

EARTH SCIENCES

Question Booklet Sl. No.

200063

Name & Signature of the Invigilator **PAPER – II** OMR Answer Sheet No. :

CODE-20 Roll No. :

(in figures as in Hall Ticket)

Roll Number in words :

Time : 2 Hours]

No. of Printed Pages : 16

[Maximum Marks : 200

Instructions for the Candidates

1. Write your Roll Number in the space provided on the top of this page.
2. This paper consists of **one hundred (100)** multiple choice type of questions. **All** questions are compulsory.
3. At the commencement of examination, the question booklet will be given to you. In the first 5 minutes, you are requested to open the booklet and compulsorily examine it as below :
 - (i) To have access to the Question Booklet, tear off the paper seal on the edge of this cover page. Do not accept a booklet without sticker seal and do not accept an open booklet.
 - (ii) Tally the number of pages and number of questions in the booklet with the information printed on the cover page. Faulty booklets due to pages/questions missing or duplicate or not in serial order or any other discrepancy should be got replaced immediately by a correct booklet from the invigilator within the period of 5 minutes. Afterwards, neither the Question Booklet will be replaced nor any extra time will be given.
 - (iii) After this verification is over, the Test Booklet Number should be entered on the OMR Answer Sheet and the OMR Answer Sheet Number should be entered on this Test Booklet.
4. Each item has four alternative responses marked (A), (B), (C) and (D). You have to darken the oval as indicated below on the correct response against each item.

Example: (A) (B) (C) (D) where (B) is the correct response.
5. Your responses to the items are to be indicated on the OMR Answer Sheet under Paper – II only. If you mark your response at any place other than in the oval in the OMR Answer Sheet, it will not be evaluated.
6. Rough Work is to be done in the end of this booklet.
7. If you write your Name, Roll Number, Phone Number or put any mark on any part of the OMR Answer Sheet, except for the space allotted for the relevant entries, which may disclose your identity, or use abusive language or employ any other unfair means, such as change of response by scratching or using white fluid, you will render yourself liable to disqualification.
8. You have to return the original OMR Answer Sheet to the invigilator at the end of the examination compulsorily and must not carry it with you outside the Examination Hall. You are however, allowed to carry original question booklet and duplicate copy of OMR Answer Sheet on conclusion of examination.
9. Use only Blue/Black Ball point pen.
10. Use of any calculator or any electronic devices or log table etc., are prohibited.
11. There shall be no negative marking.

પરીક્ષાર્થીઓ માટે સૂચનાઓ

1. આ પાનાની ટોચ પર દર્શાવેલી જગ્યામાં તમારો રોલ નંબર લખો.
2. આ પ્રશ્નપત્રમાં બહુવિકલ્પિક ઉત્તરો ધરાવતા સૌ (100) પ્રશ્નો આપેલા છે. બધા જ પ્રશ્નો ફરજિયાત છે.
3. પરીક્ષાની શરૂઆતમાં આપને પ્રશ્નપુસ્તિકા આપવામાં આવશે. પ્રથમ પાંચ (૫) મિનિટ દરમિયાન તમારે પ્રશ્નપુસ્તિકા ખોલી અને ફરજિયાતપણે નીચે મુજબ પરીક્ષણ કરવું :
 - (i) પ્રશ્નપુસ્તિકાનો વપરાશ કરવા માટે આ કવર પુષ્ટની ધાર પર આપેલ સીલ સ્ટીકર ફાડી નાખો. કોઈપણ સંજોગોમાં સીલ સ્ટીકર વગરની કે ખુલ્લી પ્રશ્નપુસ્તિકા સ્વીકારશો નહીં.
 - (ii) કવર પુષ્ટ પર છપાયેલ નિર્દેશનુસાર પ્રશ્નપુસ્તિકાના પ્રશ્નો, પુષ્ટો અને સંખ્યાને બરાબર ચકાસી લો. ખામીયુક્ત પ્રશ્નપુસ્તિકા કે જેમાં પ્રશ્નો/ પુષ્ટો ઓછાં હોય, બે વાર છપાયાં હોય, ખનુકમમાં અથવા અન્ય કોઈ ફરક હોય અર્થાત કોઈપણ સંજોગોમાં ખામીયુક્ત પ્રશ્નપુસ્તિકા સ્વીકારશો નહીં. અને જો ખામીયુક્ત પ્રશ્નપુસ્તિકા મળી હોય તે નિરીક્ષક પાસેથી તુરંત જ બીજા સારી પ્રશ્નપુસ્તિકા મેળવી લેવી. આ માટે ઉમેદવારને પાંચ (૫) મિનિટનો સમયગાળો આપવામાં આવશે. પછીથી, પ્રશ્નપુસ્તિકા બદલવામાં આવશે નહીં કે કોઈ વધારાનો સમયગાળો આપવામાં આવશે નહીં.
 - (iii) આ ચકાસણી સમાપ્ત થાય પછી, પ્રશ્નપુસ્તિકાનો નંબર OMR જવાબ પત્રક પર લખવો અને OMR જવાબ પત્રકનો નંબર પ્રશ્નપુસ્તિકા પર લખવો.
4. પ્રત્યેક પ્રશ્ન માટે ચાર જવાબ વિકલ્પ (A), (B), (C) અને (D) આપવામાં આવેલ છે. તમારે સાચા જવાબના ઓવલ (oval)ને નીચે આપેલ ઉદાહરણ મુજબ પેનથી ભરીને સંપૂર્ણ કાળું કરવાનું રહેશે.

ઉદાહરણ : (A) (B) (C) (D) કે જ્યાં (B) સાચો જવાબ છે.
5. આ પ્રશ્નપુસ્તિકાના પ્રશ્નોના જવાબ અલગથી આપવામાં આવેલ OMR જવાબ પત્રકમાં પેપર-IIલખેલ વિભાગમાં જ અંકિત કરવા. જો આપ OMR જવાબ પત્રકમાં આપેલ ઓવલ (oval)સિવાય અન્ય સ્થાને જવાબ અંકિત કરશો તો તે જવાબનું મૂલ્યાંકન કરવામાં આવશે નહીં.
6. કાચું કામ (Rough work) પ્રશ્નપુસ્તિકાના અંતિમ પુષ્ટ પર કરવું.
7. જો આપ OMR જવાબ પત્રક નિયત જગ્યા સિવાય અન્ય કોઈપણ સ્થાને, આપનું નામ, રોલ નંબર, ક્ષેત્ર નંબર અથવા એવું કોઈ ચિહ્ન કે જેનાથી તમારી ઓળખ થઈ શકે, અંકિત કરશો અથવા અલગ ભાષાનો પ્રયોગ કરો, અથવા અન્ય કોઈ અનુચિત સાધનોનો ઉપયોગ કરો, જેમકે અંકિત કરી દીધેલ જવાબ ભૂંસી નાખવો કે સફેદ કાહીનો ઉપયોગ કરી બદલશો તો આપને પરીક્ષા માટે અયોગ્ય જાહેર કરવામાં આવશે.
8. પરીક્ષા સમય પૂરો થઈ ગયા બાદ ઓરીજનલ OMR જવાબ પત્રક જે તે નિરીક્ષકને ફરજિયાત સોંપી દેવું અને કોઈ પણ સંજોગોમાં તે પરીક્ષા ખંડની બહાર લઈ જવું નહીં. પરીક્ષા પૂર્ણ થયા બાદ ઉમેદવાર ઓરીજનલ પ્રશ્નપુસ્તિકા અને OMR જવાબ પત્રકની ડુપ્લિકેટ કોપી પોતાની સાથે લઈ જઈ શકે છે.
9. માત્ર કાળી / ભૂરી બોલ પોઇન્ટ પેન વાપરવી.
10. કેલ્ક્યુલેટર, લોગ ટેબલ અને અન્ય ઇલેક્ટ્રોનિક યંત્રોનો ઉપયોગ કરવાની મનાઈ છે.
11. ખોટા જવાબ માટે નકારાત્મક ગુણાંકન પ્રથા નથી.

SEAL



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EARTH SCIENCES

Paper - II

1. An active trench is present in the vicinity of _____.
(A) Andaman and Nicobar Islands
(B) Gulf of Cambay
(C) Lakshadweep
(D) Krishna-Godavari Delta
2. In a very narrow gorge type topography with dolomites at valley shoulder and shale rocks at valley base _____ type of dam may be recommended.
(A) Arch Dam
(B) Gravity Dam
(C) Buttress Dam
(D) Earthen Dam
3. The stratigraphic tool which helps in estimating sea-level changes vis-a-vis sedimentation rate and tectonics of the past ages is known as
(A) Chronostratigraphy
(B) Sequence stratigraphy
(C) Order of super position
(D) Biostratigraphy
4. Which of the following index minerals form at the highest metamorphic grade ?
(A) Chlorite
(B) Garnet
(C) Biotite
(D) Sillimanite
5. Mineral often referred to as "Fool's gold" is _____.
(A) Ilmenite
(B) Pyrite
(C) Chromite
(D) Haematite
6. Prolific hydrothermal alteration is generally associated with
(A) Porphyry copper deposits
(B) Superior-type iron deposits
(C) Stratiform chromite deposits
(D) Quartz-pebble conglomerate-hosted gold deposits
7. Zawar mines are famous for _____ ore deposits.
(A) Copper
(B) Iron
(C) Zinc
(D) Gold



8. The parallel alignment of mica in a metamorphic rock is an example of _____.
- (A) Porphyroblast (B) Bedding
(C) Metasomatism (D) Foliation
9. _____ type of joints are best preserved in Dhinodhar volcanic hill complex in Kachchh.
- (A) Mural (B) Columnar
(C) Sheet (D) 1-set joint
10. Supergene sulphide enrichment occurs _____.
- (A) below the water table
(B) above the water table
(C) any depth independent of water table
(D) both above and below the ground water table
11. Which one of the following minerals does NOT show the phenomenon of double-refraction ?
- (A) Quartz (B) Apatite
(C) Calcite (D) Fluorite
12. The concentration of the heavy minerals by stream or wave action leading to an economic deposit is called _____.
- (A) Stratiform deposits (B) Placer deposits
(C) Skarn deposits (D) Hydrothermal deposits
13. Most stable petroleum hydrocarbons among the following is _____.
- (A) CH_4 (B) C_2H_6
(C) C_3H_8 (D) C_4H_{10}
14. The line formed by the intersection of an inclined sedimentary bed with horizontal plane is called _____.
- (A) Rake (B) Dip
(C) Strike (D) Plunge
15. The principle mineral constituent of peridotites is
- (A) Pyroxene (B) Anorthite
(C) Hornblende (D) Olivine



16. Which of the following series is an Indian satellite systems ?
(A) GOES (B) ERS-1
(C) SPOT (D) IRS
17. The evaporite that is typical of non-marine basins is
(A) Calcite (B) Trona
(C) Gypsum (D) Halite
18. Majority of copper deposits in India is found in _____ age rocks.
(A) Tertiary (B) Mesozoic
(C) Palaeozoic (D) Precambrian
19. Spinifex is the most characteristic texture of _____.
(A) Komatite (B) Basalt
(C) Gabbro (D) Dolerite
20. The polymorph of sphalerite is
(A) Willemite (B) Zincite
(C) Wurtzite (D) Hemimorphite
21. Porosities of a sedimentary rock are estimated from _____, _____ and _____ logs.
(A) Gamma, Sp, Density (B) Density, Neutron, sonic
(C) Caliper, Gamma, Sp (D) Seismic, Meutron and Caliper
22. Which of the following mass-extinction event witnessed the extinction of dinosaurs ?
(A) Jurassic – Cretaceous (B) Cretaceous - Tertiary
(C) Triassic – Jurassic (D) Palaeogene - Neogene
23. The middle Jurassic sediments of Kachchh basin contains _____ fossils.
(A) Glossopteris (B) Macrocephalites
(C) Nummulites (D) Phacops
24. Choose the correct order of Vindhyan stratigraphy (older to younger).
(A) Kaimur – Semri – Rewa - Bhandar
(B) Semri – Kaimur – Rewa – Bhandar
(C) Rewa - Bhandar – Semri – Kaimur
(D) Bhandar – Semri – Rewa – Kaimur



25. Choose the correct order of sedimentary structures formed in increasing current strength.
- (A) Ripple – 2D dunes – Antidunes
 - (B) 2D dunes – plane lamination – Ripple
 - (C) Ripple – Hummocky – Swalley
 - (D) Plane lamination – 2D dunes – Ripple
26. Rocks that are composed of mainly nannoplankton and foraminifer are known as _____.
- (A) Chalk
 - (B) Sandstone
 - (C) Lutite
 - (D) Shale
27. In clastic rock, porosity is mainly controlled by _____.
- (A) grain size
 - (B) grain sorting
 - (C) grain mineralogy
 - (D) dissolution
28. Secondary migration of hydrocarbons is defined when oil migrates from _____.
- (A) source to carrier rock
 - (B) carrier to source rock
 - (C) within carrier rock
 - (D) within source rock
29. During deformation, when the stress-strain relationship is linear and upon removal of stress, if it reverts to its original dimension the rock is known as _____.
- (A) plastic
 - (B) elastic
 - (C) ruptured
 - (D) rigid
30. In folds when the upper and lower surfaces are parallel, the type of fold is known as _____.
- (A) concentric fold
 - (B) anticline fold
 - (C) isoclinal fold
 - (D) kink fold
31. The type of fault generated in vertically oriented σ_1 will be _____.
- (A) strike-slip fault
 - (B) normal fault
 - (C) reverse fault
 - (D) oblique fault
32. Order cyclostomata and cheilostomata are type of fossils belonging to
- (A) foraminiferas
 - (B) nannoplankton
 - (C) bryozoa
 - (D) ostracodas



33. Which among the following are organic-walled microfossils ?
(A) Dinoflagalates, Acritarchs, chitinozoa
(B) Silicoflagalates, Radiolaria
(C) Ostracoda, Bryozoa, Algae
(D) Conodonts
34. Glossopteris and Gangamopteris are the characteristic plant fossils of _____.
(A) Precambrian (B) Mesozoic
(C) Gondwana Super Group (D) Cenozoic
35. Which of the following formation in Champaner fold belt is manganese bearing ?
(A) Lambia Formation (B) Narukot Formation
(C) Shivrajpur Formation (D) Rajgadh Formation
36. Choose the correct sequence of Cambrian of Salt Range.
(A) Neobolus Shales – Purple Sandstone – Magnesian Sandstone
(B) Neobolus Shales – Magnesian Sandstone – Purple Sandstone
(C) Purple Sandstone – Neobolus Shales – Magnesian Sandstone
(D) Purple Sandstone – Magnesian Sandstone – Neobolus shales
37. _____ trace fossil is an indicator of deep marine palaeo environment.
(A) Skolithos (B) Thalassinoides
(C) Paleodictyon (D) Gyrochorte
38. The old stratigraphic unit of Siwaliks are _____.
(A) Chinji Formation (B) Kamlial
(C) Tatrot (D) Nagri
39. The tectonic boundary between lesser Himalayas and greater Himalayas is marked by _____.
(A) HFT (B) MCT
(C) MBT (D) GBF
40. Stream which flows in the opposite direction in the original consequent streams are described as _____.
(A) Obsequent (B) Insequent
(C) Subsequent (D) Resequent



41. In Hydrological Cycle the residence time of the water is maximum in _____.
- (A) Atmosphere and Rivers (B) Groundwater and Soil
(C) Groundwater and Ice sheets (D) Rivers and Ice sheets
42. Liquefaction is the term commonly associated with _____.
- (A) Weathering (B) Floods
(C) Earthquakes (D) Magmatic processes
43. Which of the following is considered as cosmogenic radionuclide dating ?
- (A) Rb-Sr dating method (B) U-Th dating method
(C) Be-dating method (D) Ar-Ar dating method
44. Warmer than normal sea surface temperature is known as _____.
- (A) ITCZ (B) La Niña
(C) El Niño (D) Albido
45. Select the correct combination pair from the following :
- (A) Megalodon limestone - Cephalopod
(B) Sulcacutes bed - Belemnite
(C) Otoceras zone - Pelecypod
(D) Eurydesma zone - Gastropod
46. Which stone was mostly used by the Neolithic people to make beads ?
- (A) Agate (B) Carnelian
(C) Lapis Lazuli (D) All of the above
47. Which of the following is earthquake intensity scale based on the observed effects on people and structure ?
- (A) Moment magnitude scale (B) Richter scale
(C) Modified mercalli scale (D) Surface wave magnitude scale
48. Which one of the following statements is true with regard to global precipitation during glacial/interglacial periods ?
- (A) Precipitation remained the same in both the periods
(B) In glacial period there was more precipitation
(C) Precipitation increased in polar regions during glacial period
(D) In glacial period there was less precipitation
49. Which earthquake led to the development of elastic rebound theory ?
- (A) 1755 Lisbon earthquake (B) 1964 Alaska earthquake
(C) 1985 Mexico earthquake (D) 1906 San Fransisco earthquake



50. Choose the correct order of geological time scale with decreasing length of time (from the longest interval to the shortest).
- (A) Eon-Era-Period-Epoch (B) Eon-Era-Epoch-Period
(C) Era-Eon-Period-Epoch (D) Era-Epoch-Eon-Period
51. The depositional condition of sediments that have absolutely no Oxygen (O_2) is termed as _____.
- (A) Oxidic (B) Hypoxia
(C) Anoxic (D) Leucoxenic
52. Choose the correct answer among the geophysical methods that is best suited for groundwater investigations.
- (A) Seismic method (B) Gravity method
(C) Magnetic method (D) Resistivity method
53. Residual hill in the desert region is known as
- (A) Pediment (B) Inselberg
(C) Playa (D) Guyots
54. Earthquakes in Kachchh are related to the _____ zone.
- (A) Subduction (B) Intraplate
(C) Collision (D) Transform fault
55. The sandstone with modal composition comprising of Quartz 53%, Mica 3%, Feldspar 32%, Cement 5% and matrix 5% is named as _____.
- (A) Quartz arenite (B) Arkosic arenite
(C) Arkosic Wacke (D) Quartz Wacke

56. Match the following stratigraphic units listed in Group I with the Precambrian basins in Group II.

Group I

- P. Badami Group
- Q. Kheinjua Formation
- R. Papaghani Group
- S. Sullavai Group

Group II

- 1. Kaladgi
- 2. Vindhyan
- 3. Cuddapah
- 4. Chhattisgarh
- 5. Pranhita-Godavari

- (A) P - 1, Q - 4, R - 5, S - 2
- (C) P - 1, Q - 2, R - 3, S - 4

- (B) P - 1, Q - 2, R - 3, S - 5
- (D) P - 3, Q - 4, R - 1, S - 2



57. The equipment used to provide electromagnetic radiations of specified wave length or a band of wave lengths to illuminate the earth surface are called as _____.

- (A) Passive sensors (B) Active sensors
(C) Cameras (D) Special types of mirrors

58. Choose the correct combinations of sedimentary rocks from Group I with their respective depositional environments listed in Group II.

Group I

- P. Coccolith bearing chalk
Q. Poorly sorted sediments with striated pebbles
R. Sandstone with herringbone cross bedding
S. Well-sorted sandstone with large scale cross-bedding

Group II

1. Glacial
2. Sabkha
3. Tidal
4. Pelagic
5. Eolian

- (A) P - 4, Q - 1, R - 3, S - 5 (B) P - 2, Q - 1, R - 5, S - 4
(C) P - 5, Q - 2, R - 3, S - 1 (D) P - 2, Q - 4, R - 3, S - 1

59. Choose the correct statement among the following :

- (A) Landward movement of shoreline is regression
(B) No movement of shoreline is transgression
(C) Seaward movement of shoreline is transgression
(D) Seaward movement of shoreline as a result of sea-level fall is forced regression

60. The origin of intertrappean beds is related to

- (A) Marine origin (B) Volcanic origin
(C) Continental origin (D) Fluvio-lacustrine origin

61. The bedding plane markings or irregularities found on the base of the bed are known as

- (A) Rain prints (B) Ripple marks
(C) Load casts (D) Cone-in-cone structure

62. Select among the following sedimentary deposits that are very well sorted.

- (A) Fluvial sediments (B) Glacial sediments
(C) Beach sediments (D) Glacio-marine sediments



63. The term pixel stands for
(A) Photo element (B) Photo elevation
(C) Picture elevation (D) Picture element
64. Choose the correct combinations of electromagnetic spectral region with its respective wave length.

| EM Spectral Region | Wave Length |
|--------------------------------|-----------------------|
| P. Visible | 1. 0.3 to 0.4 μ_m |
| Q. Ultraviolet | 2. 0.7 to 3.0 μ_m |
| R. Thermal infrared | 3. 0.4 to 0.7 μ_m |
| S. Infrared | 4. 3 to 5 μ_m |
| (A) P - 3, Q - 1, R - 4, S - 2 | |
| (B) P - 1, Q - 4, R - 3, S - 2 | |
| (C) P - 1, Q - 3, R - 2, S - 4 | |
| (D) P - 1, Q - 3, R - 4, S - 2 | |

65. In a fold, if one of the limbs is rotated $> 90^\circ$ is known as _____.
(A) Isoclinal fold (B) Recumbent fold
(C) Overturned fold (D) Reclined fold
66. The Amba Dougar Fluorite mineral deposit in Gujarat were formed by _____ process.
(A) Magmatic (B) Hydrothermal
(C) Contact Metamorphism (D) Sedimentary
67. Tethys Himalayas in pin valley, the Devonian rocks are known as
(A) Muth quartzites (B) Dogra slates
(C) Kunzum limestone (D) Spiti shales
68. The tectonic element separating Kachchh mainland and Banni/Rann is known as _____.
(A) KHF (B) KMF
(C) IBF (D) SWF
69. The Fenestella shales and Syringothyris limestones in Tethys Himalaya are of _____ age.
(A) Devonian (B) Permian
(C) Carboniferous (D) Silurian



- 70.** The trace fossil *Treptichnus pedum* is a marker for _____.
- (A) Jurassic-Cretaceous boundary
 - (B) Base of Cambrian
 - (C) End of Archean
 - (D) Base of Archean
- 71.** Deep focus (~ 700 km) earthquakes are common in _____.
- (A) Mid-oceanic ridges
 - (B) Island-arc settings
 - (C) Himalayan mountain belts
 - (D) Continental Rifts
- 72.** The three main factors that conspire to form the ozone hole are
- (A) Tropospheric cloud, CFCs and solar radiations
 - (B) Polar stratospheric cloud, H₂O and CO₂
 - (C) CFCs, H₂O and CO₂
 - (D) Polar stratospheric cloud, CFCs and solar radiations
- 73.** Choose the correct sequence of polarity epoch of last 5 my from older to younger.
- (A) Gauss, Gilbert, Matuyama, Brunhes
 - (B) Gilbert, Gauss, Matuyama, Brunhes
 - (C) Matuyama, Gilbert, Gauss, Brunhes
 - (D) Gauss, Matuyama, Brunhes, Gilbert
- 74.** _____ are rifts that die out towards the interior of continents.
- (A) Miogeosynclines
 - (B) Passive margins
 - (C) Aulacogen
 - (D) Orogens
- 75.** Choose the correct sequence of ophiolite profile.
- (A) Sole-mantle peridotites-layered gabbro-pillow basalt
 - (B) Layered gabbro-pillow basalt-mantle peridotite-sole
 - (C) Pillow basalt-layered gabbro-mantle peridotite-sole
 - (D) Sole-layered gabbro-mantle peridotite-pillow basalt
- 76.** The bottom of the Low Velocity Zone (LVZ) of the earth is identified by _____.
- (A) Mohorovicic discontinuity
 - (B) Reppeti discontinuity
 - (C) Gonard discontinuity
 - (D) Lehman discontinuity



77. Select the correct options for the statements given below.

Statement (I) : Platforms are stable parts of the crust with little relief.

Statement (II) : Craton is an isostatically positive portion of the continent that is tectonically stable relative to adjacent orogen.

- (A) (I) and (II) are false (B) (I) and (II) are true
(C) (I) is false and (II) is true (D) (I) is true and (II) is false

78. In which Indian State is the Bhimbedka prehistoric site is located ?

- (A) Madhya Pradesh (B) Rajasthan
(C) Uttar Pradesh (D) Gujarat

79. What was the first grain used by the prehistoric human ?

- (A) Barley (B) Rice
(C) Wheat (D) Millet

80. Which among the following mineral is formed at high temperature in Bowen's series ?

- (A) orthoclase (B) pyroxene
(C) bytownite (D) olivine

81. Which among the following mineral show vitreous lusture, conchoidal fracture and absence of cleavage ?

- (A) angite (B) feldspar
(C) quartz (D) talc

82. Mineral Pyrope, Almandine, Grossular are the varieties of _____.

- (A) Silliminite (B) Garnet
(C) Kyanite (D) Quartz

83. Cambay basin is an ideal example of _____.

- (A) Horst-Graben system (B) Trench system
(C) Strike-Slip system (D) Island arc system

84. Diamonds are usually found in _____ rock.

- (A) Kimberlite (B) Granite
(C) Dacite (D) Basalt





85. The base metal deposits (Cu, Zn, Pb) occur near _____ of Gujarat.
(A) Vadodara (B) Amrali
(C) Bhuj (D) Ambaji
86. The capacity of an air of certain volume at certain temperature to retain maximum amount of moisture content is known as _____.
(A) Relative humidity (B) Specific humidity
(C) Absolute humidity (D) Humidity capacity
87. Which one of the following sequences represents progressive advanced stages of rifting ?
(A) East African Rift – Red Sea – Atlantic Ocean
(B) Red Sea – East African Rift – Atlantic Ocean
(C) Atlantic Ocean – Red Sea – East African Rift
(D) Atlantic Ocean – East African Rift – Red Sea
88. Which side in 'Drumlins' is steep ?
(A) Upstream side (B) Downstream side
(C) Both (D) None
89. _____ is an extremely porous limestone composed almost entirely of sand-sized shell fragments (usually mollusks or gastropods)
(A) Dolomite (B) Coprolites
(C) Coquina (D) Biomicritic limestone
90. The concentration of dissolved Na^+ in seawater remains constant overtime, while that of Ca^{2+} does not. This is attributed to _____.
(A) Sea water does not dissolve Ca^{2+}
(B) Biological uptake of Na^+ is negligible
(C) Rivers bring Na^+ to the ocean but not Ca^+
(D) Ca^{2+} is added to the ocean by basaltic crust
91. Choose the correct geophysical technique that uses physical property of Dielectric constants.
(A) Gravity (B) Seismic
(C) Magnetic (D) Ground Penetrating Radar
92. During reduction of observed gravity data _____ type of correction is always added.
(A) Free-air (B) Latitude
(C) Bouguer (D) Terrain



93. Boudinage are oriented; _____.
- (A) Perpendicular to fault plane (B) Randomly in fold belt
(C) Parallel to fold axis (D) Perpendicular to fold axis
94. The Alkaline magmas are compositionally characterised by
- (A) Low Alkali-Low Silica (B) High Alkali-High Silica
(C) High Alkali-Low Silica (D) Calc Alkali Melt-Low Silica
95. The well in which piezometric surface lies above the well elevation level is known as _____.
- (A) Tube well (B) Naturally flowing Artesian well
(C) Pump well (D) Draw-down well
96. The difference between the static water level and the pumping water level at any instant is called
- (A) Well function (B) Water level fluctuation
(C) Cone of depression (D) Draw-down
97. Select the correctly arranged elements in decreasing half life of radioactive isotopes.
- (A) $^{14}\text{C} - ^3\text{H} - ^{40}\text{K} - ^{147}\text{Sm}$ (B) $^{147}\text{Sm} - ^{40}\text{K} - ^{14}\text{C} - ^3\text{H}$
(C) $^{147}\text{Sm} - ^3\text{H} - ^{40}\text{K} - ^{14}\text{C}$ (D) $^{40}\text{K} - ^3\text{H} - ^{14}\text{C} - ^{147}\text{Sm}$
98. Elements that have high valency and small ionic radius are termed as _____.
- (A) Compatible (B) Low field strength
(C) Incompatible (D) High field strength
99. Most lignite deposits of Gujarat are found in which age _____ rocks.
- (A) Oligocene (B) Eocene
(C) Paleocene (D) Pleistocene
100. Fugacity in thermodynamics is also understood as _____.
- (A) thermodynamic partial pressure
(B) more fraction ratio of i^{th} species in the solution and in its pure form
(C) chemical potential of i^{th} species
(D) normalised partial pressure of i^{th} species in the solution
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