

PROVISIONAL ANSWER KEY

NAME OF THE POST: Assistant Professor Geology, Class II,

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Note:

- 1). All Suggestions are to be sent with reference to website published Question paper with Provisional Answer Key Only.
- 2). All Suggestions are to be sent in the given format only.
- 3). Candidate must ensure the above compliance.

101. Rock containing normative quartz and hypersthene is designated as

- | | |
|----------------------|-----------------------|
| (A) Quartz Tholeiite | (B) Olivine Tholeiite |
| (C) Alkaline | (D) Subalkaline |

102. The only impact Crater formed in basaltic rock is found in _____.
- (A) Indonesia (B) USA
(C) Siberia (D) India
103. The emplacement of an igneous intrusion in the carbonate rock would lead to the formation of _____.
- (A) Kyanite (B) Wollastonite
(C) Pegmatite (D) Anhydrite
104. Diamonds are associated with ultrapotassic-ultramafic rocks known as _____.
- (A) Basanite (B) Kimberlites
(C) Foidite (D) Nephelinite
105. Magmatic activity associated with divergent plate margin is characterized by the presence of _____.
- (A) CFB (B) OIB
(C) MORB (D) IAB
106. The mineral barkevikite is a soda _____.
- (A) Mica (B) Pyroxene
(C) Amphibole (D) Feldspar
107. Chromite mineralization associated with the ophiolitic suite of rocks near subduction zones are designated as _____.
- (A) Stratiform type (B) Layered type
(C) Podiform type (D) Stratabound
108. The molasse sediments forming an apron of gravely debris in the middle of Siwalik are referred as _____.
- (A) Bhabar (B) Duns
(C) Tillites (D) Moraine

109. The depositional pattern of iron formation when traced from the margin to central parts of a basin follows the order of _____.
- (A) Oxide – carbonate – sulphide facies
 - (B) Carbonate – oxide – sulphide facies
 - (C) Silicate – sulphide – carbonate facies
 - (D) Oxide – sulphide – silicate facies
110. A major diamictite horizon which is described as slump deposit of turbidite origin or glacio-marine deposit that indicates the incidence of Neoproterozoic glaciation in the lesser Himalaya is popularly known as
- (A) Blaini Boulder Bed
 - (B) Infrakrol
 - (C) Shali
 - (D) Buxa Group
111. Widmanstätten bands are commonly found in _____.
- (A) Chondrites
 - (B) Iron meteorites
 - (C) Relconditites
 - (D) Tectites
112. Blue schist metamorphism is characterized by the presence of mineral _____.
- (A) Glaucophanite
 - (B) Glauconite
 - (C) Grunerite
 - (D) Wollastonite
113. The _____ is called as the Age of Mammals.
- (A) Proterozoic
 - (B) Mesozoic
 - (C) Paleozoic
 - (D) Cenozoic
114. Which is calcium poor pyroxene found in volcanic rocks
- (A) Pigeonite
 - (B) Augite
 - (C) Diopside
 - (D) Hedenbergite
115. Hyalophane isomorphous series is between:
- (A) K - feldspar and Na feldspar
 - (B) K - feldspar and Ca feldspar
 - (C) K - feldspar and Ba feldspar
 - (D) Na - feldspar and Ca feldspar

- 116.** Andalusite and sillimanite crystallise in:
- (A) Monoclinic system (B) Triclinic system
 (C) Orthorhombic system (D) Hexagonal system
- 117.** Which of the following is a trace fossil?
- (A) mark left by a dinosaur's foot (B) mosquito trapped in amber
 (C) mummified plant seed (D) frozen woolly mammoth
- 118.** Match the following:
- | | | |
|----------------|-----|-----------------|
| 1. Muscovite. | i | Sodium mica. |
| 2. Paragonite. | ii | Magnesium mica. |
| 3. Lepidolite. | iii | Potassium mica. |
| 4. Phlogopite | iv | Lithium mica. |
- (A) 1-ii, 2-i, 3-iv, 4-iii. (B) 1-iii, 2-i, 3-iv, 4-ii.
 (C) 1-i, 2-ii, 3-iii, 4-iv. (D) 1-iv, 2-iii, 3-ii, 4-i.
- 119.** Groundwater subsidence or sagging is caused due to
- (A) loose soil
 (B) excessive pumping of ground water
 (C) sea water intrusion
 (D) addition of pollutants
- 120.** Corals are exclusively
- (A) marine and benthic (B) brackish and benthic
 (C) marine and pelagic (D) freshwater and neritic
- 121.** The three sedimentary rock types most frequently encountered in oil fields are _____, _____, and _____.
- (A) Shale, Sandstone, Carbonate (B) Slate, Phyllite, Argillite
 (C) Argillite, Mudstone, Siltstone (D) Siltstone, Argillite, Claystone

122. Which of the following testing techniques is commonly used to determine the hydraulic conductivity of a shallow, low-permeability aquifer using a single well?
- (A) Constant head test (B) Slug test
(C) Constant discharge test (D) Surge-response test
123. A dotted line on a geologic map indicates a(an):
- (A) igneous-metamorphic contact (B) facies change
(C) concealed contact (D) unconformable contact
124. Magnetic field is produced
- (A) when an electrically charged particle is in motion
(B) when atoms vibrate
(C) during atomic attractions
(D) by addition of electrons in the atomic structure
125. The largest variation in the earth's gravity field occurs due to
- (A) equatorial bulge (B) tidal attraction
(C) latitudes (D) centrifugal force
126. The Andes Mountain range over western margin of the South American Plate represents
- (A) Block mountains due to rifting of along Nazca plate
(B) Folded Mountain chain
(C) Island arc volcanism along Peru-Chile trench
(D) Collision due to Pacific plate
127. The San Andreas Fault separates which two tectonic plates?
- (A) North America and Juan de Fuca (B) Nazca and Pacific
(C) Eurasia and Arabia (D) North America and Pacific plate
128. The _____ of a fold is the line of maximum curvature in a fold.
- (A) axial plane (B) axial line
(C) hinge (D) plunge

129. Effect of stress in a rock is reflected as
(A) fracture in both brittle and ductile matters
(B) deformation in both brittle and ductile matters
(C) fracture in ductile matters and deformation in brittle matters
(D) fracture in brittle matters and deformation in ductile matters
130. An eye shaped doubly plunging structure can be explained as
(A) disharmonic fold (B) conjugate fold
(C) sheath fold (D) recumbent fold
131. A snowball garnet is an example of
(A) inter-kinematic mineral growth (B) syn-kinematic mineral growth
(C) post-kinematic mineral growth (D) pre-kinematic mineral growth
132. Both opx and cpx are expected to be present in _____ metamorphic facies condition.
(A) green-schist (B) amphibolite
(C) zeolite (D) granulite
133. Which is the correct order of different zones from low grade to high grade in Barrovian zonal scheme?
(A) Chl-Kya-Grt-Bio (B) Chl-Grt-Kya-Bio
(C) Chl-Bio-Grt-Kya (D) Kya-Chl-Grt-Bio
134. Tillite, turbidites and varves are characteristic of _____ Formation from Gondwana Super Group.
(A) Barakar (B) Kamthi
(C) Talchir (D) Maleri
135. In a structural basin, the youngest strata is found
(A) at the center of the basin
(B) on the margins of the basin
(C) half-way between the center and the margins of the basin
(D) beneath the older strata.

136. Which out of the following minerals is formed as a result of evaporation in the arid regions?
(A) Gypsum (B) Zinc
(C) Coal (D) Copper
137. Salt domes are the best examples of:
(A) diapiric fold. (B) reclined fold.
(C) drag fold. (D) pericline fold
138. Which is orthorhombic Epidote
(A) Zoisite (B) Clinozoisite
(C) Orthite (D) Piedmontite
139. A normal sand-dune is characterized by:
(A) steeper windward and gentle leeward sides.
(B) both the sides are gentle.
(C) both the sides are steeper.
(D) gentle windward and steeper Leeward sides.
140. The $\text{NaAlSi}_3\text{O}_8$ - $\text{CaAlSi}_3\text{O}_8$ system is an example of
(A) binary solid solution (B) binary eutectic
(C) binary peritectic (D) binary with congruent melting
141. Which state in India is the largest producer of manganese ores?
(A) Jharkhand (B) Madhya Pradesh
(C) Maharashtra (D) Odisha
142. In Cretaceous of Trichnapalli, the phosphate nodules are associated with.....
(A) Kallakudi limestone (B) Karai shales
(C) Kallamedu sandstone (D) Paravay sandstone
143. The difference between the polar to equatorial radius is _____
(A) 21 km (B) 42 km
(C) 63 km (D) 10 km

144. Solifluction is a _____ type of mass movement
(A) subsidence (B) slide
(C) rapid flow (D) slow flow
145. Feldspars are best suited geochronological minerals for _____.
(A) Rb-Sr dating (B) Pb-Pb dating
(C) U-Pb dating (D) C14 dating
146. ZTR index is indicator of _____.
(A) mobility of oxides (B) immaturity of sediments
(C) mineral stability (D) weathering
147. The circular reefs of which the central part is occupied by shallow lagoons are called:
(A) Fringing reefs (B) Atoll reefs
(C) Barrier reefs (D) Circular reefs
148. Klippe is a
(A) Nappe outlier (B) Nappe inlier
(C) Window (D) Hogback
149. The Bagh beds of Narmada valley and the Lametas of Jabalpur constitute
(A) Intertrappeans (B) Intra-trappeans
(C) Post-trappeans (D) Infratappeans
150. Following directly after the end of the last ice age, the Earth experienced a cool period referred to as:
(A) The Little Ice Age (B) The Younger Dryas
(C) The Pleistocene (D) The Eocene

151. Eustatic changes in sea level are the result of
(A) Ice sheet activity
(B) The amount of water in the oceans
(C) Adjustments in the Earth's crust
(D) The thermohaline oceanic circulation
152. In oceanic oxygen isotope data, higher O^{18} indicates _____.
(A) Warm temperatures (B) Cold temperatures
(C) Snow enriched in Oxygen 18 (D) Windy conditions
153. ^{14}C is used to
(A) date samples more than 100,000 yrs BP
(B) date samples more than 1 Ma yrs
(C) date samples between 1 Ma and 1.5 Ma
(D) date samples less than 50,000 yrs BP
154. Loess is
(A) glacially deposited sand (B) floodplain silts
(C) windblown silt deposits (D) desert sand deposits
155. Earth's temperatures are stable because we are surrounded by _____
which allows the right amount of sunlight to warm the Earth.
(A) a cloud layer (B) an atmosphere
(C) gravity (D) water
156. The solar radiation that bounces off the Earth back toward the atmosphere is
mostly
(A) gamma radiation (B) x-ray radiation
(C) nuclear radiation (D) infrared radiation
157. Contact goniometer is used for the measurement of
(A) symmetry elements of crystal (B) axial ratio of a crystal
(C) general symbol of a crystal (D) interfacial angle of a crystal

158. Jhiri shale are associated with :
- (A) Vindhyan (B) Aravalli
(C) Cuddapah (D) Kaladgi
159. Dinosaur skeletal remains in India are commonly found in
- (A) Bagh beds (B) Blaini Boulder bed
(C) Terani plant beds (D) Baratang Group
160. When ore minerals are peppered throughout the body of the host rock the type of deposit is called
- (A) Stratiform (B) Stratabound
(C) Veintype (D) Disseminated
161. Radial drainage patterns are normally associated with:
- (A) slopes of volcanoes (B) folded rocks
(C) faulted rocks (D) glaciers
162. Which one of the following feature is exhibited by a river in its upper course?
- (A) Meanders (B) River piracy
(C) Delta (D) Piedmont plains
163. The bedded sedimentary rocks that crystallize from hyper saline solutions such as brines or sea water are called :
- (A) Phosphorites (B) Evaporites
(C) Kerogen (D) Lignite
164. The cycle of opening and closing of the ocean basin is called:
- (A) Convection cycle (B) Hydrological cycle
(C) Wilson cycle (D) Orogenic cycle
165. The rocks in the overthrust sheets that have travelled many kilometers from their original plane of deposition are said to be :
- (A) Autochthonous (B) Allochthonous
(C) Nappe (D) Breakaway

166. Goethite is a :
(A) Hydrous Mn oxide (B) Hydrous Iron oxide
(C) Hydrous Iron carbonate (D) Hydrous Iron Sulphide
167. Neyveli Lignite belongs to:
(A) Quaternary (B) Tertiary
(C) Triassic (D) Jurassic
168. In Jurassic of Kutch, the Golden Oolite are associated with
(A) Jumara Formation (B) Bhuj Formation
(C) Jhuran Formation (D) Jhurio Formation
169. The Vail curve indicates _____
(A) Global climate chart (B) Global sea level changes
(C) Global plate tectonics (D) Global ocean currents
170. If a fault plane is inclined with an angle of 35° , then the head will be:
(A) 145° (B) 125°
(C) 55° (D) 45°
171. Mineral character of the skeleton of the echinoderms is primarily
(A) Chitin (B) Aragonite
(C) Calcite (D) Montmorillonite
172. Di-myrian condition in lamellibranchs refers to the presence of
(A) 2 adductor impressions (B) 1 adductor impression
(C) 2 adductor impressions (D) 2 adjacent impressions
173. Polyp and medusa are the terms associated with
(A) Trilobites (B) Bryozoans
(C) Corals (D) Ammonoids
174. Kyanite-staurolite schist represents
(A) a mafic protolith (B) a pelitic protolith
(C) a calcic protolith (D) an arenite protolith

175. Crystalline minerals refer to
(A) minerals occurring as well formed crystals
(B) minerals showing well developed cleavages
(C) minerals having regular internal atomic arrangements
(D) minerals not soluble in water
176. In an unconfined aquifer, the storativity is approximately equal to
(A) conductivity (B) specific yield
(C) intrinsic permeability (D) specific retention
177. Groundwater flow lines can be drawn on
(A) water table contour maps (B) depth to water level maps
(C) water level fluctuation maps (D) reduced water level maps
178. Metamorphic facies are defined by
(A) the conditions of temperature and pressure
(B) a single dominant rock type
(C) peculiar structures and textures of rock types
(D) critical mineral assemblages
179. The epicenter of a deep focus earthquake is located
(A) below a depth of 70 km (B) between 70-300km
(C) on the earth's surface (D) below 300km
180. Sea-floor spreading goes through various stages. Which of the sequences below currently places these locations in order so that the initial stage is depicted first followed by more advanced stages of development?
(A) Red Sea, Atlantic ocean, African rift valley
(B) Red Sea, African rift valley, Atlantic ocean
(C) Atlantic ocean, Red Sea, African rift valley
(D) African rift valley, Red Sea, Atlantic ocean

181. Fuel ratio of coal is defined as
(A) moisture/volatile matter
(B) fixed carbon/ volatile matter
(C) organic sulphur/ organic phosphorous
(D) pyritic sulphur/ sulphatic sulphur
182. Black shale containing pyrite is indicative of
(A) oxic condition (B) euxinic condition
(C) high energy condition (D) anoxic condition
183. In the earth brittle rocks become more and more ductile with increasing depth. If so, frequently occurring earthquakes are likely to have their focus at:
(A) deeper level (B) shallow level
(C) core-mantle boundary (D) transition zone
184. Uvalas are features of
(A) karst region (B) glacial region
(C) volcanic region (D) marine region
185. Glacial snout represents
(A) accumulation zone of glacier (B) terminal end of glacier
(C) ablation zone of glacier (D) discharge from the glacier
186. Partial melting of peridotite beneath the mid oceanic ridges is caused by
(A) frictional heating
(B) decompression
(C) high concentration of radioactive elements
(D) influx of water into the mantle
187. The Piper's Trilinear plot is used for studying
(A) hydrochemical facies of water samples
(B) metamorphic facies of rock samples
(C) discharge and drawdown relationship of a tubewell
(D) geochemical properties of sediments

188. The most abundant element by weight percent in the Earth's crust is?
(A) Silicon (B) Oxygen
(C) Carbon (D) Hydrogen
189. Which is the only active volcano in India?
(A) Narcondam (B) Koh-i-sultan
(C) Barren Island Volcano (D) Popa island
190. Komatiite are
(A) rocks of basaltic composition of Proterozoic age
(B) rocks of acidic composition of Archean age
(C) rocks of intermediate composition of Proterozoic age
(D) rocks of ultramafic composition of Archean age
191. Porphyritic texture indicates:
(A) very slow cooling of magma in plutonic conditions
(B) rapid cooling of magma as lava flows
(C) intermediate cooling in a dyke
(D) metamorphic process
192. Which of the following rocks is not a product of contact metamorphism?
(A) Spotted slates (B) Hornfels
(C) Skarns (D) Augen gneiss
193. The metamorphism involving the combined effect of uniform pressure and heat is described as
(A) Plutonic metamorphism (B) Dynamothermal
(C) Cataclastic metamorphism (D) Pyroclastic metamorphism
194. Which one of the following rocks is completely unfoliated?
(A) Slate (B) Schist
(C) Phyllite (D) Hornfels

195. Which of the following metamorphic facies is characterised by maximum temperatures and minimum pressures?
(A) Blueschist facies (B) Greenschist facies
(C) Sanidinite facies (D) Hornblende facies
196. The conversion : Eclogites -----→ Amphibolites is an example of
(A) Progressive regional metamorphism
(B) Retrograde metamorphism
(C) Autometamorphism
(D) Load metamorphism
197. Relicts of original minerals and textures found in metamorphic rocks are described as
(A) Palimpsest textures (B) Nematoblastic textures
(C) Lepidoblastic textures (D) Decussate textures
198. New seafloor is created at
(A) deep-sea trench (B) mid-ocean ridge
(C) subduction zone (D) transform fault
199. The descend of oceanic lithosphere into the mantle is the process of
(A) Accretion (B) Subduction
(C) Divergence zone (D) Contraction fault
200. A pinacoid is a form consisting of
(A) 1-face (B) 2-faces
(C) 3-faces (D) 4-faces
201. In a monoclinic crystal which has β -angle of 109° , the plane displaying the maximum extinction angle is
(A) (010) (B) (011)
(C) (100) (D) (001)

202. Aragonite and calcite have same chemical composition. These represent;
(A) Polytypism (B) Polymorphism
(C) Pseudomorphism (D) Isomorphism
203. Chlorite is a
(A) Inosilicate (B) Tectosilicate
(C) Phyllosilicate (D) Nesosilicate
204. Slickenside striations on a fault plane have a pitch of 90° . The fault is:
(A) a dip-slip fault (B) a strike-slip fault
(C) an oblique-slip fault (D) a transform fault
205. A sedimentary bedding dips 40° towards $N45^\circ W$. Its apparent dip towards $N10^\circ W$ will be around:
(A) 25° (B) 45°
(C) 60° (D) 80°
206. An unconformity surface separates sedimentary strata dipping 60° towards $N80^\circ E$ below the unconformity, and strata dipping 5° towards $N45^\circ E$ above it. The structure is called:
(A) disconformity (B) non-conformity
(C) angular unconformity (D) paraconformity
207. A fine powdery rock flour produced by abrasion and milling along a brittle fault surface is called:
(A) cataclasite (B) gouge
(C) conglomerate (D) breccia
208. If the distance between two points on a 1:25000 map is 1.5 cm then the real distance between these two points on the field will be:
(A) 37500 mm (B) 375 m
(C) 375 km (D) 3750 cm

209. The frequency of repetitive coverage in photogeology and remote sensing is known as
- (A) Spatial resolution (B) Spectral resolution
(C) Radiometric resolution (D) Temporal resolution
210. Which of the following is not a coastal landform
- (A) Barrier island (B) Spits
(C) Tombolos (D) Doline
211. A river developing on land surface before development of any structure is termed as
- (A) Superimposed river (B) Antecedent river
(C) Captured river (D) Diverted river
212. A dimensionless number that includes the effects of the flow characteristics, velocity and depth, and the fluid density and viscosity is called as
- (A) Reynolds number (B) Manning roughness coefficient
(C) Froude number (D) Viscosity Number
213. A cone shaped body that forms where a stream flowing out of mountains debouches on to a plain is known as
- (A) Mound (B) Playa
(C) Alluvial fan (D) Terrace
214. The record of an earthquake is known as
- (A) Seismograph (B) Seismometer
(C) Seismogram (D) Diffractogram
215. Extinction of trilobites is due to the fact that:
- (A) they failed to adaptively radiate
(B) they were eaten up by sharks
(C) the water became toxic
(D) they reached acme of evolution

216. Which of the following time intervals witnessed huge basaltic volcanism in India
(A) Cretaceous (B) Miocene
(C) Ordovician (D) Cambrian
217. The advent of animals with hard parts / skeleton occurred at
(A) Precambrian / Cambrian boundary
(B) Base of Cretaceous
(C) Base of Pliocene
(D) Base of Jurassic
218. Which of the following time intervals witnessed abundance of Dinosaurs
(A) Mesozoic (B) Cenozoic
(C) Paleozoic (D) Proterozoic
219. Banded Iron Formation of India is confined to
(A) Cretaceous (B) Miocene
(C) Precambrian (D) Ordovician
220. Which of the following fossils helped in reconstruction of “Gondwanaland”
(A) Glossopteris (B) Homo erectus
(C) Brachiopods (D) Phacops
221. Which one of the following geological formations contains diamondiferous conglomerates?
(A) Vindhayan Super Group (B) Siwalik Super Group
(C) Vaikrita Group (D) Karewa Formation
222. Which of the following channel pattern is a representative of very low energy system
(A) Meandering (B) Braided
(C) Anastomosing (D) Straight

223. Varve deposits are formed in
(A) Glacial environment (B) Aeolian environment
(C) Coastal environment (D) Fluvial environment
224. The slow downward movement of soil caused by gravity is known as
(A) A landslide (B) Physical weathering
(C) An avalanche (D) Hillside creep
225. A stream demonstrates regular, continuous flow only during the late spring and early summer of the year. Based on this information, a geologist would classify this stream as:
(A) perennial (B) dendritic
(C) intermittent (D) ephemeral
226. Rank these coals in order of quality (lowest to highest):
(A) bituminous - lignite - anthracite
(B) anthracite - lignite - bituminous
(C) lignite - anthracite - bituminous
(D) lignite - bituminous - anthracite
227. If the Earth's axis of rotation were not tilted, which one of the following statements would be true?
(A) equal day and night at all places throughout the year
(B) duration of day and night will depend on latitude but will not change with time
(C) the poles will have daylight for six months
(D) there will be no seasons
228. The angle between any line and its horizontal projection measured in a vertical plane is the _____ of the line
(A) Pitch (B) Plunge
(C) Dip (D) Dip and Strike

229. Mount Everest Limestone belongs to
(A) Ordovician (B) Silurian
(C) Devonian (D) Carboniferous
230. Syringothyris Cuspidata is the characteristic fossil of
(A) Silurian (B) Lower Devonian
(C) Lower Carboniferous (D) Upper Carboniferous
231. The Earth's magnetic field has undergone reversals in the past. The present field is named after
(A) Gauss (B) Brunhes
(C) Olduvai (D) Matuyama
232. The age of Muth quartzite is
(A) Silurian (B) Ordovician
(C) Devonian (D) Archean
233. Permian is represented in Spiti by
(A) Kanwar (B) Guling System
(C) Muth Quartzite (D) Agglomerate Shale
234. 'Ediacaran fossil's have significance in determining the
(A) Archean/Proterozoic boundary
(B) Permian / Triassic boundary
(C) Cretaceous / Tertiary boundary
(D) Precambrian / Cambrian boundary
235. In the Himalaya, rock layers often show fold structures, which have formed by buckling in response to
(A) layer-parallel shear forces (B) cross-layer compressive force
(C) layer-parallel compressive force (D) cross-layer gravity force

236. A local water table positioned above the regional water table is said to be:
(A) stranded (B) displaced
(C) perched (D) depressed
237. What is the relative humidity when the absolute humidity is 3 grams per cubic meter and the air has a capacity of 12 grams per cubic meter?
(A) 4% (B) 9%
(C) 25% (D) 400%
238. Which of the following gases are attributed to anthropogenic cause of global warming
(A) ozone and methane (B) nitrous oxide and sulfur dioxide
(C) methane and carbon dioxide (D) ozone and carbon monoxide
239. The present concentration of carbon dioxide in the atmosphere is in the range of:
(A) 1-10 parts per million (B) 10-100 parts per million
(C) 100-1000 parts per million (D) 1000-10,000 parts per million
240. We know that the OUTER core is liquid because:
(A) P waves pass through it (B) S waves pass through it
(C) P waves cannot pass through it (D) S waves cannot pass through it
241. A mineral crystallizing in isometric system has
(A) three optic axes (B) one optic axes
(C) infinite optic axes (D) two optic axes
242. A radioactive isotope having a half life of 10 million years is reduced to its quarter amount. What is the age of the rock?
(A) 2.5 million years (B) 20 million years
(C) 40 million years (D) 5 million years

243. Which is a common ore of uranium?
(A) Azurite (B) Celadonite
(C) Pitchblende (D) Cubanite
244. The concentration of heavy minerals by streams or wave action leading to an economic deposit results in a
A) Hydrothermal deposit (B) Placer deposit
(C) Skarn deposit (D) Stratiform deposit
245. The pathfinder element in the gold deposit is:
(A) Arsenic (B) Molybdenum
(C) Mercury (D) Silver
246. A reverse fault dipping less than 45 degrees is known as:
(A) Thrust (B) Overthrust
(C) Underthrust (D) Upthrust
247. The Gutenberg discontinuity lies between:
(A) Outer core and lower mantle (B) Lower mantle and upper mantle
(C) Outer core and inner core (D) Crust and upper mantle
248. According to Anderson's theory of faulting, the principal stress axis σ_1 (maximum compressive stress) should be horizontal during:
(A) strike-slip faulting (B) normal faulting
(C) reverse faulting (D) wrench faulting
249. To observe 0° declination, one must be positioned:
(A) away from a magnetic pole and on a line connecting both the magnetic and rotational poles
(B) anywhere along the Equator, facing either north or south, only
(C) anywhere along the Equator, facing either east or west, only
(D) at a rotational pole, facing in any direction

250. Mineralogically diorite is equivalent of
(A) basalt (B) granite
(C) gabbro (D) rhyolite
251. The deposition of suspended and dissolved material in a soil profile is referred as
(A) Eluviation (B) Illuviation
(C) Leaching (D) Enrichment
252. Last Glacial Maximum (LGM) occurred around
(A) 1 million years ago (B) 20,000 years ago
(C) 2 million years ago (D) 1600 years ago
253. Point bars are deposited:
(A) on the inside of stream meanders
(B) on the outside of stream meanders
(C) at the base of waterfalls
(D) in abrasion potholes
254. If the rate of relative sea level fall exceeds rate of subsidence on a shoreline it will result in
(A) wide shelf area (B) narrow shelf area
(C) high gradient shelf (D) low gradient shelf
255. Bar finger sands in a delta are
(A) poorly sorted sands found in delta plain
(B) well-sorted cross-stratified sands found in delta front
(C) massive sand associated with delta lobe
(D) well-sorted sand found in prodelta
256. A thin knife-like ridge of rock that separates two U-shaped glacial valleys is known as
(A) Drumlin (B) Doline
(C) Horn (D) Arete

257. Lowest geothermal gradient is observed at
 (A) Cratonic shields (B) Mobile belts
 (C) Subduction Zones (D) Mid-oceanic ridges
258. The value of Poisson's ratio lies between
 (A) -1 and -2 (B) -1/2 and +1
 (C) -1 and +1/2 (D) -1 and -1/2
259. A sand grain has a diameter of
 (A) 2-4 mm (B) 0.0625 - 2 mm
 (C) 0.0039 - 0.0625mm (D) > 4mm
260. This chemical reaction: $2\text{Fe}_2\text{SiO}_4 + 4\text{H}_2\text{O} + \text{O}_2 = 2\text{Fe}_2\text{O}_3 + 2\text{H}_4\text{SiO}_4$, is an example of:
 (A) dissolution (B) hydration
 (C) oxidation (D) reduction
261. Conodonts appeared for the first time in the geological record in
 (A) Paleocene (B) Triassic
 (C) Devonian (D) Ordovician
262. Which out of these is a planktonic microfossil
 (A) Lagena (B) Nummulite
 (C) Globigerina (D) Rotalia
263. The significance of paleomagnetism in plate tectonics stemmed from
 (A) one could measure depth of oceans
 (B) it illustrated sea-floor spreading
 (C) it contributed to the precise location of the North Pole
 (D) it explained ocean floor metamorphism
264. Convolute lamination is a
 (A) Sole mark (B) Bedding plane structure
 (C) Intrabed structure (D) Flame structure

265. Ductile deformation signifies
(A) High temperature
(B) High confining pressure
(C) Slow rate of deformation
(D) High temperature, high confining pressure and slow deformation
266. Bentonite is considered to have formed from
(A) weathering of granites
(B) weathering of gabbros
(C) Chemical weathering of volcanic ash
(D) Alteration product of calcareous rocks
267. Guano represent
(A) Argillaceous deposits
(B) Phosphatic deposits
(C) Ferruginous deposits
(D) Calcareous deposits
268. Absolute age of a dyke intruding into a sedimentary sequence is useful for
(A) Determining youngest possible age of the sedimentary rock
(B) Oldest possible age of the sedimentary rock
(C) Age of the next overlying stratum
(D) Absolute age of the sedimentary rock
269. In plate tectonics terms, the San Andreas Fault is a
(A) Subduction Zone
(B) Divergent plate boundary
(C) Obduction zone
(D) Transform fault plate boundary
270. Magmas related to the island-arc volcanoes
(A) Are located where they are as a result of magma generation in the Benioff Zone
(B) Occurs in thousands of kilometer wide zones
(C) Could not be from Benioff Zone as indicated by geochemical studies
(D) Rise along transform faults
271. Ambadongar carbonatite complex in India is famous for _____.
(A) Fluorite
(B) Fullerene
(C) Graphite
(D) Monazite

272. Cassiterite is the oxide ore mineral of _____.
- (A) Tin (B) Tungsten
(C) Tantalum (D) Zinc
273. The oldest rocks in the Singhbhum – Orissa – Iron – Ore – Craton are designated as _____.
- (A) Ancient Supracrustals (B) OMTG
(C) OMG (D) BIF
274. Which one of the following minerals shows parallel extinction?
- (A) Augite (B) Hypersthene
(C) Diopside (D) Hornblende
275. Emerald is a pale green variety of
- (A) Topaz (B) Zircon.
(C) Beryl (D) Tourmaline
276. Which one of the following minerals dissolves into soluble ions without residue?
- (A) kaolinite (B) pyrite
(C) selenite (D) orthoclase
277. Which amongst following is not the inner planet of our solar system
- (A) Mars (B) Mercury
(C) Saturn (D) Venus
278. Nilgiri Hills near Madras are composed of
- (A) Khodurite (B) Charnokites
(C) Anorthosites (D) Khondalites
279. The only place where the active mid-oceanic ridge is exposed over the surface above sea level is:
- (A) Hawaii (B) Iceland
(C) Newzealand (D) Japan

280. The island of Iceland is a unique example where _____ coexist.
(A) MOR and hotspot (B) Island arc and hotspot
(C) Oceanic trench and MOR (D) Island arc and OIB
281. Transform faults are _____ in nature.
(A) Normal (B) Reverse
(C) Strike slip (D) Oblique slip
282. Addition of artificial or natural substances, such as nitrates and phosphates to water bodies is called _____.
(A) Hypoxia (B) Eutrophication
(C) Anoxia (D) Algal bloom
283. What type of structure results from the parallel alignment of abundant, coarse-grained, mica flakes in a metamorphic rock?
(A) schistosity (B) gneissic banding
(C) slaty cleavage (D) phyllitic structure
284. According to Bowen's experiments, the first mineral to crystallize from a melt at 1200°C is
(A) Quartz (B) Olivine
(C) Amphibole (D) Mica
285. Which of the following silicate minerals are most resistant to chemical weathering?
(A) Quartz (B) olivine
(C) hornblende (D) potassium feldspar
286. Which one of the following mineral shows strong pleochroism?
(A) Quartz (B) Muscovite
(C) Orthoclase (D) Hornblende

287. As per the BIS for Drinking water, the desirable limit for TDS is _____
(A) 300 mg/l (B) 75 mg/l
(C) 750 mg/l (D) 0.01 mg/l
288. For undisturbed, horizontal strata of sedimentary rocks, their age
(A) increases from top to bottom
(B) decreases from top to bottom
(C) can be determined from their color
(D) is the same
289. Two sets of related folds whose axial surfaces are inclined towards one another are called:
(A) Parallel folds (B) Similar folds
(C) Conjugate folds (D) Complex folds
290. A manganese-quartz-garnet-sillimanite-graphite rock is popularly called _____.
(A) Gondite (B) Khondalite
(C) Granulite (D) Charnokite
291. High pressure polymorph of quartz is _____.
(A) Coesite (B) Trydimite
(C) Alpha quartz (D) Crystobalite
292. The average thickness of the continental crust is about
(A) 35-40 km (B) 100-200 km
(C) 1000-2000 km (D) 5-10 km
293. An impermeable geologic formation that neither contains nor transmits water is called
(A) aquifer (B) aquiclude
(C) aquifuge (D) aquitard

294. Texture that consists of crystals that cannot be seen by the eye or with hand lens is called _____.
- (A) Porphyritic (B) Aphanitic
(C) Phanitic (D) Poikilitic
295. The Krol-Tal sequence of the Himalaya represents :
- (A) Cretaceous-Tertiary boundary
(B) Permo-Triassic boundary
(C) Precambrian-Cambrian boundary
(D) Jurassic-Cretaceous boundary
296. The crystal system rendering isotropism is:
- (A) Tetragonal (B) Hexagonal
(C) Orthorhombic (D) Cubic
297. The youngest mountain chain in the world is
- (A) Aravalli (B) Himalaya
(C) Andes (D) Rocky
298. Polished and striated surfaces that result from friction along the fault plane are referred as :
- (A) Boudinage (B) Mylonites
(C) Slickensides (D) Landslides
299. Suture zones' are produced by:
- (A) Continental sliding (B) Oceanic rifting
(C) Continental collision (D) Oceanic collision
300. Siderite is an
- (A) Iron sulphide (B) Iron carbonate
(C) Iron Silicate (D) Iron Oxide