



M.P. MINNING OFFICER 2023



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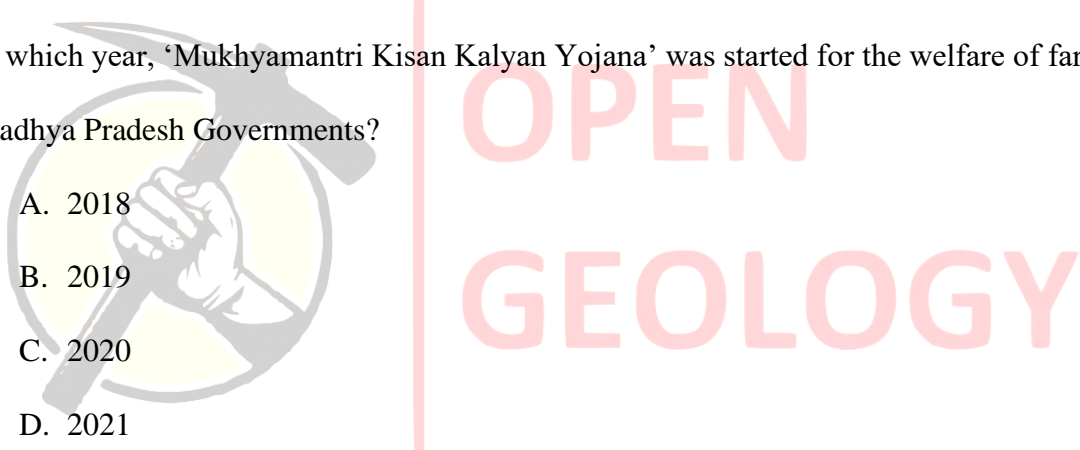
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1. In May, 2024, the President of which country died in helicopter crash?
 - A. Iraq
 - B. Saudi Arabia
 - C. Bahrain
 - D. Iran

 2. The Malwa plateau slope is drained in which direction?
 - A. South
 - B. West
 - C. East
 - D. North

 3. In which year, 'Mukhyamantri Kisan Kalyan Yojana' was started for the welfare of farmers by Madhya Pradesh Governments?
 - A. 2018
 - B. 2019
 - C. 2020
 - D. 2021

 4. In which month is the highest temperature recorded in Madhya Pradesh?
 - A. April
 - B. May
 - C. June
 - D. July

 5. Which are the three special backward tribes in Madhya Pradesh?
 - A. Pataliya, Maria, Dhobi
 - B. Gond, Kandara, Mogiya
 - C. Sahariya, Baiga, Bhariya
 - D. Pardhan, Pathari, Munda
- 

6. What is the age limit of beneficiary for Atal Pension Yojana of Madhya Pradesh Government?
- A. 15 years to 40 years
 - B. 18 years to 40 years
 - C. 15 years to 60 years
 - D. 18 years to 60 years
7. Which district of Madhya Pradesh has the highest male – female ratio?
- A. Balaghat
 - B. Bhind
 - C. Jhabua
 - D. Gwalior
8. In E – Governance, UMANG stands for –
- A. Ultra Mobile and Governance
 - B. Unified Mobile for E – Governance
 - C. Unified Mobile Application for New – Age Governance
 - D. Unified Mobile Application for Nation Governance
9. Barna project canals irrigate which district of Madhya Pradesh?
- A. Hoshangabad
 - B. Vidisha
 - C. Raisen
 - D. All the above
10. A petaflop is equivalent to –
- A. 10^9 flop
 - B. 10^{12} flop
 - C. 10^{15} flop
 - D. 10^{18} flop

11. When did the campaign 'Aao Banayen Apna Madhya Pradesh' start?

- A. 10th November, 1979
- B. 1st November, 2009
- C. 23rd November, 2008
- D. 22nd November, 1982

12. Ken – Betwa link National Project will prove to be a lifeline for which area of Madhya Pradesh?

- A. Bundelkhand
- B. Malwa
- C. Baghelkhand

D. Nimar

13. When was the Madhya Pradesh Panchayat Raj Act, 1993 implemented in year 1994?

- A. 25th January
- B. 25th June
- C. 25th November
- D. 25th December

14. WiMAX technology is based on IEEE _____ standard.

- A. 801.12
- B. 802.16
- C. 803.12
- D. 805.16

15. The address spaces of IPv4 and IPv6 are –

- A. 16 – bit and 32 – bit
- B. 32 – bit and 64 – bit
- C. 16 – bit and 128 – bit
- D. 32 – bit and 128 – bit

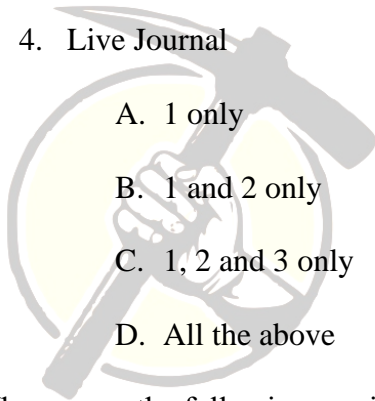
16. Who has been awarded ‘ Dronacharya Puraskar’ in ‘Mallakhamb’ under National Sports Award, 2023?

- A. Ganesh Prabhakaran
- B. Mahavir Saini
- C. Lalit Kumar
- D. R. B. Ramesh

17. Which of the following provides Blog Services?

- 1. Word Press
- 2. Blogger
- 3. Windows Live Spaces
- 4. Live Journal

- A. 1 only
- B. 1 and 2 only
- C. 1, 2 and 3 only
- D. All the above



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18. Who among the following received the ‘Major Dhyanchand Khel Ratna Award’ in badminton for the year 2023?

- A. Sharath Kamal and Pramod Bhagat
- B. Satwiksairaj Rankireddy and Pramod Bhagat
- C. Chirag Chandrashekhhar Shetty and Sharath Kamal
- D. Satwiksairaj Rankireddy and Chirag Chandrashekhhar Shetty

19. Social Commerce is a _____ of e – commerce.

- A. Set
- B. Subset
- C. Powerset
- D. Superset

20. In the production of which crop, Madhya Pradesh ranks first in the country?

- A. Wheat
- B. Jowar (Sorghum)
- C. Soyabean
- D. Rice

21. Which ruler made orchha the capital of Bundelkhand?

- A. Champat Rai
- B. Chhatrasal Bundela
- C. Rudra Pratap Bundela

D. Dhangadeva

22. Which of the following is NOT an anti – spam software?

- A. Bogofilter
- B. DSPAM
- C. Milkpam
- D. spamAssassin

23. self – driving cars are the best example of which machine learning technique?

- A. Supervised learning
- B. Reinforcement learning
- C. Unsupervised learning
- D. XAI learning

24. Which are the major thermal power stations of Madhya Pradesh?

- A. Satpura, Balaghat, Amarkantak
- B. Jabalpur, Amarkantak, Singrauli
- C. Singrauli, Satpura, Jabalpur
- D. Singrauli, Satpura, Amarkantak

25. Majhgawan mine in Madhya Pradesh is known for production of which mineral?

- A. Diamond
- B. Graphite
- C. Iron
- D. Copper

26. In which district of Madhya Pradesh is Satpura National Park situated?

- A. Ujjain
- B. Gwalior
- C. Hoshangabad

D. Bhopal

27. When did Nimad Lok Sahitya Parishad come into existence?

- A. 1951
- B. 1953
- C. 1956
- D. 1958

28. During which ruler's reign did Rana Sanga invade Malwa and imprison him?

- A. Dilawar Khan
- B. Alp Khan
- C. Baz Bahadur
- D. Mahmud II

29. According to Article 365 of the Constitution, under what conditions can the Governor send a recommendation report to the President for imposing President's rule in the state?

- A. External attack
- B. Constitutional failure
- C. Armed rebellion
- D. None of the above

30. In 1992, under the leadership of Pandit Ravishankar Shukla, one of the three Congress Committees was formed in which region of Madhya Pradesh?

- A. Bhopal
- B. Sehore
- C. Mahakoshal
- D. Guna

31. Which is NOT a part of Satpura coalfield?

- A. PENCH valley
- B. Kanhan valley

C. Pathakhera

D. Johilla valley

32. Where among the following is the major manganese belt of Madhya Pradesh located?

- A. Balaghat and Mandla
- B. Shahdol and Sidhi
- C. Sagar and Katni
- D. Balaghat and Chhindwara

33. The revolutionary Raja Mardan Singh was related to –

- A. Bundela dynasty – Banpur
- B. Pratihara dynasty – Rewa
- C. Chandela dynasty – Khajuraho
- D. Kalachuri dynasty – Tripura

34. In which place was Kala Bhawan founded by Shree Vishnu Shridhar Wakankar?

- A. Ujjain
- B. Kaytha
- C. Indore
- D. Dewas

35. Where is the State Forest Research Institute located?

- A. Bhopal
- B. Jabalpur
- C. Indore
- D. Balaghat

36. Under which scheme of Madhya Pradesh Government, the function of household electrification is performed?

- A. Saubhagya Yojana
- B. Urja Saksharta Abhiyan
- C. Atal Griha Jyoti Yojana
- D. Pradhan Mantri Kisaan Urja Surksha evam Utthaan Mahabhiyan Yojana

37. The birthplace of Nirguni Sant Singaji is –

- A. Raghogarh
- B. Khajuri
- C. Budhni
- D. Nadchand

38. Which of the following is/are the social networking sites used by scientists / researchers?

- (1) SciSpace.net
 - (2) Epernicus
 - (3) researchGate
- A. 2 only
 - B. 3 only
 - C. 1 and 2 only
 - D. All of the above

39. The famous musician Tansen was initially in the court of which ruler?
- A. Raja Ramchandra of Rewa
 - B. Daulat Rao Sindhia of Gwalior
 - C. Baz Bahadur of Mandu
 - D. Raja Rudra Pratap of Orchha
40. On 11th December, 2023, which of the following was launched by Prime Minister Shri Narendra Modi?
- A. Viksit Bharat @2047 : Voice of Youth
 - B. Vision @ 2047 : Samarth Bharat
 - C. Voice of Youth @ 2047 : Samarth Bharat
 - D. Viksit Bharat @ 2047 : Dream of Youth
41. Where is Nagmori Jewellery worn and what is it made of?
- A. On the neck – Gold
 - B. On the legs – Silver
 - C. On the nose – Gold
 - D. On the arm – Silver
42. Which major project is NOT a part of Dhasan and Ken Basin?
- A. Bariyarpur
 - B. Rangawan
 - C. Urmil
 - D. Harsi
43. When was the notification issued by the central Government regarding the rules for implementation of Citizenship (Amendment) Act (CAA), 2019?
- A. January, 2024
 - B. February, 2024
 - C. March, 2024
 - D. April, 2024

44. Who is the author of Veerbhanudaya?

- A. Jaishankar Prasad
- B. Maithili Sharan Gupt
- C. Madhav Kavi
- D. Mahadevi Verma

45. Which river was known as 'Avanti River' in ancient times?

- A. Shipra River
- B. Narmada River
- C. Betwa River
- D. Chambal River

46. If the Assembly is dissolved before its term and a proposal for removal of the speaker of the Assembly is to be considered, then who will preside over the meeting?

- A. Speaker of the Assembly
- B. Speaker of the Assembly has no right to participate in the proceeding
- C. Deputy Speaker will preside as Speake
- D. Deputy Speaker has no right to participate in the proceedings

47. Where is Muktibodh Srijan Peeth located in Madhya Pradesh?

- A. Ujjain
- B. Bhanpura
- C. Rampura
- D. Sagar

48. Which is the beneficiary student category of 'Aahar Anudan Yojana' of Madhya Pradesh Government?

- A. Scheduled Caste
- B. Backward Class
- C. Scheduled Tribe
- D. All of the above

49. What is the function of E-TALL in E-Governance?

- A. To perform electronic transactions
- B. To perform electronic tally
- C. Dissemination of statistics on e-transactions of e-Government projects
- D. Electronic transaction learning

50. Where is Madhya Pradesh Institute of Social Science Research located?

- A. Bhopal
- B. Jabalpur
- C. Ujjain

D. Indore

51. The ratio between the thickness of mineral deposit mined and thickness of overburden actually removed is called

- A. Stripping Ratio
- B. Working Ratio
- C. Profit Ratio
- D. Tonnage Factor

52. Moonstone is a variety of which mineral?

- A. K-feldspar
- B. Pyroxene
- C. Hornblende
- D. Olivine

53. Deuteric alteration of pyroxene to amphibole is called as

- A. Biotitization
- B. Sericitization
- C. Saussuritization
- D. Uralitization

54. Intrusion of igneous pluton into carbonate rocks typically develops

- A. Orthoquartzite
- B. Paraquartzite
- C. Skarns
- D. Mylonites

55. Highest point of a folded surface is

- A. Hinge line
- B. Trough point
- C. Crest point

D. Inflection point

56. ??

57. The lowermost formation in Siwalik group is

- A. Nagri Formation
- B. Tatrot Formation
- C. Kamlial Formation
- D. Pinjor Formation

58. In which part of India, porphyry copper deposits are found?

- A. Khetri
- B. Malanjkhand
- C. Musabani
- D. Dariba-Rajpura

59. The SPOT-1 satellite was launched by France

- A. In 1990
- B. In 1986
- C. In 1980
- D. In 1968

60. The tonal range of a flat surface in a satellite image is

- A. Light
- B. Dark
- C. Medium to dark
- D. Dark to medium

61. Hydrothermal deposits which are formed near the igneous intrusion present at the depth of the Earth are called

- A. Hypothermal Deposits
- B. Mesothermal Deposits
- C. Epithermal Deposits
- D. None of the above

62. Supergene sulfide enrichment process occurs in

- A. Deep seated magmatic environment
- B. Volcanic condition
- C. Plutonic condition
- D. Beneath groundwater table

63. Which aquifers may be classified based on presence or absence of a water table?

- A. Deep or shallow aquifer
- B. Semi-confined or confined aquifer
- C. Unconfined or semi-confined aquifer
- D. Unconfined or confined aquifer

64. The seismic waves velocities are excessive in which type of geological materials?

- A. Unconsolidated sediments
- B. Solid igneous rocks
- C. Loose sand
- D. Soil

65. . Which groundwater quality parameter can be rapidly determined by measuring the electrical conductance of a groundwater sample?

- A. pH level
- B. Temperature
- C. Total dissolved solids
- D. Dissolved oxygen

66. Find the WRONG pair –

- A. Bhandar group – Sirbu Shale
- B. Rewa group – Panna Shale
- C. Kaimur group – Suket Shale
- D. Semri group – Olive Shale

67. Which of the following formations does not belong to Damuda Group?

- A. Raniganj Formation
- B. Kota Formation
- C. Barren Measures Formation
- D. Karharbari Formation

68. _____ is the youngest group of Trichinopoly area.

- A. Uttatur
- B. Ariyalur
- C. Trichinopoly
- D. Niniyur

69. _____ is a technique of spatial positioning by means of which a digital image is assigned a reference system based on known coordinates.

- A. Georeferencing
- B. Digital elevation method
- C. Dimension energy method
- D. Geohazards

70. 'Garden Balsam' or 'Rose Balsam' often grow over the outcrops of

- A. Uranium deposits
- B. Zinc-Lead deposits
- C. Copper deposits
- D. Iron deposits

71. At low temperature and shallow crustal levels, which type of deformation is normally found?

- A. Ductile deformation
- B. Brittle deformation
- C. Elastic deformation

D. Both [A] and [B]

72. A wrong statement for disconformity is

- A. Generally no folding in the strata
- B. Generally no faulting in the strata
- C. Presence of angular variation
- D. The beds lying above and below the surface of erosion are almost parallel

73. In Madhya Pradesh, Manganese ore deposit is found in association with which of the following rocks?

- A. Gondite
- B. Kodurite
- C. Khondalite
- D. Laterite

74. _____ measures the total strength of the magnetic field, but does not measure the direction of the magnetic field and so shows a total field anomaly (total intensity anomaly)

- A. Gravimeter
- B. Fluxgate magnetometer
- C. Scintillation counter
- D. Proton Precession Magnetometer

75. The purpose of comminution is

- A. Particle size reduction or liberation of particles
- B. Dewatering
- C. Classification of particles
- D. Concentration of valuable particles on the basis of chemical properties

76. Jigging is the process of concentrating the minerals, exclusively based on

- A. Difference in hardness of particles
- B. Difference in density of particles
- C. Difference in magnetism of particles
- D. Difference in electrical conductivity of particles

77. What is the name of Gypsum having fibrous and silky nature?

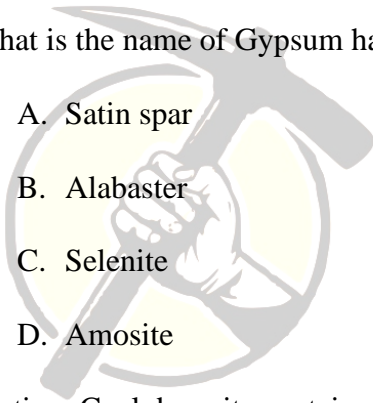
- A. Satin spar
- B. Alabaster
- C. Selenite
- D. Amosite

78. Tertiary Coal deposits contain

- A. High sulphur content
- B. Low sulphur content
- C. High nitrogen content
- D. High phosphorous content

79. In India, First National Mineral Policy was announced in which of the following years?

- A. 1989
- B. 1957
- C. 1966
- D. 1993



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80. Ore minerals which are generally formed by ascending solutions are termed as

- A. Secondary or supergene minerals
- B. Primary or hypogene minerals
- C. Gangue or minor minerals
- D. None of the above

81. The equation which expresses Gibbs phase rule is

- A. $F=C-\phi+2$
- B. $F=C+\phi+2$
- C. $F=C+\phi-2$
- D. $F=\phi+C+2$

82. Overgrowth of plagioclase on alkali feldspar is called

- A. Myrmekitic texture
- B. Graphic texture
- C. Rapakivi texture
- D. Sub-ophitic texture

83. Vertical or inclined excavation made upwards to meet the level above in the mine or to extract the mineral above is

- A. Stope
- B. Raise
- C. Cross cut
- D. Winze

84. Foliation occurs in slates and schists rocks due to

- A. Faulting
- B. Folding of pre-existing rocks
- C. Syntectonic growth of minerals
- D. Micro folding of rocks

85. Which type of fault is formed when deformation occurs during sedimentation?

- A. Detachment Fault
- B. Domino Fault
- C. Strike-slip Fault
- D. Growth Fault

86. The joints looking like scales of an onion are known as

- A. Columnar joints
- B. Pinnate joints
- C. Sheet joints

D. Systematic joints

87. The placer tin deposits of Malaysia are mined using _____ method.

- A. Glory hole
- B. Sluicing
- C. Dredging
- D. Gophering

88. _____ is not the standard method of pollution control barrier.

- A. Natural clayey deposits
- B. Cut-off walls
- C. Landfills
- D. Synthetic liners

89. A numerical data structure that represents the spatial distribution of the altitude of the terrain surface is

- A. Dimension elevation model
- B. Digital elevation method
- C. Digital elevation model
- D. Dimension energy method

90. Crystals in which all bonds are of equal strength are called

- A. Desmic
- B. Equidesmic
- C. Isodesmic
- D. Monodesmic

91. Which province in India, is recharged by the water transmitted through intermundane valleys of the Himalayan highland province?

- A. Cenozoic sedimentary province
- B. Cenozoic fault basin
- C. Pre-Cambrian sedimentary province
- D. Ganga-Brahmaputra alluvial province

92. Why there is no good groundwater condition in the lower Gondwana rocks?

- A. High intrusions of igneous rocks
- B. It is composed of compact shale rocks
- C. It is mainly composed of sandstone
- D. Highly fractured rocks

93. Longest wavelength region of the electromagnetic spectrum is

- A. X-Rays
- B. Thermal IR
- C. Gamma Rays
- D. Radio waves

94. Rodrigues Triple Junction is in

- A. Pacific Ocean
- B. Atlantic Ocean
- C. Indian Ocean
- D. Arctic Ocean

95. The centre of volcanic accretion may exhibit a particular geometry, which is known as

- A. Protective fault
- B. Overlapping spreading centre
- C. Propagating rift
- D. Intra oceanic transform fault

96. Clinometer compass is used

- A. To measure the elevation of strata
- B. To measure the amount of dip
- C. To find out the location on the map

D. All of the above

97. Which of the following is an example of Metallogenic Province in India?

- A. Aravalli Metallogenic Province
- B. Chota Nagpur Metallogenic Province
- C. Singhbhum Metallogenic Province
- D. Malwa Metallogenic Province

98. In which aquifer, groundwater is under greater pressure than the atmospheric pressure?

- A. Perched aquifer
- B. Unconfined aquifer
- C. Confined aquifer
- D. Semi-confined aquifer

99. The line connecting the deepest or lowest points along a stream bed is

- A. Thalweg
- B. Isobar
- C. Contour
- D. Valley floor

100. The aerial photographs with a scale ranging between 1: 15,000 and 1: 30,000 are usually treated as _____ photographs.

- A. Medium scale
- B. Large scale
- C. Nano scale
- D. Small scale

101. The Ring of Fire is located in

- A. Atlantic Ocean
- B. Indian Ocean
- C. Pacific Ocean
- D. Arctic Ocean

102. Mawmluh cave is located in

- A. Chhattisgarh
- B. Meghalaya
- C. Sikkim
- D. Jharkhand

103. Pahoehoe lava is characterised by

- A. High viscosity basaltic lava with fractured surface.
- B. High viscosity andesitic lava with clinkery surface.
- C. High viscosity rhyolitic lava.
- D. Low viscosity basaltic lava with ropy surface.

104. The latitudinal and longitudinal coverage of toposheet (scale 1: 50,000) is

- A. 1° × 1°
- B. 15' × 15'
- C. 4° x 4°
- D. 7'30" x 7'30"

105. Copper, nickel and chromium are pathfinders for

- A. Uranium deposits
- B. Deposits of Platinum Group of Elements (PGE)
- C. Wolframite-Tin deposits
- D. Gold deposits

106. The manganese deposits are found in

- A. Bichua Formation
- B. Chorbaoli Formation
- C. Lohangi Formation

D. Mansar Formation

107. Tadpatri Formation belongs to

- A. Papaghami Group
- B. Nallamalai Group
- C. Chitravati Group
- D. Kurnool Group

108. Which statement correctly describes the soil-water zone?

- A. Always saturated with water.
- B. Water content is never affected by rainfall.
- C. Might be saturated during rainfall or irrigation.
- D. Uniform thickness in all kinds of soil.

109. Under which type metamorphism, of the poikiloblastic texture develops?

- A. Contact metamorphism
- B. Regional metamorphism
- C. Cataclastic metamorphism
- D. Paired metamorphism



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110. Characteristic minerals of eclogite facies are

- A. Omphacite and plagioclase
- B. Plagioclase and hornblende
- C. Albite and omphacite
- D. Omphacite and pyrope

111. What is the chemical formula of spodumene?

- A. $Mg_2Si_2O_6$
- B. $Fe_2Si_2O_6$
- C. $LiAlSi_2O_6$

D. $CaFeSi_2O_6$

112. The ionic potential of LILEs is

- A. < 0.02
- B. > 0.02
- C. > 0.03
- D. > 0.06

113. High pressure polymorph of quartz is called

- A. Cristobalite
- B. Tridymite
- C. Coesite
- D. Stishovite

114. In which condition, Becke line can be seen?

- A. In reflected light
- B. In conoscopy
- C. In transmitted light
- D. In orthoscopy



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115. Gridiron or Quadrille structures are found in

- A. Orthoclase
- B. Plagioclase
- C. Albite
- D. Microcline

116. What is the IFOV of a sensor?

- A. The angle of incidence of light on a sloping surface.
- B. The area on the surface that is theoretically viewed by the instrument from a given altitude at a given time.

- C. It measures the integrated field of visuals.
- D. Ability to depict infrastructure and land cover area.

117. The combination of aerial photography and _____ provides information on relatively large areas without necessitating survey inspection on the ground.

- A. Photo transmission
- B. Photographic interpretation
- C. Photo evaporation
- D. Photosynthesis

118. The weather monitoring and telecommunication satellites are placed in a geostationary position and revolve around the earth at an altitude of nearly

- A. 26,000 km
- B. 56,000 km
- C. 36,000 km
- D. 16,000 km

119. Match the following drainage patterns with underlying lithology and choose the correct one:

- | | |
|----------------------------------|---|
| (a) Dendritic drainage pattern | (i) Uniform lithology |
| (b) Trellis drainage pattern | (ii) Dipping strata with alternate bands of hard and soft rocks |
| (c) Rectangular drainage pattern | (iii) Jointed/faulted lithology |
| (d) Radial drainage pattern | (iv) Circular upland |

- | | | | |
|----------|------|-------|-------|
| A. (i) | (ii) | (iv) | (iii) |
| B. (ii) | (i) | (iii) | (iv) |
| C. (i) | (ii) | (iii) | (iv) |
| D. (iii) | (iv) | (i) | (ii) |

120. Which is the correct option as per Standard Sinuosity Index (SSI) for river morphology?

- A. If $SSI = 1$: It represents, sinuous course.
- B. If $SSI < 1$: It represents, straight course.
- C. If $SSI > 1.5$: It represents, meandering course.
- D. All of the above.

121. 'Trio of Davis' is related to

- A. Structure, time and geomorphic forms
- B. Time, process and landscapes
- C. Process, structure and erosion
- D. Structure, time and process

122. Which one shows correct Barrovian sequence of +metamorphism of pelitic rocks?

- A. Biotite - Kyanite - Garnet – Staurolite - Chlorite
- B. Chlorite - Garnet - Biotite – Staurolite - Kyanite
- C. Chlorite – Biotite – Garnet - Staurolite - Kyanite
- D. Garnet - Biotite - Chlorite – Kyanite – Staurolite

123. The ratio of inertial force and gravity force is called as

- A. Reynolds number
- B. Weber number
- C. Froude number
- D. Mach number

124. Which one is not a deformation structure?

- A. Convolute bedding
- B. Hummocky structure
- C. Flame structure
- D. Ball and Pillow structure

125. According to National Mineral Policy, time limit for taking decision by Indian Bureau of Mines and State Government on submitted applications for approval of mining lease is

- A. 1 month
- B. 12 months
- C. 6 months
- D. 18 months

126. What percentage of the world's total water is held in the form of ice-caps and glaciers?

- A. 2.80%
- B. 0.61%
- C. 2.14%
- D. 0.75%

127. The latent heat of condensation to the surroundings per gram of water is

- A. About 690 calories
- B. About 590 calories
- C. About 790 calories
- D. About 490 calories

128. Fossils, particularly the microfossils, whose range is short and show wide geographic distribution are called

- A. Index fossils
- B. Ichnofossils
- C. Chemical fossils
- D. Body fossils

129. The shell of Belemnite is divided into

- A. Head, Tentacles and Eyes
- B. Taxodont, Dysodont and Schizodont
- C. Phragmocone, Siphuncle, Protoconch and Guard
- D. Diductor, Adductor and Muscle impression

130. The suture line with simple and rounded saddles and finely divided lobes is known as

- A. Goniatite type
- B. Orthoceratite type
- C. Ammonoid type
- D. Ceratite type

131. In a normal Fault,

- A. Maximum principal stress (σ_1) is vertical and minimum principal stress (σ_3) is horizontal.
- B. Minimum principal stress (σ_3) is vertical and maximum principal stress (σ_1) is horizontal.
- C. Intersection line of the two fault planes is parallel to the medium stress axis (σ_2).
- D. Both [A] and [C] are correct.

132. Match the following:

- | | |
|--------------|---|
| (a) Strike | (i) A direction which always indicates the horizontal plane. |
| (b) Dip | (ii) A line which exists on the ground surface. |
| (c) Syncline | (iii) A fold that is convex upward towards the center and dips are in opposite direction to each other. |

(d) Anticline (iv) A fold that is concave towards the center and dips towards the center of the structure from both side.

- | | A | b | c | d |
|----|------|------|-------|-------|
| A. | (i) | (ii) | (iii) | (iv) |
| B. | (ii) | (i) | (iii) | (iv) |
| C. | (ii) | (i) | (iv) | (iii) |
| D. | (i) | (ii) | (iv) | (iii) |

133. Goldschmidt classification is based on

- A. Distribution of elements
- B. Abundance of elements
- C. Chemical charge
- D. Chemical affinity

134. _____ is considered as the age of 'Eoarchean'.

- A. 3200 to 2800 Ma
- B. 4600 to 4000 Ma
- C. 4000 to 3600 Ma
- D. 3600 to 3200 Ma



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135. What is the name of the basement rock unit of the Western Dharwar Craton (WDC)?

- A. Gorur Gneiss
- B. Sargur Group
- C. Peninsular Gneiss
- D. Closepet Granite

136. The upper Gondwana flora is named after which plant?

- A. Vertebraria
- B. Ptilophyllum
- C. Glossopteris
- D. Gangamopteris

137. The lower Gondwana flora is named after which plant?

- A. Ptilophyllum
- B. Otozomites
- C. Glassopteris
- D. Nilssonia

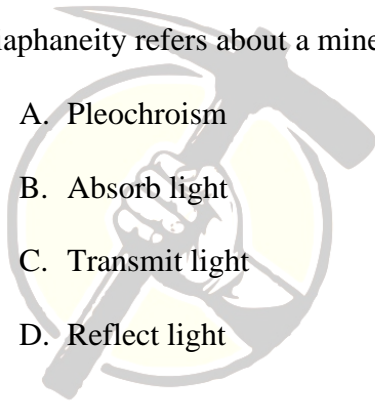
138. Garnet is usually identified in thin sections by its

- A. Isotropic nature
- B. High relief
- C. Crystal shape

D. All of the above

139. Diaphaneity refers about a mineral's ability to

- A. Pleochroism
- B. Absorb light
- C. Transmit light
- D. Reflect light



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140. Taphonomy is the science dealing with

- A. Study of condition of death and burial of the organism.
- B. Modes of preservation of fossils.
- C. Study of pore and spore of fossils.
- D. Preservation of entire organism.

141. The vertebrates are also known as

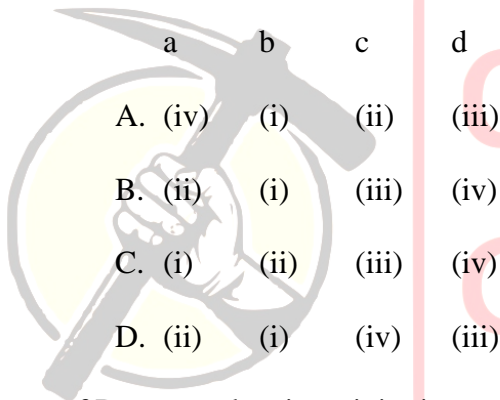
- A. Craniates
- B. Aves
- C. Graptozoa
- D. Trilobites

142.23.4 Degrees Earth's axial tilt

- A. Maintains the temperature difference of Earth's surface.
- B. Increases the Earth's surface temperature.
- C. Decreases the Earth's surface temperature.
- D. Unaffected the Earth's surface temperature.

143. Match the half-life of the radioactive pair and choose the correct one.

- | | |
|--------------------------|-----------------------------|
| (a) $U^{238} - Pb^{206}$ | (i) $0.7 * 10^9$ years |
| (b) $U^{235} - Pb^{207}$ | (ii) $4.50 * 10^9$ years |
| (c) $Rb^{87} - Sr^{87}$ | (iii) $1.30 * 10^9$ years |
| (d) $K^{40} - Ar^{40}$ | (iv) $4.70 * 10^{10}$ years |



a	b	c	d
A. (iv)	(i)	(ii)	(iii)
B. (ii)	(i)	(iii)	(iv)
C. (i)	(ii)	(iii)	(iv)
D. (ii)	(i)	(iv)	(iii)

144. The age of Deccan volcanic activity is considered as

- A. 63 to 68 Ma
- B. 55 to 60 Ma
- C. 70 to 75 Ma
- D. 50 to 55 Ma

145. 'Mississippian' epoch represents

- A. Permian Period
- B. Early Carboniferous Period
- C. Early Jurassic Period
- D. Late Cretaceous Period

146. What is the main cause of excess water downward movement in the intermediate zone?

- A. Capillary action
- B. Surface tension energy
- C. Gravity force
- D. Hygroscopic action

147. Who discovered Ramapithecus from the Siwalik of India, Pakistan and Kenya?

- A. Lewis
- B. Leakey
- C. Dart

D. Broom

148. The important fossil of foraminifera is

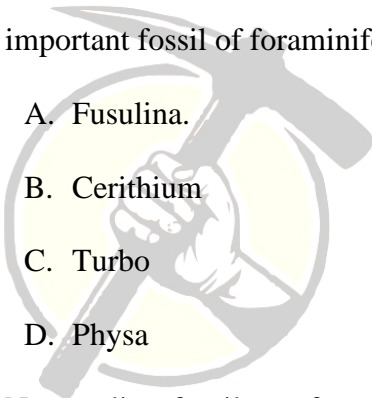
- A. Fusulina.
- B. Cerithium
- C. Turbo
- D. Physa

149. The Nummulites fossils are from class

- A. Gastropods
- B. Foraminifera.
- C. Lamellibrachia
- D. Cephalopoda

150. The size of effective atmospheric particles of Rayleigh scatter is

- A. Smaller than the wavelength of radiation
- B. Same size as the wavelength of radiation
- C. Larger than the wavelength of radiation
- D. None of the above



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