17211 120 MINUTES

| 1. | What is the mean density of the continental crust? | | | | | | | | | | |
|----|--|--|-----------------------------------|--|--|--|--|--|--|--|--|
| | A) | 2.5 g/cc | B) | 2.7 g/cc | | | | | | | |
| | C) | 3.1 g/cc | D) | 3.3 g/cc | | | | | | | |
| 2. | | phase is inferred to be typical boundary? | lly occu | arring in the D-layer just above the core- | | | | | | | |
| | A) | Diamond | B) | Stishovite | | | | | | | |
| | C) | Perovskite | Ď) | Post-perovskite | | | | | | | |
| 3. | What t | type of feature is the 'Allah Bu | and' of | Gujarat? | | | | | | | |
| | A) | Fault scarp | B) | Fault-line scarp | | | | | | | |
| | C) | Triangular facet | D) | Alluvial fan | | | | | | | |
| 4. | Which A) B) C) D) | of the following is the correct Burdigalian – Danian – Turo Turonian – Cenomanian - Al Danian - Burdigalian - Turon Albian - Burdigalian - Dania | nian – (bian - B iian - Ce | Burdigalian - Danian enomanian - Albian | | | | | | | |
| 5. | | is the age of the Gorur gneiss? | | | | | | | | | |
| | A) | 2.8 - 3.0 Ga | B) | $3.0 - 3.2 \mathrm{Ga}$ | | | | | | | |
| | C) | 3.2 – 3.3 Ga | D) | 3.4 – 3.5 Ga | | | | | | | |
| 6. | Which | is the predominant rock unit | in the S | | | | | | | | |
| | A) | Amphibolites | B) | Ultramafic rocks | | | | | | | |
| | C) | Metapelites | D) | Banded Iron formations | | | | | | | |
| 7. | Which | sediments are exposed along | the Pra | nhita-Godavari Basin? | | | | | | | |
| | A) | Paleozoic and Mesozoic | B) | Mesozoic and Cenozoic | | | | | | | |
| | C) | Proterozoic to Cenozoic | D) | Gondwana and Mesozoic | | | | | | | |
| 8. | What i | is the age of the sediments in t | he Saba | ıri Basin? | | | | | | | |
| | A) | Paleozoic | B) | Proterozoic | | | | | | | |
| | C) | Gondwana | D) | Mesozoic | | | | | | | |
| 9. | order (A) B) C) | of decreasing age ? Pulivendla – Gulcheru – Nag Nagari - Bairenkonda - Gulcl Gulcheru – Pulivendla – Bair | ari – Ba neru - P renkond | ulivendla - Srisailam la – Nagari - Srisailam | | | | | | | |
| | D) | Gulcheru – Pulivendla – Nag | arı – Ba | airenkonda - Srisaiiam | | | | | | | |

10. Match the following earthquakes with their magnitudes:

| Earthquake | Magnitude |
|--------------------|-----------|
| 1. Koyna (1967) | a. 5.7 |
| 2. Idukki (1989) | b. 5.8 |
| 3. Jabalpur (1987) | c. 6.2 |
| 4. Latur (1993) | d. 6.3 |
| 5. Nepal (2016) | e. 7.8 |

- A) 1-a; 2-b; 3-c; 4-d; 5-e B) 1-e; 2-d; 3-c; 4-b; 5-a
- C) 1-c; 2-b; 3-a; 4-d; 5-e D) 1-c; 2-a; 3-b; 4-d; 5-e
- 11. Which of the following is the correct arrangement of formations of the Gondwana succession in the order of increasing geological age?
 - A) Panchet Karharbari Raniganj Barren Measures Barakar
 - B) Barren Measures Barakar Karharbari Panchet Raniganj
 - C) Panchet Raniganj Barren Measures Barakar Karharbari
 - D) Raniganj Barren Measures Barakar Panchet Karharbari
- 12. Which of the following is the correct arrangement of fossils in the order of increasing body size?
 - $A) \qquad Globigerina-Nautilus-Physa-Trachodon-Stegodon \\$
 - B) Physa Globigerina Nautilus Trachodon Stegodon
 - C) Globigerina Physa Nautilus Trachodon Stegodon
 - D) Globigerina Physa Nautilus Stegodon Trachodon
- 13. Which of the Mesozoic animals continue to exist in the modern seas?
 - A) Nautilus

B) Goniatites

C) Ammonites

- D) Ceratites
- 14. Which of the following is the correct arrangement of formations of the Vindhyan Supergroup in the order of decreasing age?
 - A) Suket Shale Sasram Sandstone Panna Shale Sirbu Shale
 - B) Sasram Sandstone Suket Shale Panna Shale Sirbu Shale
 - C) Suket Shale Panna Shale Sasram Sandstone Sirbu Shale
 - D) Suket Shale Panna Shale Sirbu Shale Sasram Sandstone
- 15. Which is the correct order of dinosaur genera arranged according to their decreasing Geological age?
 - A) Thecodonts Quadropeds Sauropods Saurischians
 - B) Thecodonts Saurischians Sauropods Quadropeds
 - C) Quadropeds Saurischians Thecodonts Sauropods
 - D) Thecodonts Sauropods Quadropeds Saurischians

- 16. With which of the following, the terms 'red boles' and 'green boles' are associated?
 - A) Vindhyans

- B) Gondwanas
- C) Deccan traps
- D) Lametas
- 17. Which of the following is the correct arrangement of formations of the Cretaceous succession of Trichy in the order of increasing age?
 - A) Kulakkanattam Sillakudi Ottakovil Kallankurichi Kallamedu Niniyur
 - B) Kulakkanattam Sillakudi Kallankurichi Ottakovil Kallamedu Niniyur
 - C) Kallankurichi Kulakkanattam Sillakudi Ottakovil Kallamedu Niniyur
 - D) Sillakudi Kulakkanattam Kallankurichi Ottakovil Kallamedu Niniyur
- 18. Which is the correct sequence of seismic discontinuities as per the increasing depth from the Earth's surface?
 - A) Mohorovicic Conrad Lehman Gutenberg
 - B) Conrad Mohorovicic –Gutenberg Lehman
 - C) Conrad Lehman Mohorovicic –Gutenberg
 - D) Conrad Mohorovicic –Lehman Gutenberg
- 19. Which of the following is the correct arrangement of formations of the Deccan Traps in the order of increasing geological age ?
 - A) Ratangad Indrayani Karla Mahabaleshwar
 - B) Karla Ratangad Indrayani Mahabaleshwar
 - C) Mahabaleshwar Ratangad Indrayani-Karla
 - D) Ratangad Karla Indrayani Mahabaleshwar
- 20. Match the igneous rocks in *Group I* with their corresponding type in *Group II*.

| Group I | Group II |
|---------------|-----------------|
| P. Websterite | 1. Felsic |
| Q. Alaskite | 2. Mafic |
| R. Dolerite | 3. Intermediate |
| S. Diorite | 4. Ultramafic |

- A) P-4, Q-2,R-3, S-1
- B) P-4, Q-1, R-2, S-3
- C) P-4, Q-2, R-1, S-3
- D) P-3, Q-1, R-2, S-4
- 21. Which of the following is the correct order of primates in the decreasing geological age?
 - A) Sivapithecus-Ramapithecus-Australopithecus-Gigantopithecus
 - B) Sivapithecus-Ramapithecus-Gigantopithecus -Australopithecus
 - C) Australopithecus-Gigantopithecus-Sivapithecus-Ramapithecus
 - D) Sivapithecus-Gigantopithecus -Ramapithecus-Australopithecus

| P. Fora Q. Col R. Tur | aminifera umnaria bo | Group II 1. Arthropoda 2. Mollusca 3. Anthozoa 4. Protozoa | 1 | |
|-----------------------------|--|--|--|---|
| A) C) | P-4, Q-2,R-3, S-1 P-4, Q-2, R-1, S-3 | B) D) | P-4, Q-3, R-2, S-1 P-3, Q-1, R-2, S-4 | |
| | ance on the Earth? Paradoxides – Placod Placoderm – Paradox Paradoxides – Placod | erm – Ammon ides – Ammon erm – Papio - | ite - Papio ite - Papio Ammonite | neir first |
| | _ | • | s that the brittle strength of a Griffith's theory Coulomb criteria | rock is |
| What of A) B) C) D) | Kinematic indicators Slickensides | - | | |
| What i A) C) | Converge towards inn | ner arc B) | folds? Diverge towards inner arc Normal to the axial trace | |
| Which A) | of the following rocks Mylonite B) | s commonly she Schist | ow pencil cleavage? C) Sandstone D) | Shale |
| Where A) C) | Extensional regime | B) | Transpressional regime Ductile shear zones | |
| P. Pha Q. Tur R. Bel | roup I acops rilites derophon esupites P-1, Q-2, R-3, S-4 | Gro 1. Crir 2. Am 3. Gas 4. Cru 4 B) | noidea monoidea stacea | |
| | P. Fora Q. Col R. Tur S. Oler S. March S. March S. March A. A. A. A. A. A. | Which of the following is the appearance on the Earth? A) Paradoxides – Placod B) Placoderm – Paradox C) Paradoxides – Placod D) Paradoxides – Papio - Which of the following criter controlled by microfractures A) Mohr criteria C) Anderson theory What data is used to arrive at A) Kinematic indicators B) Slickensides C) P and S wave data fro D) GPS data What is the nature of dip-isog A) Converge towards inf C) Parallel to the axial tr Which of the following rocks A) Mylonite B) Where do you find domino so A) Extensional regime C) Compressional regime C) Compressional regime C) Turrilites R. Bellerophon S. Marsupites A) P-1, Q-2, R-3, S-2 | P. Foraminifera Q. Columnaria Q. Columnaria Q. Columnaria R. Turbo S. Olenus A) P-4, Q-2,R-3, S-1 C) P-4, Q-2, R-1, S-3 D) Which of the following is the correct order appearance on the Earth? A) Paradoxides – Placoderm – Ammon B) Placoderm – Paradoxides – Ammon C) Paradoxides – Placoderm – Papio – D) Paradoxides – Placoderm – Papio – D) Paradoxides – Papio - Ammonite - F Which of the following criteria/theory states controlled by microfractures present in it? A) Mohr criteria B) C) Anderson theory D) What data is used to arrive at fault-plane soft A) Kinematic indicators B) Slickensides C) P and S wave data from seismic states D) GPS data What is the nature of dip-isogons in similar A) Converge towards inner arc B) C) Parallel to the axial trace D) Which of the following rocks commonly shand) Mylonite B) Schist Where do you find domino system faults? A) Extensional regime B) C) Compressional regime D) Match the fossils in Group I with the correct Group I Compressional regime D) Match the fossils in Group I with the correct Group I Compressional regime C) Compressional regime D) Match the fossils in Group I with the correct Group I Compressional regime D) Match the fossils in Group I with the correct Group I Compressional regime D) Match the fossils in Group I Compressional regime D) Match the fossils in Group I Compressional regime D) Match the fossils in Group I Compressional regime D) | P. Foraminifera Q. Columnaria |

| 30. | Gro P. Dio Q. Aug | <i>up I</i> pside gite calcic Aug | | | oup I with their range in Wollastonite contents i Group II 1) 5-15 2) 15-25 3) 25-45 4) 45-50 | | | | | | | oup II. |
|-----|--|--|-------------------------------|------------------------------|--|-----------------------------|------------------------------------|-------------------------------|----------------|----------------|--------------------|---------|
| | A) C) | P-1, Q-2, P-4, Q-2, | | | | , | P-4, 0 P-3, 0 | - | , | | | |
| 31. | Ruti Sylv Bari | vite te erate | a. b. c. d. | Oxio Hali Sulp Carl | de de | | their co | rrespo | nding cl | nemical ; | groups: | |
| | A) C) | 1-a; 2-b; 1-c; 2-a; | | | | | | | | | | |
| 32. | Which content A) B) C) D) | of the foll t? Fayalite - Hortonoli Fayalite - Fayalite - | Horton te – Fay Hyalon | nolite yalite sideri | – Hya - Hya te - Ho | loside loside ortonol | rite - Ch rite - Ch ite – Ch | nrysoli nrysoli nrysoli | te te te | as per i | ncreasing | g Mg |
| 33. | With v A) B) C) D) | which of th Ultramafi Diorites a Granites a Metamor | c rocks nd gran and peg | and I odior matit | Komati ites es | | eralizati | on is a | ssociate | ed? | | |
| 34. | What i | s the minii 40 km | num de B) | - | f origiı 140 kr | | red for i | igneou 240 | | that con D) | tain dian 340 k | |
| 35. | Which A) C) | State in Ir Odisha Chhattisg | | cassi | terite o | deposit B) D) | | Benga hand | al | | | |
| 36. | What i A) C) | s the age in 3.4 – 2.48 5.4 – 4.48 | 3 | the r | nagnet | ic pola B) D) | 4.4 – 6.4 – | 3.48 | auss'? | | | |
| 37. | Which A) C) | geomorph Isostasy Knick po | | - | propo | sed to B) D) | Davis | the or sian co pen co | ncept | piedmon | nt bench | lands? |

| 38. | 1. Ea 2. D 3. G 4. W | on the following astern Ghats eccan odavari Vestern Ghats uddapah | g major g | a. M b. Co c. Po d. In | a. Mobile Belt b. Continental Flood basalt Province c. Post-rift escarpment d. Intracratonic rift graben e. Proterozoic intracartonic basin | | | | | | |
|-----|---|---|---------------------------------|---------------------------------|---|---|---|-----------------|---------------------|--|--|
| | A) C) | 1-a; 2-b; 3 1-c; 2-a; 3 | | * | B) D) | | 2-b; 3-c; 4- 2-b; 3-d; 4 | | | | |
| 39. | When A) | re does the mir Midway bet Midway bet | ween C a | and F | - | Midw | CF diagram? vay between a corner | | | | |
| 40. | What A) | t is the age (in 13.8 | billions (B) | of years) 15.8 |) of the | univers C) | se as per the 1 18.8 | Big Bang I | hypothesis? 21.8 | | |
| 41. | | ch of the follow surface mater carbon | | e most s | | cant find | ing of the Ch | nandrayan D) | -1 on the sulphur | | |
| 42. | What A) | t is the mean te 14 ° C | emperatu B) | re of the 17° C | | surface C) | water? 21 ° C | D) | 24 ° C | | |
| 43. | To w A) C) | which of the cla Wave domina Tide domina | nated | a the G | anges- B) D) | Fluvia | n be grouped al dominated dominated | | | | |
| 44. | When A) | re is the 'Olym Siberia | pus Mon B) | s' volca Alask | | ated? C) | Moon | D) | Mars | | |
| 45. | Which minerals constituents are fourA) Ilmenite and titaniteC) Sulpide and oxide minerals | | | | | found in the chondrules of meteorites? B) Magnetite and ilmenite als D) Olivine and pyroxene | | | | | |
| 46. | Grou P. Sta Q. Pe R. At | pes in <i>Group I</i> . In I andard Mean C ee Dee Belemn tmospheric Air anyon Diablo M | I. Ocean Wa ite (PDB Meteorite | ater (SM | | Group II 1. S isotopes 2. N isotopes 3. C and O isotopes 4. O and H isotopes | | | | | |
| | A) C) | P-4, Q-3, R- P-4, Q-2, R- | | | B) D) | | Q-2,R-3, S-1 Q-1, R-2, S-4 | <u>.</u> | | | |

| 47. | accor 1. Ex 2. Te 3. Co 4. In 5. In | nge the following dance with the clusive Economic rritorial waters ntiguous Zone ternal waters ternational wat | ir proxii nic Zon | mity to the | he land | l. | - | e Law of | <i>the Sea</i> in | |
|-----|--|--|----------------------|----------------------|--------------------------|---|--------------------------------|---------------|-------------------|--|
| | A) C) | | | | B) D) | 2-3-1 4-2-3 | | | | |
| 48. | Gr P. Vo Q. Er R. Es | h the indicator oup I ola calaminaria iogonum ovalit chscholtzia me uisetum arvens | folium xicana | in <i>Group</i> | 1. Go 2. Sil 3. Co | the corresponding metal in <i>Group II</i> . Group II 1. Gold 2. Silver 3. Copper 4. Zinc | | | | |
| | A) C) | P-1, Q-2,R-3 P-4, Q-2, R- | | | B) D) | | Q-2, R-3, S-1 Q-1, R-2, S-4 | | | |
| 49. | Whic A) | h is the largest Pluto | among B) | the dwar Ceres | - | ets of th C) | ne Solar Systen Haumea | n? D) | Eris | |
| 50. | What A) | is the length o 380 km | f the co | ast line o 480 kı | | la? C) | 580 km | D) | 680 km | |
| 51. | What A) | is the permitte $5.5 - 7.5$ | - | nge of d 6.5 - 9 | _ | | - | standar D) | d? 7.5 - 8.5 | |
| 52. | Whic | h region of the | EM-spe | ectra the | therma | al infra | red remote sens | sing nor | mally | |
| | A) | 8 -14 μm | B) | 6 -10 | μm | C) | 10- 18 μm | D) | 12 - 24 μm | |
| 53. | Earth EX - MS - ST - TH - | nge the following a surface. Exosphere Mesosphere Stratosphere Thermosphere Troposphere | ng layer | s of the | atmosp | here ac | ecording to the | distance | from the | |
| | A) C) | TR-TH-TS-N TR-MS-ST-I | | | B) D) | | ST-MS-TH-EX FR-ST-MS-EX | | | |

| 54. | of Tric | chy in <i>Group II</i> . oup I atilus ogyra ysa | I with their occurrence in the formations of Cretaceo Group II 1. Uttatur 2. Trichinopoly 3. Ariyalur 4. Ninimum | | | | | | | |
|-----|--|---|---|--|--|--|--|--|--|--|
| | A) C) | P-1, Q-2, R-3, S-4 P-4, Q-2, R-1, S-3 | 4. Niniyur B) D) | | | | | | | |
| 55. | ŕ | | ecuted for the | disposal of high-level nuclear waste? In deep ocean By recycling | | | | | | |
| 56. | In whi A) C) | ch cratons the Phulad E Singhbhum Bundelkhand | Lineament occ B) D) | eurs? Bastar Aravalli | | | | | | |
| 57. | Ace Vis. Cho Hip Nes | eratherium hnutherium ormohipparion pohyus sokia 1-a; 2-b; 3-c; 4-d; | a. Suidae b. Giraffidae c. Rhinocero d. Equidae e. Rodentia | 1-c; 2-a; 3-d; 4-b; 5-e | | | | | | |
| 58. | C) Which A) C) | 1-c; 2-b; 3-d; 4-a; n of the following schis Shimoga Bababudan | , | | | | | | | |
| 59. | P. Lar Q. Ka R. Utt S. Got A) | nup I neta Isubai atur ndwana P-1, Q-2,R-3, S-4 | Group II 1. Supergrou 2. Group 3. Subgroup 4. Formation B) | P-4, Q-3, R-2, S-1 | | | | | | |
| 60. | C) Which A) B) | Picrobasalt – Trachyl | oasalt - Basalti | P-3, Q-4, R-2, S-1 s arranged in terms of increasing silica content? c andesite - Dacite - Rhyolite c andesite - Dacite - Rhyolite | | | | | | |

 $Basaltic\ andesite\ \hbox{-}\ Trachybasalt\ \hbox{-}\ Picrobasalt\ \hbox{-}\ Dacite\ \hbox{-}\ Rhyolite$

Trachybasalt - Picrobasalt - Basaltic andesite - Rhyolite - Dacite

C)

D)

| 61. | Which A) B) C) D) | h of the following int Quartz in plagiocla Quartz in alkali felo Alkali feldspar in p Plagioclase in alkal | se dspar lagioclas | e | ed <i>grapl</i> | nic texture'! | | | | | | |
|-----|--|--|--------------------------------------|--|---|--|-----------------|-----------------|--|--|--|--|
| 62. | Who A) | coined the name 'late C.S. Fox B) | | the wear Fermor | | naterial of Kera T.S.Holland | ala? D) | F.H. Buchanan | | | | |
| 63. | Group Super P. Dh Q. C R. C S. Vin | n the Supergroups of ps on the right. rgroup arwar hattisgarh uddapah ndhyan P-4, Q-2,R-3, S-1 | <i>Grow</i> 1. Kai 2. Chi 3. Rai | imur imur itravadi ipur abudan B) | P-3, Q | -4, R-1, S-2 | e corres | sponding | | | | |
| | C) | P-3, Q-2, R-1, S-4 | | D) | P-4, Q | -3, R-2, S-1 | | | | | | |
| 64. | Which A) C) | h of the following is t High charge/radius High ionic radius | | cteristic B) D) | Low c | of HFSE? harge/radius ra onic charge | ntio | | | | | |
| 65. | Which A) B) C) D) | h is the correct order Trachybasalt – Bas Basalt – Trachybas Trachybasalt - Basa Basalt - Trachybas | alt – Pho alt - Phor alt – Pho | notephr notephri nolite - | ite - Pho ite - Pho - Phonot | onolite nolite ephrite | i conte | nt? | | | | |
| 66. | What would be the composition of the first formed crystal from a melt of An ₅₀ -Ab ₅₀ composition? | | | | | | | | | | | |
| | A) 1 | An_{50} - Ab_{50} | | B) | An_{80} -A | Ab_{20} | | | | | | |
| | C) | An_{30} - Ab_{70} | | D) | An ₆₀ -A | Ab_{40} | | | | | | |
| 67. | Whic A) B) C) D) | h of the following rep Albite – Anorthite Albite – Anorthite Albite – Orthoclase Quartz – Alkali-fel | - Orthock - Quartz e - Quartz | ase | | Residua Systen | n of Tu | ttle and Bowen? | | | | |
| 68. | 1. De 2. Ka 3. Co | n the basaltic province oup I ccan Traps roo Province lumbia River Plateau perian Traps 1-a, 2-b, 3-c, 4-d | | up I wit | Groupa. 16 Nb. 66 Nc. 183d. 249 | Ma Ma Ma Ma | ge in <i>Gr</i> | roup II. | | | | |
| | C) | 1-b 2-a 3-c 4-d | | D) | | c, 3-d, 4-a | | | | | | |

| 69. | Match the Paleozoic fossils in Group <i>I</i> 1. Fenestella 2. Deltopectin 3. Productus 4. Spirifer | | | | | | In p I with the Formations in which they occur in Group II a. Zewan Formation b. Takche Formation c. Agglomeratic Slate d. Yamne Formation | | | | | | | |
|--------------|---|------------------------|---|---------|-----------------|----------------|--|--------------|---------|---------|------------|-------------|----|--|
| | A) | 1-a, 2-b, 3- | | | | B) | | | | | | | | |
| | C) | 1-b, 2-a, 3- | c, 4-a | | | D) | 1-b, . | 2-c, 3- | a, 4-8 | a | | | | |
| 70. | Match equiva | the followir lent: | ng Siw | valik (| Groups | s/Forma | tions v | with th | neir co | orresp | onding | g Europea | ın | |
| | | k Group/For | matio | on | | Standa | | - | n unii | ts | | | | |
| | Pinj Tatr | | a. Tortb. Asti | | | | | | | | | | | |
| | 2. Tau 3. Nag | | | | | c. Villa | | hian | | | | | | |
| | 4. Chi | d. Sarı | | | | | | | | | | | | |
| | 5. Mur | ee | | | | e. Burdigalian | | | | | | | | |
| | A) C) | 1-a; 2-b; 1-c; 2-b; | | | | B) D) | | 2-a; 2-e; | | | | | | |
| 71. | Which | of the follo | wing | corre | e n onde | to 'whi | te sch | icte'? | | | | | | |
| /1. | A) | Sillimanite | _ | | sponds | B) | | | aring | mono | ominer | alic rock | | |
| | C) | Muscovite- | quart | zite | | Ď) | | basalt | _ | | | | | |
| 72. | Which | of the follo | wing l | has th | e high | est grair | n-size' | ? | | | | | | |
| | A) | Mylonite | | | | B) | | mylor | | | | | | |
| | C) | Blastomylo | nite | | | D) | Proto | omyloi | nite | | | | | |
| 73. | | one among diagram? | the fo | llowi | ng mir | nerals pl | | • | | erent 1 | from of | thers in th | e | |
| | A) | Biotite | | | | B) | | ophyl | lite | | | | | |
| | C) | Commingto | onite | | D) Talc | | | | | | | | | |
| 74. | | s the mean t | | _ | | ent (TO | | | hale? | | D) | 2.0 | | |
| | A) | 0.8 | В |) | 1.8 | | C) | 2.8 | | | D) | 3.8 | | |
| 75. | What i | s the princip | al dif | feren | ce betv | veen sha | ale and | d muds | stone | ? | | | | |
| | A) | B) Mineralogy | | | | | | | | | | | | |
| C) Structure | | | | | | D) | Graii | n-size | | | | | | |
| | | | | | | | | | | | | | | |

| 76. | | n the Indian ma Oup I | igmatic | expressi | ions in <i>Group I</i> with their type in <i>Group II</i> . Group II | | | | | | | | |
|-----|--|---|-----------|------------|---|------------|-----------------|------------|--------------|--|--|--|--|
| | P. De | ccan Traps | | | 1. Ring complex | | | | | | | | |
| | | hampundi | | | 2. Ac | tive vol | canoes | | | | | | |
| | | rcondom-Barre | en Islan | ds | | | JM complex | | | | | | |
| | S. Gir | nar Hills | | | 4. CFB province | | | | | | | | |
| | A) | P-1, Q-2,R-3 | | | B) P-3, Q-1, R-2, S-4 | | | | | | | | |
| | C) | P-4, Q-2, R-1 | 1, S-3 | | D) | P-4, (| Q-3, R-2, S-1 | | | | | | |
| 77. | What type of sediments are seen in Paludal environment? | | | | | | | | | | | | |
| | A) Coarse grained detritals P) Organia and imparts right in shall fragments | | | | | | | | | | | | |
| | | B) Organic sediments rich in shell fragments | | | | | | | | | | | |
| | C) | Heavy minerals and placers Mixed mud and organic matter | | | | | | | | | | | |
| | D) | Mixed mud a | ına orga | ınıc mau | ler | | | | | | | | |
| 78. | | n land-mass wa wanaland ? | as adjoir | ning the | Easter | n Contii | nental margin o | of India | in the | | | | |
| | A) | Australia | | | B) | Mada | gascar | | | | | | |
| | C) | Antarctica | | | D) | South | n Africa | | | | | | |
| 79. | Which | n mineral is co | mmonly | analyze | ed for l | EPMA ł | ased chemical | dating? | | | | | |
| | A) | Monazite | B) | Zircon | 1 | C) | Apatite | D) | Garnet | | | | |
| 80. | | | | | | | seen in large a | | | | | | |
| | A) | Idukki | B) | Wayaı | nad | C) | Alleppy | D) | Palakkad | | | | |
| 81. | Which of the following is a glacial lake formed by deepening of a cirque? | | | | | | | | | | | | |
| | A) | Paternoster la | ake | | B) | Kettle | | | | | | | |
| | C) | Tarn | | | D) | Fjord | | | | | | | |
| 82. | Which | n of the coral r | eefs giv | en belov | v is typ | oical to t | the Red Sea? | | | | | | |
| | A) | Atoll | B) | Barrie | r reef | C) | Table reef | D) | Habili | | | | |
| 83. | What | is the elevation | n of the | Anamua | li, the l | nighest p | peak of the We | estern Gl | nats? | | | | |
| | A) | 2965 m | B) | 2695 r | n | C) | 2596 m | D) | 2569 m | | | | |
| 84. | What | is the width of | the Pal | ghat Gai | o? | | | | | | | | |
| | A) | 30 km | B) | 40 km | - | C) | 50 km | D) | 60 km | | | | |
| 85. | Whicl | n of the follow | ing is no | ot a Plati | inum g | roup ele | ement (PGE)? | | | | | | |
| | A) | Iridium | C | | B) | Osmi | | | | | | | |
| | C) | Rhodium | | | D) | Rhen | ium | | | | | | |
| 86. | At wh 2000 | - | graphit | e diamo | nd trar | nsition v | vould take plac | ce at a te | mperature of | | | | |
| | | 5 GPa | B) | 8 GPa | 1 | C) | 10 Gpa | D) | 12 Gpa | | | | |

| 87. | Which A) | isotopic ra | tio is releva B) | nt for the iso | topic cl C) | haracterizatio | n of graphit D) | te ore deposits? | | | | | | |
|-----|---|---|---------------------------|---|--------------------------|--|--------------------|------------------|--|--|--|--|--|--|
| 88. | Which A) B) C) D) | B) Quartz – Tourmaline – Apatite – Zircon - Calcite C) Apatite – Quartz – Tourmaline - Calcite – Zircon | | | | | | | | | | | | |
| 89. | Spe Apo Sph Fors | ssartine ophyllite ene sterite llastonite 1-a; 2-b; | 3-c; 4-d; 3-b; 4-d; | a. Isometricb. Tetragonac. Orthorhod. Monocline. Triclinic5-e B) | nl mbic ic 1-e; | 2-b; 3-c; 4 2-b; 3-d; | -d; 5-a | | | | | | | |
| 90. | | Sl. No. 1 2 3 4 5 | | of five pluto (Na ₂ O+K ₂ wt.% 4 10 3 7 2 | | ks are given t | oelow. Assig | gn | | | | | | |
| | A) B) C) D) | 1-Syenite; 1-Syenite; | 2-Diorite; 3 2-Gabbro; | -Gabbro; 4-0 3-Gabbro; 4- 3-Diorite; 4- 3-Diorite; 4- | Granite Dunite | ; 5- Dunite ; 5-Granite | | | | | | | | |
| 91. | Which A) C) | is the princ Kaolinite Montmori | - | ineral in alte B) D) | Illite | | | | | | | | | |
| 92. | By hea A) C) | nting of white Ilmenite Anatase | ich mineral | to above 730 B) D) | Pseu | mineral rutile idorutile okite | e can be pro | duced? | | | | | | |
| 93. | With v A) C) | which of the Gravity Magnetic | e exploration | n technique ti B) D) | Seis | 'mGal' is ass mic stivity | sociated? | | | | | | | |
| 94. | To wh A) | ich of the p Enstatite-I | Ferroslite | ies the miner B) | Diop | nnsenite has oside-Hedenb oenstatite-Cli | ergite | | | | | | | |

| 95. | Which is the correct arrangement of minerals according to increasing hardness? A) Dolomite – Graphite _ Quartz - Corundum B) Graphite – Dolomite – Corundum - Quartz C) Graphite – Dolomite – Quartz - Corundum D) Dolomite – Graphite – Corundum - Quartz | | | | | | |
|------|--|--|---|--|--|--|--|
| 96. | A) | Consequent | В) | down the original slope of the land? Subsequent | | | |
| | C) | Resequent | D) | Insequent | | | |
| 97. | To what kind of pollution/hazard the historical gold mining sites are noted for ? A) Arsenic poisoning of groundwater B) Mercury poisoning C) Gold in solution D) Large scale groundwater depletion | | | | | | |
| 98. | Match <i>Grou</i> P. Gold Q. Cop R. Ura S. Lea | up I d oper nium | in <i>Group I</i> win <i>Group II</i> 1. Tummalap 2. Khetri 3. Agucha 4. Jonnagiri | th their Indian occurrences in <i>Group II</i> . alle | | | |
| | A) C) | P-4, Q-2, R-1, S-3 P-4, Q-2, R-3, S-1 | B) D) | P-3, Q-2, R-4, S-1 P-3, Q-1, R-2, S-4 | | | |
| 99. | Group P. Gra Q. Ph R. Go S. Clay | I phite logopite ld | Group II 1. Punalur 2. Akkulam 3. Kanjirapall 4.Nilambur B) | th their place of occurrence in Kerala in <i>Group II</i> . y P-3, Q-4, R-1, S-2 P-3, Q-2, R-1, S-4 | | | |
| 100. | P. Gyj Q. Tai R. Bai S. Ma T. Ap | up I psum lc rite gnesite atite P-4, Q-1, R-2, S-3, T- | Group II 1. Paper maki 2. Making wa 3. Fertilizer 4.Drilling mu 5. Steel indus | nll-board d try P-2, Q-1, R-4, S-5, T-3 | | | |
| | C) | P-3, Q-5, R-1, S-2, T- | -4 D) | P-3, Q-1, R-4, S-2, T-5 | | | |

| 101. | The term <i>dinosaur coprolites</i> refers to which of the following? | | | | | | | | | |
|------|---|---|-------------------|--|--|---|-----|-----------|--|--|
| | A) | Bones | B) | Eggs | C) | Foot-prints | D) | Excreta | | |
| 102. | Which A) B) C) D) | h aspect is studied in <i>allometry</i> of fossils? Life span in varying climates Relative growth of body parts with age Branching in the evolutionary tree Causes of mass extinction | | | | | | | | |
| 103. | Which geological field equipment has brands like <i>Clar, Suunto, Silva Ranger and Meridian</i> ? | | | | | | | | | |
| | A) | GPS | B) | GIS | C) | Compass | D) | Altimeter | | |
| 104. | Which A) C) | h of the follo Cassini Hubo-Dyer | | projections is commonly used for geological maps? B) Gall-Peters D) Transverse Mercator | | | | | | |
| 105. | In wh A) C) | nich type of ri Dendritic d Meanderin | lrainage | m is vertical a B) D) | Trell | dominant? is drainage stomosing rive | ers | | | |
| 106. | Which A) C) | h of the following is a surface mining technique? Highwall mining B) Room and pillar mining Longwall mining D) Drift mining | | | | | | | | |
| 107. | | h of the follo rious media s Georeferen Geocoding | uch as ph cing | | Geot | g of geographical identification meta data Geotagging Rubbersheeting | | | | |
| 108. | Which of the following indicates a small headwater valley that is sediment-choked and swampy? | | | | | | | | | |
| | A) | Swell | B) | Dale | C) | Dell | D) | Cirque | | |
| 109. | Whic A) | h of the follo Bauxite | wing is a B) | lmost synonyr Regolith | nous wit | th laterite ? Saprolite | D) | Kodurite | | |
| 110. | field Gr P) L Q) R R) R | h the pioneers of study in <i>G</i> oup <i>I</i> L. Fermor D. Oldham B.Foote B.Auden | | Group II 1. Himalaya 2. Archeolo 3. Delineati | geology in <i>Group I</i> with their significant contribution/ <i>Group II</i> 1. Himalayan Geology 2. Archeology and Prehistory 3. Delineation of Charnockitic province in S India 4. Recording of seismic waves | | | | | |
| | A) | P-4, Q-1,R | | B) | | Q-2, R-1, S-4 | | | | |

111. Match the minerals in *Group I* with their optical nature in *Group II*.

Group I

Group II

- P . Sphene
- 1. Biaxial negative
- Q. Kyanite
- 2. Biaxial positive
- R. Fluorite
- 3. Uniaxial positive
- S. Beryl
- 4.Isotropic
- T. Rutile
- 5. Uniaxial negative
- A) P-4, Q-1,R-2, S-3, T-5
- B) P-3, Q-5, R-1, S-2,T-4
- C) P-2, Q-1, R-4, S-5, T-3
- D) P-3, Q-1, R-4, S-2, T-5
- 112. Match the carbonate minerals in *Group I* with their principal cation in *Group II*.

Group I

Group II

- P. Siderite
- 1. Mn
- Q. RhodocrositeR. Aragonite
- 2. Mg 3. Fe
- S. Magnesite
- 4.Ca
- T. Witherite
- 5. Ba
- A) P-4, Q-1,R-2, S-3, T-5
- B) P-2, Q-1, R-4, S-5, T-3
- C) P-3, Q-5, R-1, S-2,T-4
- D) P-3, Q-1, R-4, S-2, T-5
- 113. Match the minerals in *Group I* with their family in *Group II*.

Group I

Group II

- P . Hercynite
- 1. Olivine
- Q. Monticellite
- 2. Spinel
- R. FuchsiteS. Paragasite
- 3. Pyroxene4.Mica

T. Jadeite

- 5. Amphibole
- A) P-2, Q-1, R-4, S-5, T-3
- B) P-4, Q-1,R-2, S-3, T-5
- C) P-3, Q-5, R-1, S-2,T-4
- D) P-3, Q-1, R-4, S-2, T-5
- 114. Match the minerals in *Group I* with their silicate class in *Group II*.

Group I

Group II

- P. Vermiculite
- 1. Inosilicate
- Q. Glaucophane
- 2. Phyllosilicate
- R. Cordierite
- 3. Sorosilicate4.Cyclosilicate
- S. Tephroite T. Allanite
- 5. Nososilicate
- A) P-2, Q-1, R-4, S-5, T-3
- B) P-4, Q-1,R-2, S-3, T-5
- C) P-3, Q-5, R-1, S-2, T-4
- D) P-3, Q-1, R-4, S-2, T-5
- 115. Which is the correct order of volcanic rocks arranged in terms of decreasing geological age?
 - A) Sylhet Traps Panjal Traps Rajmahal Traps Deccan Traps
 - B) Panjal Traps Sylhet Traps Rajmahal Traps Deccan Traps
 - C) Panjal Traps Rajmahal Traps Sylhet Traps- Deccan Traps
 - D) Rajmahal Traps Panjal Traps Sylhet Traps Deccan Traps

| 116. | - | | | ks in Group I with their precursors in Group II. | | | | | | |
|------|--|----------------|--------------|--|-------------|------------------|----------------|----|----------|--|
| | Group I | | Group II | | | | | | | |
| | P. Marble | | 1. Pelite | | | | | | | |
| | Q. Khondalite | | 2. Coal | | | | | | | |
| | R. Amphibolite | | 3. Limestone | | | | | | | |
| | S. Graphite | | 4.Basalt | | | | | | | |
| | A) | P-4, Q-1, R-2, | S-3 | В | 3) | P-3, Q | -4, R-1, S-2 | | | |
| | C) | P-3, Q-2, R-1, | S-4 | D |)) | P-3, Q | -1, R-4, S-2 | | | |
| 117. | From which of the formations seagrass beds are reported? | | | | | | | | | |
| | A) | Warkalli form | ation | В | 3) | Quilon Limestone | | | | |
| | C) | Vaikom forma | ntion | D |)) | Vemb | anad formation | on | | |
| 118. | To which of the following categories the fossil <i>Pseudotaberina malabarica</i> beolongs to ' | | | | | | | | | |
| | A) | _ | | | B) Ostracod | | | | | |
| | C) | Bivalve | Г |)) | Pteropod | | | | | |
| 119. | From which valley, the fossils of early man were reported? | | | | | | | | | |
| | A) | Narmada | B) | Indus | | C) | Cauvery | D) | Godavari | |
| 120. | Which of the following statements is correct? | | | | | | | | | |
| | A) No olivine can co-exist with quartz in igneous rocks | | | | | | | | | |
| | B) Olivine with Fayalite composition can occur with quartz in igneous rocks | | | | | | | | | |
| | C) All magmatic rocks contain either quartz or olivine | | | | | | | | | |
| | D) | , <u> </u> | | | | | | | | |
| | | | | | | | | | | |