
 (A) Aluminium (B) Gold (C) Mercury (D) Nitrogen
35. The stable isotope of lead, which is not radiogenic is :  
 (A)  $^{204}\text{Pb}$  (B)  $^{206}\text{Pb}$  (C)  $^{207}\text{Pb}$  (D)  $^{208}\text{Pb}$
36. The second mineral from top in the discontinuous branch of the Bowen's reaction series is  
 (A) Olivine (B) Muscovite (C) Orthoclase (D) Pyroxene
37. An intergrowth of quartz and alkali feldspar in which thin blebs of quartz lie in crystallographic orientations within large alkali feldspar crystals is :  
 (A) Graphic (B) Exsolution (C) Trachytic (D) Ophitic



38. Texture characteristic of Gabbro is :  
 (A) Myrmekitic (B) Rapakivi (C) Spinifex (D) Ophitic
39. More or less vertical and cylindrical bodies that crosscut adjacent sediments and are bounded by steep faults is :  
 (A) Lopolith (B) Laccolith (C) Bysmalith (D) Batholith
40. Pick the odd one out.  
 (A) Orangeites (B) Group II Kimberlites  
 (C) Olivine lamproites (D) Group I Kimberlites
41. A type of intrusive or extrusive igneous rock consisting of greater than 50% carbonate minerals is :  
 (A) Calc-silicates (B) Carbonatites (C) Diabase (D) Norite
42. With reference to the shape of clastic sediments, pick the odd term out :  
 (A) Equant (B) Triaxial (C) Equiaxial (D) Spherical
43. Size of silt is :  
 (A)  $1/16 - 2$  mm (B)  $1/256 - 1/16$  mm  
 (C)  $<1/256$  mm (D)  $>256$  mm
44. The source area or areas of the material making up the sediment is :  
 (A) Provenance (B) Province (C) Type area (D) Stock
45. The deposit produced from phosphate-bearing bird-droppings is known as :  
 (A) Diatomite (B) Tripoli (C) Guano (D) Grit
46. The sedimentary structure which has the appearance of a series of cones packed one inside the other is :  
 (A) Cone-sheet (B) Cone-in-cone  
 (C) Cone of depression (D) Condensed sequence
47. Deposit of sediments formed at the mouth of a river where it enters a lake or the sea is :  
 (A) Sabkha (B) Loess (C) Bajadas (D) Delta

48. Typical metamorphic rocks associated with contact metamorphism is :  
(A) Blueschist, eclogite, serpentinite (B) Slate, phyllite, schist, gneiss  
(C) Hornfels, marble, calcisilicate (D) Meta basalt, greenstone, meta gabbro
49. A plagioclase-free mafic rock mainly composed of omphacite and garnet is :  
(A) Eclogite (B) Khondalite (C) Skarn (D) Charnockite
50. An \_\_\_\_\_ represents the first appearance of a particular metamorphic index mineral in the field as one progresses up metamorphic grade.  
(A) Isobar (B) Isopleth (C) Isograd (D) Isoline
51. The characteristic mineral that imparts the blue colour to the blueschist rocks is :  
(A) Kyanite (B) Beryl (C) Glaucophane (D) Blue calcite
52. The protolith of marble is typically :  
(A) Shale (B) Granite (C) Sandstone (D) Limestone
53. Mantled porphyroclasts can be subdivided into \_\_\_\_\_ types.  
(A) two (B) five (C) four (D) six
54. Unreacted mineral grain inclusions in poikiloblasts is :  
(A) Corona (B) Rapakivi (C) Ophitic texture (D) Armoured relics
55. A metamorphic texture in which interpenetrating platy or columnar grains are more or less randomly oriented is :  
(A) Decussate (B) Augen (C) Granoblastic (D) Graphic
56. The smaller folds, which occur on the limbs or hinge of the larger folds, are known as :  
(A) Monoclines (B) Box folds (C) Parasitic folds (D) Fan folds
57. The folds in which the orthogonal thickness of the folded layer changes in a systematic way such that the fold maintains a constant thickness measured parallel to the axial surface is :  
(A) Similar fold (B) Parallel fold (C) Chevron fold (D) Drag folds



58. The lensoid or pillow-shaped structures separated by narrow necks, produced when relatively strong layers of rock are stretched and become elongated during deformation is :
- (A) Mullions (B) Elongation lineation  
(C) Boudins (D) Pencil lineation
59. Veins which show clear evidence of repeated fracturing followed by precipitation of new vein mineralization is :
- (A) Antitaxial veins (B) Syntaxial veins  
(C) Normal veins (D) Crack-and-seal veins
60. \_\_\_\_\_ is a grinding of the host rock by progressive frictional wear along fault surfaces.
- (A) Attrition brecciation (B) Crush brecciation  
(C) Implosion brecciation (D) Devitrification
61. The thickness of the stratigraphic interval between two beds that are brought into contact by faulting :
- (A) Cutoff (B) Stratigraphic throw  
(C) Slip (D) Stratigraphic heave
62. The zone of en echelon veins or en echelon joints is example for \_\_\_\_\_ shear zone.
- (A) Semibrittle (B) Brittle (C) Ductile (D) Brittle-ductile
63. Fossil remains of the fresh water reptile \_\_\_\_\_ from Africa and South America was one of the strong evidences put forward to support Continental Drift Hypothesis.
- (A) Mesosaurus (B) Cynognathus (C) Lystrosaurus (D) Allosaurus
64. Who first coined the term seafloor spreading ?
- (A) Harry H. Hess (B) Alfred Wegner (C) J.P. Rothe (D) Robert S. Dietz
65. The Canadian geophysicist who discovered transform faults and also proposed the "hotspot" theory is :
- (A) Harry H. Hess (B) J. Tuzo Wilson (C) J.P. Rothe (D) Robert S. Dietz
66. The hot-spot that is identified to be the source for Deccan Volcanism is :
- (A) Crozet (B) Reunion (C) Tibesti (D) Carolinas



67. The type of plate boundaries supposed to be responsible for the formation of the Himalayas is :
- (A) Ocean - Ocean (B) Ocean - Continent  
(C) Continent - Continent (D) Transform
68. Age of Fishes is :
- (A) Cambrian (B) Devonian (C) Ordovician (D) Permian
69. Identify the oldest rock unit among the following :
- (A) Sargur Group (B) Peninsular Gneiss  
(C) Gorur Gneiss (D) Dharwar Supergroup
70. The crustal evolution in the Pandian Mobile Belt of the SGT was predominantly during :
- (A) 550 Ma (B) 3400-2500 Ma  
(C) 1800-2500 Ma (D) 3000-3100 Ma
71. Lower Vindhyan rock series is known as :
- (A) Bander (B) Semri (C) Rewa (D) Kaimur
72. The Supergroup famous for vertebrate fossils like Primates is :
- (A) Sausar (B) Sakoli (C) Siwalik (D) Arawalli
73. The term used to denote spindle shaped gastropods, which are thickest in the middle and tapered to each end is :
- (A) Cylindrical (B) Globular (C) Convolute (D) Fusiform
74. Fossils which are not the actual body or body parts of life that has been preserved is :
- (A) Body fossils (B) Pseudo fossils  
(C) Trace fossils (D) None of these
75. The index fossils for the Palaeozoic is :
- (A) Brachiopods (B) Trilobites (C) Echinoids (D) Mollusks

76. The alluvial mining method, where picks and shovels are used in excavating sands, sandy clay etc. is :
- (A) Pan and batea (B) Sluicing (C) Rocker (D) Hydrauliclicking
77. Gophering is \_\_\_\_\_ method.
- (A) An alluvial mining (B) An underground mining  
(C) An open cast mining (D) Coal mining
78. The simple low-cost process usable only for free-milling native gold and silver ores is :
- (A) Amalgamation (B) Flotation  
(C) Spiral Concentration (D) Gravity Concentration
79. Nickel Sulfide Deposits of Sudbury, Ontario is an example for \_\_\_\_\_ process of ore formation.
- (A) Residual Liquid Segregation (B) Residual Liquid Injection  
(C) Immiscible Liquid Segregation (D) Immiscible Liquid Injection
80. The term used to refer to rocks containing calcium-bearing silicate minerals is :
- (A) Calcite (B) Magnesite (C) Gossan (D) Skarn
81. What does 1 cm on a map drawn at a scale of 1: 50,000 represent on the ground ?
- (A) 500 m (B) 50 cm (C) 5 m (D) 50 m
82. In a \_\_\_\_\_ dataset, the image is displayed as rows and columns of pixels.
- (A) TIN (B) Vector (C) Raster (D) Attribute
83. Vegetation with more \_\_\_\_\_ will reflect more NIR radiation.
- (A) Water (B) CO<sub>2</sub> (C) Chlorophyll (D) Oxygen
84. CARTOSAT was launched by :
- (A) USA (B) China (C) Japan (D) India



85. That part of the electromagnetic spectrum which passes through the atmosphere almost unaffected is known as :

- (A) Spectral signature                      (B) Atmospheric window  
(C) Ozone window                          (D) Black hole

86. The process of assigning geographic coordinates to a dataset is called :

- (A) Transformation                          (B) Edge - matching  
(C) Georeferencing                          (D) Krigging

87. The GIS analysis that is suitable for traffic related studies is :

- (A) Overlay                      (B) Network                      (C) 3D                      (D) Spatial

88. An open source GIS software is :

- (A) ERDAS                      (B) ArcGIS                      (C) Map Info                      (D) QGIS

89. The light which our eyes can detect is \_\_\_\_\_ of the EM spectrum.

- (A) Ultraviolet                      (B) Infrared                      (C) Microwave                      (D) Visible region

90. National Remote Sensing Centre is situated at :

- (A) Bangalore                      (B) Dehradun                      (C) New Delhi                      (D) Hyderabad

91. An aquifer with an underlying or overlying confining layer of low permeability that stores groundwater and also transmits it slowly from the aquifer is :

- (A) Unconfined                      (B) Confined                      (C) Semi-confined                      (D) Perched

92. The maximum rate of groundwater withdrawal sustainable within the hydrogeologic system of a basin while ensuring that the hydraulic head throughout that basin can be maintained at satisfactory levels is :
- (A) Well yield (B) Aquifer yield (C) Basin yield (D) Specific capacity
93. The term used to denote a cone-shaped depression in water levels in the immediate vicinity of the well under pumping conditions is :
- (A) Pumping depression (B) Drawdown surface  
(C) Cone of depression (D) All the three
94. The type of electrode configuration for resistivity survey, in which the distance between adjacent electrodes is kept constant is :
- (A) Schlumberger (B) Wenner (C) Dipole-dipole (D) Pole-dipole
95. SAR in water chemistry stands for :
- (A) Sodium Absorption Ratio (B) Sodium Adsorption Ratio  
(C) Sodium Adsorption Reaction (D) Sodium Absorption Reaction
96. The principle used to evaluate the extent of salt water intrusion in coastal aquifers is :
- (A) Darcy's Law (B) Laplace equation  
(C) Ghyben-Herzber (D) Thiem's equation
97. EPMA in petrological studies stands for :
- (A) Electron Pulse Microanalysis (B) Electron Probe Microanalysis  
(C) Electron Pulse Mineral Analysis (D) Electron Probe Mineral Analysis
98. National Centre for Antarctic and Ocean Research is situated in the state of :
- (A) Maharashtra (B) Odisha (C) Goa (D) Karnataka



99. Terrameter is :

- (A) The unit of resistivity
- (B) An instrument used for resistivity survey
- (C) The equipment used for GIS data capture
- (D) None of these

100. The process of removing carbon from the atmosphere and depositing it in a reservoir is :

- (A) Carbon filtration
- (B) Carbon segregation
- (C) Carbon dumping
- (D) Carbon sequestration

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