

1. Stromatolites are:
 - a. Fungi
 - b. Green Bacteria
 - c. Blue Green Algae
 - d. Ostracods
2. The study of fossil spores and pollen is known as:
 - a. Palynology
 - b. Phylogeny
 - c. Palaeoecology
 - d. Phycology
3. Archaeopteryx was having:
 - a. Reptilian characters
 - b. Avian characters
 - c. Both reptilian and avian characters
 - d. None of the above
4. First dinosaurs appeared during:
 - a. Cretaceous
 - b. Triassic
 - c. Jurassic
 - d. Cambrian
5. What causes red tides?
 - a. Dinoflagellates
 - b. Ostracods
 - c. Foraminifera
 - d. None of the above
6. Which of the following is a Gastropod?
 - a. Murex
 - b. Ammonite
 - c. Trilobite
 - d. All of the above
7. The age of the Talchir Boulder Bed is:
 - a. Late Carboniferous
 - b. Precambrian

- c. Cambrian
 - d. Jurassic
8. Vertebraria is a fossil of:
- a. Rhizome
 - b. Leaf
 - c. Flower
 - d. None of the above
9. Minute teeth like fossils are known as:
- a. Ostracods
 - b. Conodonts
 - c. Dinoflagellates
 - d. Diatoms
10. Nummulites is a micro fossil of:
- a. Dinoflagellates
 - b. Diatoms
 - c. Ostracods
 - d. Foraminifera
11. Pedicle opening may be seen in:
- a. Brachiopods
 - b. Gastropods
 - c. Cephalopods
 - d. All of the above
12. Misohippus was confined to:
- a. Lower and Middle Oligocene
 - b. Cretaceous
 - c. Pleistocene
 - d. Pliocene
13. The world's first multicellular organism:
- a. Ediacarans
 - b. Trilobites
 - c. Ammonite
 - d. Belemnites
14. Around 96% of the marine species on Earth were wiped out during:

- a. Permian-Triassic boundary
 - b. Devonian Extinction
 - c. Ordovician-silurian Extinction
 - d. Triassic-jurassic Extinction
15. Which of the following represents longest time period?
- a. Precambrian
 - b. Mesozoic
 - c. Cenozoic
 - d. Palaeozoic
16. A disconformity is_____.
- a. A rock unit that does not contain fossils
 - b. An erosional surface between igneous and metamorphic rocks
 - c. An erosional surface between horizontal sedimentary rocks
 - d. An erosional surface between different rock types
17. Which of the following is used by geologists to determine the relative ages in a rock sequence?
- a. Stratigraphy
 - b. Fossils
 - c. Cross-cutting relationships
 - d. All of these
18. Which of the following is not a non-renewable source?
- a. Water
 - b. Coal
 - c. Sunlight
 - d. Wind
19. Anthracite in India in small quantities is found in:
- a. Madhya Pradesh
 - b. Uttar Pradesh
 - c. Jammu and Kashmir
 - d. Maharashtra
20. Which of the following is youngest?
- a. Subathu Formation
 - b. Kasauli Formation

- c. Tatrot Formation
 - d. Dagshai Formation
21. What is the full form of COBOL?
- a. Common Basic Operating Language
 - b. Computer Basic Oriented Language
 - c. Computer Based Operating Language
 - d. Common Business Oriented Language
22. Which one of the following is correct measurement from smallest to largest?
- a. Bytes, kilobytes, megabytes, gigabytes
 - b. Megabytes, bytes, gigabytes, kilobytes
 - c. Gigabytes, kilobytes, megabytes, bytes
 - d. Bytes, megabytes, gigabytes, kilobytes
23. Which of the following is not a valid tab supported by the MS-Excel 2019 ribbon?
- a. Review
 - b. Option
 - c. Data
 - d. View
24. Which is the strongest orogeny among the Himalayan Orogeny?
- a. Kirthar Orogeny
 - b. Siwalik Orogeny
 - c. Karakoram Orogeny
 - d. Sirmurian Orogeny
25. A twin whose members are separated by a composition plane is known as
- a. Carlsbed twin
 - b. Twin creek
 - c. Hemitrophy
 - d. Contact twin
26. A technique in geological mapping in which a geological contact is followed by zigzagging along it is known as
- a. Contact mapping
 - b. Structural mapping
 - c. Engineering geological mapping
 - d. DTM

27. An elongate basin between the trench and volcanic region of a subduction zone is called
- Foreland basin
 - Forearc basin
 - Foredeep basin
 - Backarc basin
28. Which of the following dunes are having multiple slip faces?
- Dome dunes
 - Barchans
 - Blowout
 - Star dunes
29. Walter Penck's concept of geomorphic cycle states that
- Slow uplift of land follows periods of accelerated uplift
 - Rapid rise of land follows periods of standstill
 - Uplift and denudation occur simultaneously
 - Dynamic equilibrium ensues between erosion and deposition towards the end of the cycle
30. Average value of Poisson's ratio for rocks is
- 0.25
 - 0.50
 - 0.75
 - 1.00
31. Causes of formation of feather joints is
- Residual stress
 - Gravitational forces
 - Shearing
 - Tensional forces
32. Which is true for AB tectonites
- Penetrative planar fabric
 - Penetrative linear fabric
 - Non-penetrative planar fabric
 - Non-penetrative linear fabric
33. Hade of a fault can be defined as
- $90^\circ + \text{dip}$

- b. 90° - dip
 - c. Plunge + Rake
 - d. Plunge – Rake
34. Bieniawski (1979) rock mass classification does not include
- a. UCS
 - b. Groundwater condition
 - c. Condition of discontinuities
 - d. SRF
35. Which material can be used as a roofing material among the following?
- a. Slate
 - b. Serpentine
 - c. Basalt
 - d. Marble
36. Vaikrita thrust is also known as
- a. STD
 - b. MCT
 - c. MBT
 - d. HFT
37. The characteristic structure of Gondwana basin
- a. Thrust
 - b. Reverse fault
 - c. Normal fault
 - d. Strike-slip fault
38. *Orthogneiss* is formed by the metamorphism of
- a. Igneous rock
 - b. Sedimentary rock
 - c. Metamorphic rock
 - d. Xenolith rock
39. If a slope is having the following conditions: i) Trend of inclination of intersection of two plane is $230/45$, ii) slope face is $245/44$ and angle of internal friction = 32° then slope will fall in which category?
- a. Unstable and planar failure
 - b. Wedges are formed but Stable

- c. Unstable and Toppling failure
 - d. Unstable and wedge failure
40. The vane method of measuring shear strength of soils in the field was developed in
- a. Austria
 - b. Norway
 - c. England
 - d. Sweden
41. _____ is a type of strike-slip fault
- a. Thrust fault
 - b. En echelon fault
 - c. Tear fault
 - d. Horst and Graben
42. _____ walls are made reinforced concrete sections constructed in situ in slots mechanically excavated below the ground.
- a. Anchored
 - b. Diaphragm
 - c. Gabion
 - d. Reinforced earth
43. What will be the magnitude of spring if the mean discharge is $1-10 \text{ m}^3/\text{s}$?
- a. First
 - b. Second
 - c. Third
 - d. Fourth
44. The softest mineral known as per the Mohs scale is
- a. Quartz
 - b. Orthoclase
 - c. Talc
 - d. Calcite
45. Galena is an ore mineral of
- a. Manganese
 - b. Copper
 - c. Iron
 - d. Lead

46. The direction along which a mineral tends to break is called
- Fracture
 - Form
 - Cleavage
 - All of these
47. An isometric or cubic system has _ planes of symmetry
- 3
 - 6
 - 7
 - 9
48. Which rocks are formed due to the cooling of magma at a relatively shallow depth
- Plutonic rocks
 - Hypabyssal rocks
 - Volcanic rocks
 - Metamorphic rocks
49. Which is the predominant constituent of Siliceous rocks.
- Silica
 - Clay
 - Calcium carbonate
 - None
50. Which of the following are the most active bases present in igneous magmas?
- K and Na
 - Na and Ca
 - K and Ca
 - Na, Ca and Ba
51. Lopolith exhibits.....shape
- Plano-convex
 - Plano-concave
 - Concavo-convex
 - Any of the above
52. Siderites consist essentially of a.
- Nickle – iron alloy
 - Nickel-iron alloy and silicates

- c. Silicates only
 - d. Silicates and graphite's
53. Which is the most stable mineral towards weathering?
- a. Quartz
 - b. Feldspar
 - c. Hornblende
 - d. Olivine
54. Tridymite are the example of _____.
- a. Polymorphism
 - b. Isomorphism
 - c. Diadochi
 - d. None of-these
55. The average pH of the sea water is.
- a. 4.2
 - b. 5.5.
 - c. 7.0
 - d. 7.8
56. Low grade schist is formed under what conditions?
- a. Low temperature and local metamorphism
 - b. High temperature and local metamorphism
 - c. Low temperature and regional metamorphism
 - d. High temperature and regional metamorphism
57. Which type of pressure will result in the alignment of metamorphic minerals?
- a. Contact pressure
 - b. Directed pressure
 - c. Confining pressure
 - d. Chemical pressure
58. What is the most prominent textural feature of regional metamorphic rocks??:
- a. Foliation
 - b. Bedding
 - c. Cataclasis
 - d. Ripples
59. Metasomatism is _____.

- a. The change in the bulk composition of a rock during metamorphism
 - b. Metamorphism caused by nearby intrusions
 - c. Metamorphism caused by tectonic movements along faults
 - d. The parallel alignment of minerals in a metamorphic rock
60. A clastic rock is:
- a. A rock formed from the cementation of transported grains
 - b. A rock formed from evaporation of sea water
 - c. Transformed by heat into limestone
 - d. Transformed by pressure into limestone
61. In which of the following sedimentary environments would you expect the sand deposits to be poorly sorted?
- a. Alluvial
 - b. Beach
 - c. Desert
 - d. Glacial
62. The term "aeolian" refers to transport and deposition by:
- a. Wind
 - b. Streams
 - c. Ocean waves
 - d. Pocket gophers
63. In which of the following sedimentary environments would you least expect to find gravel?
- a. Active margin beach
 - b. Alluvial fans
 - c. Glacial
 - d. Deep marine
64. Which of the following processes occurs during lithification?
- a. Recrystallization
 - b. Compaction
 - c. Cementation
 - d. All may occur
65. Which of the following sandstone types is most likely to form by the mechanical weathering of a granite?

- a. Quartz arenite
 - b. Litharenite
 - c. Arkose
 - d. Shale
66. Red Fort in India is built using which sedimentary rock?
- a. Shale
 - b. White Sandstone
 - c. Red sandstone
 - d. Breccia
67. Shales are generally characterized with distinct _____
- a. Cleavage
 - b. Fracture
 - c. Specific gravity
 - d. Parting
68. Ophitic texture is commonly shown by:
- a. Trachyte
 - b. Lamprophyres
 - c. Andesite
 - d. Dolerite
69. A common decomposition in basaltic rocks involve:
- a. Oxidation of Mg
 - b. Oxidation of Fe
 - c. Hydration of Fe
 - d. Hydration of K
70. Match the following:
- | I | II |
|----------------------|-----------------------------------|
| 1. Leucocratic | i. Dark coloured rock |
| 2. Mesocratic | ii. Light coloured rock |
| 3. Melanocratic | iii. Extremely dark coloured rock |
| 4. Hypermelanocratic | iv. Intermediate in colour |
- a. 1-ii, 2-iv, 3-i, 4- iii.
 - b. 1-iii, 2-ii, 3-iv, 4-i.
 - c. 1-i, 2-ii, 3-iii, 4-iv.
 - d. 1-iv, 2-iii, 3-ii, 4-i.
71. Which of the following is not correct related to remote sensing?
- a. Interaction of energy with satellite
 - b. Electromagnetic energy
 - c. Electro-magnetic spectrum
 - d. Interaction of energy with atmosphere

72. Which of the following field is used by the EM waves?
- Solar field
 - Polarized field
 - Electric field
 - Micro field
73. The S-wave comes to an end at:
- A barrier between the crust and the mantle
 - The border between the lithosphere and the asthenosphere
 - The border between the mantle and the core
 - Core Boundaries (Inner and Outer)
74. The following is the name of the instrument used to record earthquake waves:
- Seismograph
 - Seismogram
 - Seismometer
 - Scintillometer
75. The ozone layer in the Earth's atmosphere is limited to the following areas:
- Troposphere
 - Stratosphere
 - Mesosphere
 - Thermosphere
76. The field of geology that deals with the form, classification, mechanism, and causes of rock structures' evolution is known as
- Rock geology
 - Structural geology
 - Basic geology
 - Lithology
77. Why does ocean water have higher salinity in subtropical regions than along the equatorial belt?
- Rainfall within subtropical regions has a higher salt content than along the equator
 - More streams and rivers empty into the ocean within subtropical regions than along the equatorial belt
 - Precipitation is greater in the subtropics than along the equatorial belt
 - Evaporation exceeds precipitation in the subtropical region, whereas the reverse occurs along the equator
78. Which of the following statements is TRUE?
- The sea surface is everywhere smooth and flat
 - Global sea level has risen and fallen many times throughout Earth history
 - Coastlines are always in equilibrium with oceans and therefore never change
 - All the above
79. Atoll, barrier, and fringing describe different types of _____.
- Wetlands
 - Coral reefs
 - Coastal depositional features

- d. Coastal erosion features
80. How can sunspot activity possibly affect Earth's climate?
- Higher sunspot activity increases the solar wind, which in turn warms Earth's upper atmosphere
 - The amount of sunspot activity never changes and therefore cannot affect Earth's climate
 - Lower sunspot activity allows more solar radiation to escape the Sun and reach Earth, thus warming the planet
 - Higher sunspot activity pushes Earth's orbit further from the sun, thus cooling the planet
81. The Flat-topped seamounts are known as
- Submarine volcanoes
 - Guyots
 - Groynes
 - Terraces
82. A horizontal entry into an ore body is called
- Adit
 - Shaft
 - Bench
 - Pit
83. Which among the following is the most feebly magnetic among the following?
- Quartz
 - Rutile
 - Magnesite
 - Galena
84. According to the classification of ore reserves adopted by Geological Survey of India, the C2 category denotes
- Developed reserves
 - Proved reserves
 - Probable reserves
 - Possible reserves
85. The Mines Act was promulgated in
- 1950
 - 1952
 - 1957
 - 1964
86. The underground water that occurs within the zone of aeration is termed
- Plutonic water
 - Meteoric water
 - Vadose water

- d. Connate water
87. A dense mass of water drops on smoke or dust particles in the lower atmospheric layer constitute
- Fog
 - Mist
 - Frost
 - Blizzard
88. In Karst region the underground water flow is
- Laminar
 - Parallel
 - Turbulent
 - None of the above
89. An influent stream is one which
- Flows into a parent stream
 - Flows parallel to a consequent stream
 - Recharges the groundwater
 - Receives discharges from the groundwater
90. Perched water tables are commonly seen at
- Jaisalmer
 - Bokaro
 - Jabalpur
 - Kolaba
91. In case of diamond drilling, the core that is recovered in sticks longer than 10 cm is expressed as a percentage of the rock quality designation (RQD). High quality materials have RQD values greater than
- 0
 - 25
 - 50
 - 75
92. The Alluvial soils are deficient in
- Nitrogen
 - Humus
 - Phosphorus
 - All of the above
93. The type of dam preferred where the river section is wide and foundation is unsound
- Gravity dam
 - Burtress dam
 - Arch dam
 - Multiple arch dam

94. The Zawar Pb-Zn ore deposit of Rajasthan occur within the
- Delhi Group
 - Aravalli Supergroup
 - Marwar Supergroup
 - Banded Gneissic Complex
95. The _____ of a stream indicates its gradient throughout its length.
- Latitudinal profile
 - Longitudinal profile
 - Horizontal section
 - Cross valley profile
96. Depositional behaviour of Anastomosing river channel is
- Slow bank accretion
 - Side channel bar formation
 - Channel aggradation
 - Point bar formation
97. _____ is a topographically high area formed by a lobate accumulation of coarse material.
- Pools
 - Straight
 - Riffle
 - Graded reaches
98. Cold ice has a temperature below
- 0° C
 - 4° C
 - Melting point
 - Pressure melting point
99. The phrase 'cycle of erosion' is intimately connected with the name of
- William Morris Davis
 - William James Davis
 - William Rogan Davis
 - William Henry Davis
100. Storm water detention ponds are designed to
- Reduce downstream flooding
 - Improve land quality
 - Prevent downstream landslide problems
 - All of these