

COMMON P.G. ENTRANCE TEST-2022 (CPET-2022)

Subject Code : **31**

Test Booklet No.:

Entrance Subject : **Geology**

Hall Ticket No.:

TEST BOOKLET

Time Allowed : **90 Minutes**

Full Marks : **70**

INSTRUCTIONS TO CANDIDATES

1. **Please do not open this Question Booklet until asked to do so.**
2. Check the completeness of the Question Booklet immediately after opening.
3. Enter your **Hall Ticket No.** on the Test Booklet in the box provided alongside. **Do not** write anything else on the Test Booklet.
4. Fill up & darken Hall Ticket No. & Test Booklet No. in the OMR Answer Sheet as well as fill up Test Booklet Serial No. & OMR Answer Sheet Serial No. in the Attendance Sheet carefully. Wrongly filled up OMR Answer Sheets are liable for rejection.
5. Each question has four answer options marked (A), (B), (C) & (D).
6. Answers are to be marked on the Answer Sheet, which is provided separately.
7. Choose the most appropriate answer option and darken the oval completely, corresponding to (A), (B), (C) or (D) against the relevant question number.
8. Use only **Blue/Black Ball Point Pen** to darken the oval for answering.
9. Please do not darken more than one oval against any question, as scanner will read such markings as wrong answer.
10. **Each question carries equal marks. There will be no negative marking for wrong answer.**
11. **Electronic items such as calculator, mobile, etc., are not permitted inside the examination hall.**
12. Don't leave the examination hall until the test is over and permitted by the invigilator.
13. **The candidate is required to handover the original OMR sheet to the invigilator and take the question booklet along with the candidate's copy of OMR sheet after completion of the test.**
14. Sheet for rough work is appended in the Test Booklet at the end.

1. Which of the following groups are Orthogonal Crystal Systems?
 - (A) Cubic, Tetragonal, Orthorhombic
 - (B) Tetragonal, Hexagonal, Trigonal
 - (C) Orthorhombic, Monoclinic, Triclinic
 - (D) Tetragonal, Hexagonal, Orthorhombic

2. Which of the following is the general form of Cubic System?
 - (A) Octahedron
 - (B) Dodecahedron
 - (C) Hexoctahedron
 - (D) Cube

3. An open form consisting of only two faces in Orthorhombic system normal class is called
 - (A) Pedion
 - (B) Pinacoid
 - (C) Prism
 - (D) Dome

4. Which of the following statements is correct in case of normal class of Triclinic System?
 - (A) All forms consist of 4 faces
 - (B) All forms consist of 2 faces
 - (C) All forms consist of 6 faces
 - (D) Some forms consist of 2 faces while others have 4 or 6 faces.

5. Zircon type crystals may be designated as having
 - (A) 5 planes, 5 axes and no centre
 - (B) 5 planes, 3 axes and centre
 - (C) 3 planes, 5 axes and centre
 - (D) 5 planes, 5 axes and centre

6. The chemical composition of Andradite is:
- (A) $\text{Ca}_3\text{Al}_2\text{Si}_3\text{O}_{12}$
 - (B) $\text{Mn}_3\text{Al}_2\text{Si}_3\text{O}_{12}$
 - (C) $\text{Ca}_3\text{Fe}_2\text{Si}_3\text{O}_{12}$
 - (D) $\text{Fe}_3\text{Al}_2\text{Si}_3\text{O}_{12}$
7. Which of the following minerals has six sets of cleavage?
- (A) Sphalerite
 - (B) Galena
 - (C) Calcite
 - (D) Fluorite
8. Peridot is gem variety of:
- (A) Spinel
 - (B) Garnet
 - (C) Olivine
 - (D) None of the above
9. Which of the following is a trioctahedral mica?
- (A) Muscovite
 - (B) Biotite
 - (C) Chlorite
 - (D) None of the above
10. Which of the following is not matched correctly?
- (A) Adularia – Felspar
 - (B) Opal – Silica
 - (C) Leucite – Felspar
 - (D) All of the above

11. Which of the following doesn't contain chromium?
- (A) Uvarovite
 - (B) Fuchsite
 - (C) Pyrope
 - (D) Chromite
12. The Optic axes of a biaxial mineral lie in:
- (A) XYplane
 - (B) YZ plane
 - (C) XZ plane
 - (D) None of the above
13. If a uniaxial mineral has Refractive index (RI) values of 1.6 along ordinary ray vibration direction and 1.7 along extraordinary ray vibration direction, the optic sign of the minerals is:
- (A) Positive
 - (B) Negative
 - (C) Either Positive or Negative
 - (D) None of the above
14. Which of the following properties is exhibited by Calcite because of maximum birefringence?
- (A) Twinning
 - (B) Anisotropism
 - (C) Pleochroism
 - (D) Twinkling
15. Which of the following is true for Quartz, if E = R.I. along e-ray vibration direction and W = R.I. along o-ray vibration direction
- (A) $E = 1.553$ $W = 1.562$
 - (B) $E = 1.553$ $W = 1.544$
 - (C) $E = 1.544$ $W = 1.553$
 - (D) $E = 1.585$ $W = 1.485$

16. In the Becke test, the lowering of the objective of microscope results in the movement of the Beckeline into the field of
- (A) Lower R.I. medium
 - (B) Higher R.I. medium
 - (C) Both A and B
 - (D) None of the above
17. If a bed strikes along N30E, the true dip direction of the bed could be
- (A) N60 E
 - (B) N60 W
 - (C) S30 W
 - (D) S 30 E
18. Compressibility can be described as the reciprocal of
- (A) Young's modulus
 - (B) Rigidity modulus
 - (C) Bulkmodulus
 - (D) None of the above
19. A fold which is convex upward and is having younger rocks in core may be termed as
- (A) Anticline
 - (B) Syncline
 - (C) Synformal Anticline
 - (D) Antiformal Syncline
20. Choose the correct statement from the following:
- (A) Parallel folds maintain their thickness upward only
 - (B) Parallel folds maintain their thickness downward only
 - (C) Parallel folds maintain their thickness both upward and downward
 - (D) Parallel folds do not maintain their thickness either upward or downward

21. Thickening and thinning of beds at crests and troughs is found in
- (A) Open folds
 - (B) Similar folds
 - (C) Parallel folds
 - (D) Concentric folds
22. In which fault the intermediate principal stress axis is vertical?
- (A) Normal fault
 - (B) Strike slip fault
 - (C) Reverse fault
 - (D) None of the above
23. A small area of outcrop in which older rocks are surrounded by younger rocks is known as
- (A) Overlap
 - (B) Offlap
 - (C) Outlier
 - (D) Inlier
24. When the lower beds of older series extend further than the younger ones it is described as an
- (A) Overlap
 - (B) Offlap
 - (C) Onlap
 - (D) Overstep
25. Detailed survey for petroleum is done by
- (A) Seismic reflection
 - (B) Seismic refraction
 - (C) Gravity methods
 - (D) Electrical methods

26. A horizontal entry into an ore body is called
- (A) Bench
 - (B) Shaft
 - (C) Adit
 - (D) Pit
27. The process of agglomeration of fine particles by application of pressure is known as
- (A) Pelletisation
 - (B) Briquetting
 - (C) Sintering
 - (D) None of the above
28. Coal is formed by
- (A) Anaerobic process from plant materials
 - (B) Aerobic process from plant materials
 - (C) Anaerobic process from animal materials
 - (D) None of the above.
29. Which of the following statements is correct?
- (A) Ground water always moves from discharge area to recharge area
 - (B) Ground water always moves from recharge area to discharge area
 - (C) Ground water moves between recharge area and discharge area alternately
 - (D) All of the above
30. If the void ratio of a rock is 1.5, its porosity is
- (A) 40%
 - (B) 50%
 - (C) 30%
 - (D) 60%

31. The unit of Transmissivity is
- (A) m^3/day
 - (B) m/day
 - (C) m^2/day
 - (D) None of the above
32. A flowing well occurs when
- (A) Piezometric surface is above ground level
 - (B) Piezometric surface is below ground level
 - (C) Piezometric surface is above the upper confining layer but below ground level
 - (D) Piezometric surface lies either above or below ground level
33. Which of the following equations is correct?
- (A) Specific yield - Specific retention = Porosity
 - (B) Specific yield + Specific retention = Porosity
 - (C) Specific yield * Specific retention = Porosity
 - (D) Specific yield \div Specific retention = Porosity
34. Brazilian test is used determine
- (A) Tensile strength
 - (B) Compressive strength
 - (C) Shear strength
 - (D) Modulus of elasticity
35. The type of dam preferred where the river section is wide and the foundation is weak is:
- (A) Gravity dam
 - (B) Embankment dam
 - (C) Arch dam
 - (D) Multiple arch dam

36. Poisson's ratio is ratio of
- (A) Longitudinal strain to lateral strain
 - (B) Lateral strain to longitudinal strain
 - (C) Lateral stress to longitudinal stress
 - (D) Longitudinal stress to lateral stress
37. The rocks purely made of glass are called by special term known as
- (A) Obsidian
 - (B) Tonalite
 - (C) Trachyte
 - (D) Bostonite
38. The volcanic equivalent of the plutonic rock Granodiorite is
- (A) Andesite
 - (B) Trachyte
 - (C) Dacite
 - (D) Rhyolite
39. Reaction rims produced by primary magmatic reaction is called as
- (A) Coronas
 - (B) Enclaves
 - (C) Kelyphitic borders
 - (D) None of the above
40. The volcanic equivalent of plutonic rock Nepheline Syenite is
- (A) Rhyolite
 - (B) Latite
 - (C) Tephrite
 - (D) Phonolite

41. An igneous body that has domed up the strata into which it has been inserted is known as:
- (A) Laccolith
 - (B) Lopolith
 - (C) Sill
 - (D) Dyke
42. Ijolite is a
- (A) Felsic alkaline rock
 - (B) Mafic alkaline rock
 - (C) Volcanic rock
 - (D) Ultramafic alkaline rock
43. Which of the following is the highest temperature zone in metamorphism?
- (A) Katazone
 - (B) Epizone
 - (C) Mesozone
 - (D) Isograd zone
44. Augen structure is produced due to which metamorphism?
- (A) Regressive
 - (B) Cataclastic
 - (C) Regional
 - (D) Dynamo-thermal
45. Maculose structure is typically developed in argillaceous rocks under
- (A) Metasomatism
 - (B) Cataclastic metamorphism
 - (C) Plutonic metamorphism
 - (D) Thermal metamorphism

46. Gibbs' phase rule is expressed as
- (A) $F = C - P + 2$
 - (B) $F = C + P - 2$
 - (C) $F = C + P + 2$
 - (D) $F = C - P + 1$
47. The term Nematoblastic is applied to fabric dominated by:
- (A) Tabular minerals
 - (B) Flaky minerals
 - (C) Prismatic minerals
 - (D) None of the above
48. Sand grained size is measured between
- (A) 1mm and $\frac{1}{4}$ mm
 - (B) $\frac{1}{4}$ mm and $\frac{1}{16}$ mm
 - (C) $\frac{1}{2}$ mm and $\frac{1}{4}$ mm
 - (D) 2 mm and $\frac{1}{16}$ mm
49. Which of the following sediments has the best sorting of particles?
- (A) Beach
 - (B) Fluvial
 - (C) Sand dune
 - (D) Loess
50. Which of the following is Argillaceous limestone?
- (A) Chalk
 - (B) Marl
 - (C) Kankar
 - (D) Pelagic limestone

51. Guano is:
- (A) Calcareous deposit
 - (B) Ferruginous deposit
 - (C) Phosphatic deposit
 - (D) Siliceous deposit
52. A pyramid shaped peak formed by glacial erosion is a
- (A) Fiord
 - (B) Cirque
 - (C) Horn
 - (D) Medial moraine
53. The drainage pattern that develops under uniform resistant rocks and implies lack of structural control is known as
- (A) Barbed
 - (B) Dendritic
 - (C) Rectangular
 - (D) Trellis
54. The elastic rebound theory is postulated by
- (A) Max Planck
 - (B) Wegner
 - (C) Reid
 - (D) Hooke
55. Destructive plate boundary is also known as:
- (A) Conservative plate boundary
 - (B) Converging plate boundary
 - (C) Diverging plate boundary
 - (D) Transform plate boundary

56. Streams which flow in the opposite direction to the original consequent streams are described as
- (A) Subsequent
 - (B) Insequent
 - (C) Resequent
 - (D) Obsequent
57. Which of the following exhibits maximum half-life period?
- (A) $U^{238} - Pb^{206}$
 - (B) $U^{235} - Pb^{207}$
 - (C) $Rb^{87} - Sr^{87}$
 - (D) $Sm^{147} - Nd^{143}$
58. A stream consisting of interwoven channels is known as:
- (A) Fluvioglacial stream
 - (B) Braided stream
 - (C) Meandering stream
 - (D) Matured valley stream
59. The Subathu Formation is characterised by fossil:
- (A) Nummulites
 - (B) Titanosaurus
 - (C) Gangamopteris
 - (D) Elephas
60. The boundary between Eastern Dharwar Craton and Western Dharwar Craton is marked by presence of:
- (A) Iron ore belt
 - (B) Greenstone belt
 - (C) Southern granulite belt
 - (D) Deccan volcanics

61. The age of Syringothyris Limestone is:
- (A) Ordovician
 - (B) Lower carboniferous
 - (C) Lower permian
 - (D) Lower silurian
62. Which of the following formations overlie Tipam Sandstone?
- (A) Jaintia Beds
 - (B) Namsang Beds
 - (C) Dupitila Clay
 - (D) Girujan Clay
63. Which of the following gastropods show sinistral coiling?
- (A) Patella
 - (B) Plenotomaria
 - (C) Natica
 - (D) Planorbis
64. The calcareous plates around the anus of Echinoids is called as:
- (A) Periproct
 - (B) Peristome
 - (C) Pyramids
 - (D) Plesiocidaroida
65. The spatial resolution of LISS-III of IRS-1C is:
- (A) 11.5m
 - (B) 23.5 m
 - (C) 36m
 - (D) 72m

66. The area imaged by a satellite while revolving round the earth is called:
- (A) Swath
 - (B) Nadir
 - (C) Orbit
 - (D) Pixel
67. An ore deposit formed later than the host rocks is called:
- (A) Syngenetic
 - (B) Diagenetic
 - (C) Epigenetic
 - (D) Cogenetic
68. Porphyry type copper deposits are associated with:
- (A) Intra-cratonic rift setting
 - (B) Mid-oceanic ridge setting
 - (C) Continent-ocean collision
 - (D) Ocean –ocean subduction setting
69. Minimum metal percentage at which mining is done at profit is called:
- (A) Average grade
 - (B) Cut off grade
 - (C) Economic grade
 - (D) Mill grade
70. The lime to clay ratio in cement is approximately:
- (A) 4:1
 - (B) 1:4
 - (C) 2:3
 - (D) 4:3

ROUGH WORK