D 102513 (Pages : 21) Name.....

Reg. No.....

P.G. ENTRANCE EXAMINATION, APRIL 2024

APPLIED GEOLOGY

Time : Two Hours Maximum : 400 Marks

Each question carries 4 *marks.*

1 *mark will be deducted for each wrong answer.*

1. Mohs scale is used to measure the :

   a) Hardness of minerals. b) Density of rocks.

   c) Porosity of sediments. d) Viscosity of lava.

2. Who is referred to as the 'Father of Modern Geology' ?

   a) Charles Lyell. b) James Hutton.

   c) Nicolaus Steno. d) Georges Cuvier.

3. The reason for the absence of plate tectonic processes on other planets is due to :

   a) No other planet has lithosphere similar to the Earth.

   b) No other planet's lithosphere is broken into fragments.

   c) No other planet has internal heat energy left to drive such processes.

   d) No other planet has water.

4. Type of rock formed from pre-existing rock due to change in temperature and pressure ?

   a) Igneous. b) Sedimentary.

   c) Metamorphic. d) Volcanic.

5. What role does humus play in soil fertility ?

   a) Humus decreases soil fertility by absorbing excess nutrients.

   b) Soil fertility is not affected by the presence of humus.

   c) Humus enhances soil fertility by improving water retention and nutrient availability.

   d) Excessive humus leads to soil erosion, reducing overall fertility.

6. Which plate boundary is associated with the formation of new oceanic crust ?

   a) Convergent boundary.

   b) Divergent boundary.

   c) Transform boundary.

   d) Subduction boundary.

7. Which mineral is most abundant in Earth's crust ?

   a) Quartz. b) Feldspar.

   c) Calcite. d) Biotite.

8. How does the force of gravity change with increasing altitude ?

   a) It increases.

   b) It remains constant.

   c) It decreases.

   d) It becomes zero.

9. The Miller-Bravais for the crystallographic face that has the following intercepts for the crystallographic axes : $1a, \infty b, 1c$ is :

   a) (110). b) (101).

   c) (121). d) $\{101\}$.

10. An open 1-faced form :

   a) Domes.

   b) Sphenoids.

   c) Pinacoids.

   d) Pedions.

11. Match the crystallographic axes and their respective angular orientations in Group II with corresponding crystal systems in Group I :

Group I	Group II
A Triclinic system	i $a = b \neq c, \alpha = \beta = \gamma = 90°$.
B Orthorhombic system	ii $a \neq b \neq c, \alpha \neq \beta \neq \gamma$.
C Monoclinic system	iii $a \neq b \neq c, \alpha = \beta = \gamma = 90°$.
D Tetragonal system	iv $a \neq b \neq c, \alpha = \gamma = 90°, \beta \neq 90°$.

a) A-ii, B-iv, C-iii, D-i.

b) A-iii, B-ii, C-iv, D-i.

c) A-ii, B-iii, C-iv, D-i.

d) A-ii, B-iii, C-i, D-iv.

12. The zone symbol used to define the direction of twin axes is :

a) $\{hkl\}$.

b) (hkl).

c) $[hkl]$.

d) $\{[hkl]\}$.

13. Given below are two statements marked as Assertion (A) and Reason (R). Read both the statements carefully and choose the correct alternative from the following :

Assertion (A) : Twinning can originate in three different ways.

Reason (R) : Growth twins, transformation twins, and glide or deformation twins are different ways of origin of twinning.

a) Both A and R are true and R is the correct explanation of A.

b) Both A and R are true and but R is not the correct explanation of A.

c) A is true, but R is false.

d) A is false, but R is true.

14. The twin laws that form a contact twin in the mineral orthoclase are :

a) Carlsbad law and Braveno law.

b) Braveno law and Manebach law.

c) Carlsbad law and Manebach law.

d) Albite law and Pericline law.

15. The existence of a mineral with the appearance of another mineral :

a) Pseudomorphism. b) Polytypism.

c) Polymorphism. d) Isotropism.

16. Orthorhombic system is characterized by the presence of :

a) 4-fold axis of symmetry. b) 1-fold axis of symmetry.

c) 2-fold axis of symmetry. d) 3-fold axis of symmetry.

17. The Uniaxial indicatrix of the minerals with the optic sign negative is :

a) Prolate spheroid. b) Oblate spheroid.

c) Irregular in shape. d) Spheroid.

18. Which one of the following properties is observed under plane-polarized light ?

a) Interference color. b) Extinction.

c) Pleochroism. d) Interference figure.

19. Which one of the following is a sulphide ?

a) Olivine. b) Biotite.

c) Pyrrhotite. d) Apatite.

20. Which of the following minerals contain an ionic bond ?

a) Halite. b) Diamond.

c) Stibnite. d) Galena.

21. Match the following minerals with appropriate optical properties.

Group I	Group II
A Magnetite	i Biaxial
B Quartz	ii Isotropic
C Muscovite	iii Uniaxial
D Garnet	iv Opaque

a) A-iv, B-ii, C-iii, D-i.

b) A-iv, B-iii, C-i, D-ii.

c) A-iii, B-ii, C-iv, D-i.

d) A-iii, B-ii, C-i, D-iv.

22. Identify the correct Si : O ratio for double chain silicates/inosilicates :

a) 1 : 2.

b) 4 : 11.

c) 1 : 3.

d) 2 : 7.

23. Given below are two statements marked as Assertion (A) and Reason (R). Read both the statements carefully and choose the correct alternative from the following

Assertion (A) : Alkali feldspar, muscovite and quartz are residual phases in the Bowen's Reaction Series.

Reason (R) : Residual phases crystallize from water-poor remnant melts.

a) Both A and R are true and R is the correct explanation of A.

b) Both A and R are true and but R is not the correct explanation of A.

c) A is true, but R is false.

d) A is false, but R is true.

24. Carlsbad, Baveno, Albite and Periclase twins belongs to :

a) Penetration Twins.

b) Complex Twins.

c) Contact Twins.

d) Simple Twins.

25. A set of lithological and paleontological characteristics of a sedimentary rock that indicate its particular environment of deposition :

a) Lithology. b) Facies.

c) Stratigraphy. d) None of the above.

26. Which one of the following principles says that : 'In a series of undisturbed beds, a bed that overlies another bed is always the younger' ?

a) Law of Original horizontality.

b) Law of Lateral continuity.

c) Law of superposition.

d) Law of cross-cutting relationships.

27. Identify the wrong statement from the following :

a) A sedimentary sequence denotes the relative time of deposition as the beds are one upon the other.

b) Sediments in a basin are always deposited horizontally irrespective of the shape of the basin.

c) In a basin, sediments are spread in all directions during deposition.

d) When something cross-cuts a sedimentary sequence, it is always older than that sequence.

28. Given below are two statements marked as Assertion (A) and Reason (R). Read both the statements carefully and choose the correct alternative from the following :

Assertion (A) : A break in sedimentation is called an unconformity. The break may last for a brief period or may be long.

Reason (R) : It may be difficult to locate an unconformity irrespective of the duration of the break.

a) Both A and R is true and R is the correct explanation of A.

b) Both A and R are true and but R is not the correct explanation of A.

c) A is true, but R is false.

d) A is false, but R is true.

29. Match the type of unconformity in Group I with their respective explanation in Group II.

Group I	Group II
A Angular Unconformity	i Develops where sediments are deposited on top of an eroded surface of igneous or metamorphic rocks
B Disconformity	ii Strata on either side of the unconformity are parallel, there is little apparent erosion
C Para-conformity	iii Exists where the layers above and below an erosional boundary have the same orientation
D Non-conformity	iv Strata is deposited on tilted and eroded layers

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

30. Identify the correct sequence of lithostratigraphic units from the following :

a) Supergroup - Group - Formation - Member - Bed.
b) Supergroup - Group - Member - Formation - Bed.
c) Eonothem - Erathem - System - Series - Stage.
d) Eonothem - Erathem - System - Series - Age.

31. Which of the following is not correctly matched ?

a) Eonothem - Eon.
b) Erathem - Era.
c) System - Epoch.
d) Stage - Age.

32. Which one among the following is an example for Series ?

a) Phanerozoic.
b) Triassic.
c) Cenozoic.
d) Upper Triassic.

33. A meteorite impact crater in the Deccan Volcanic Province :

a) Lonar.
b) Luna.
c) Ramgarh.
d) Dhala.

34. The major proportion of the Deccan Volcanic Province is exposed in which of the following state ?

a) Gujarat.
b) Karnataka.
c) Maharashtra.
d) Telangana.

35. Match the following minerals with appropriate regions :

Group I	Group II
A BIF	i Develops where sediments are deposited on top of an eroded surface of igneous or metamorphic rocks
B Phosphorite	ii Strata on either side of the unconformity are parallel, there is little apparent erosion
C Diamond	iii Exists where the layers above and below an erosional boundary have the same orientation
D Non-conformity	iv Strata is deposited on tilted and eroded layers

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

36. Koel-Damodar, Son-Mahanadi, Satpura and Pranhita-Godavari basins are associated with :

a) Cuddapah Supergroup.
b) Vindhyan Supergroup.
c) Delhi Supergroup.
d) Gondwana Supergroup.

37. Identify the regions with lead and zinc deposits in India :

a) Zawar.
b) Simplipal.
c) Kolar.
d) Wajrakarur.

38. Nummulites and Ranikothalia fossils are extensively discoverable in :

a) Murree Group.
b) Siwalik Group.
c) Subathu Group.
d) Jaintia Group.

39. The northernmost boundary of the Indian plate is marked by :

a) Himalayan Frontal Fault.

b) Main Boundary Thrust.

c) Main Central Thrust.

d) Indus Tsangpo Suture Zone.

40. Which one of the following pair of rock and eruptive setting can be correctly matched ?

a) Boninite - Ocean Island.

b) Schoshonite - Subduction zone.

c) Carbonatite - Continental rifting.

d) Trachyte - Greenstone belt

41. Syenite is the plutonic equivalent of :

a) Dacite. b) Trachyte.

c) Lherzolite. d) Basalt.

42. Course-grained rock that is rich in hypersthene :

a) Gabbro. b) Granite.

c) Charnockite. d) Khondalite.

43. Given below are two statements marked as Assertion (A) and Reason (R). Read both the statements carefully and choose the correct alternative from the following

Assertion (A) : Rocks can be classified by CIPW classification.

Reason (R) : It is also known as Norm classification.

a) Both A and R is true and R is the correct explanation of A.

b) Both A and R are true and but R is not the correct explanation of A.

c) A is true, but R is false.

d) A is false, but R is true.

44. Match the Types of rock classification in Group II with their respective description in Group I :

Group I	Group II
A On the basis of their actual mineral contents measured in volume percent	i CIPW classification
B Based on both the silica content and relative proportion of feldspars	ii Based on colour index
C They are Leucocratic, Mesocratic, Melanocratic	iii IUGS classification
D Based on the normative calculation from the bulk chemistry of the rocks	iv Tabular classification

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

45. A concordant igneous body, with flat bottom and convex upward :

a) Laccolith.
b) Phacolith.
c) Lopolith.
d) Batholith.

46. Which one of the following systems explains peritectic reaction mechanisms ?

a) Albite-Anorthite system.
b) Forsterite-Olivine system.
c) Diopside-Anorthite system.
d) Forsterite-Silica system.

47. The texture in which the rounded crystals of potassic feldspar mantled by white rims of sodic feldspar :

a) Rapakivi texture.
b) Ophitic texture.
c) Perthite texture.
d) Antiperthite texture.

48. What is the term for the process of breaking down of rocks into smaller particles through physical or chemical means ?

a) Erosion.
b) Weathering.
c) Lithification.
d) None of the above.

49. What is the primary process involved in the formation of sedimentary rocks ?

a) Metamorphism.
b) Recrystallization.
c) Diagenesis and lithification.
d) Igneous Activity.

50. How does limestone typically form ?

a) Volcanic activity.
b) Metamorphism of shale.
c) Accumulation of organic remains.
d) Intense heat and pressure on sandstone.

51. Which sedimentary rock type is often associated with significant petroleum and natural gas reservoirs ?

a) Shale.
b) Sandstone.
c) Limestone.
d) Conglomerate.

52. Which sedimentary structure is associated with the drying and cracking of mud or clay ?

a) Ripple marks.
b) Cross-bedding.
c) Mud cracks.
d) Graded bedding.

53. Given below are two statements marked as Assertion (A) and Reason (R). Read both the statements carefully and choose the correct alternative from the following

Assertion (A) : Sedimentary rocks are commonly formed through the process of lithification.

Reason (R) : Lithification involves the compaction and cementation of loose sediments to form solid rock.

a) Both A and R is true and R is the correct explanation of A.
b) Both A and R are true and but R is not the correct explanation of A.
c) A is true, but R is false.
d) A is false, but R is true.

54. Match the following sedimentary rocks (Group I) and its formation processes (Group II)

Group I		Group II
A Sandstone	i	Formed from the accumulation of plant and animal remains, often in marine environments
B Limestone	ii	Composed of rounded gravel-sized particles, cemented together
C Shale	iii	Fine-grained rock formed from the compaction and cementation of silt and clay
D Conglomerate	iv	Comprised of sand-sized particles, often deposited in beach or desert environments

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

55. Which of the following is NOT a type of sedimentary rock ?

a) Granite.
b) Sandstone.
c) Shale.
d) Limestone.

56. Which rock is characterized by rounded clasts and is commonly associated with river deposits ?

a) Conglomerate.
b) Breccia.
c) Coal.
d) Limestone.

57. Which is the primary mineral in rock salt, a common evaporite ?

a) Calcite.
b) Halite.
c) Gypsum.
d) Quartz.

58. Which of the following is not a metamorphic agent ?

a) Temperature.
b) Pressure.
c) Mean stress.
d) Metamorphic fluid.

59. Match the following with appropriate metamorphism types :

Group I	Group II
A Impact Metamorphism	i Regions of high shear stress.
B Fault-zone Metamorphism	ii Orogenic and ocean floor metamorphism
C Regional Metamorphism	iii Granofels/hornfels
D Contact Metamorphism	iv Shock during an impact cratering event

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

60. Identify the metamorphic mineral assemblage for chlorite zone :

a) Chlorite, muscovite, quartz, albite.
b) Biotite, chlorite, muscovite, quartz, albite.
c) Biotite, chlorite, muscovite, quartz, oligoclase.
d) Sillimanite, biotite, muscovite, quartz, plagioclase, garnet.

61. A metamorphic rock dominated by hornblende and plagioclase :

a) Quartzite.
b) Amphibolite.
c) Eclogite.
d) Serpentinite.

62. Mineral assemblage for zeolite facies :

a) Prehnite + pumpellyite.
b) Pyralspite garnet + omphacitic pyroxene.
c) Orthopyroxene + clinopyroxene + plagioclase ± garnet.
d) Zeolites.

63. The Franciscan Facies Series is associated with which of the following ?

a) Low P.
b) Medium P.
c) High P, low T.
d) Very low P.

64. Ultra-high temperature (UHT) metamorphism occur in the temperature range of

a) 900- 1100°C. b) 400 - 500°C.

c) 700 - 800°C. d) 500 - 800°C.

65. Given below are two statements marked as Assertion (A) and Reason (R). Read both the statements carefully and choose the correct alternative from the following

Assertion (A) : Recrystallization reduces stored lattice strain energy.

Reason (R) : Recrystallization involves movement of grain boundaries or development of new boundaries.

a) Both A and R is true and R is the correct explanation of A.

b) Both A and R are true and but R is not the correct explanation of A.

c) A is true, but R is false.

d) A is false, but R is true.

66. Which of the following terms is indicative of 'orientation of a geometric element in space' ?

a) Attitude. b) Pitch.

c) Rake. d) Strike.

67. Match the stress states with the appropriate equations ————————.

Group I	Group II
A Triaxial	i $\sigma1 = \sigma2 = \sigma3$
B Biaxial	ii $\sigma1 > \sigma2 > \sigma3 \neq 0$
C Hydrostatic	iii. $\sigma1 > 0 > \sigma3, \sigma2 = 0$

a) A-i, B-ii, C-iii. b) A-ii, B-i, C-iii.

c) A-iii, B-ii, C-i. d) A-ii, B-iii, C-i.

68. 'Ratio of the shear stress and the shear strain' is called

a) Bulk modulus.
b) Shear modulus.
c) Young's modulus.
d) Poisson's ratio.

69. The interlimb angle for gentle folds is :

a) 0° – 10°.
b) 10°– 60°.
c) 60° –120°.
d) 120°– 180°.

70. Match the systems with appropriate fault types _____.

Group I	Group II
A Normal	i Imbricate fan, duplex
B Reverse	ii Positive flower structure
C Strike-slip	iii Horst, graben

a) A-i, B-ii, C-iii
b) A-ii, B-i, C-iii
c) A-iii, B-i, C-ii
d) A-ii, B-iii, C-i

71. Which of the following are large-scale equivalents of kink folds ?

a) Ptygmatic folds.
b) Chevron folds.
c) Doubly plunging folds.
d) Sheath folds.

72. Hanging-wall block is present _____ the fault plane and footwall block _____ the fault plane.

a) Below, above.
b) Below, below.
c) Above, below.
d) Above, above.

73. Given below are two statements marked as Assertion (A) and Reason (R). Read both the statements carefully and choose the correct alternative from the following

Assertion (A) : Faults and joints result from brittle deformations.

Reason (R) : Brittle deformation is the permanent change attributed to growth of fractures and/or movement across it.

a) Both A and R is true and R is the correct explanation of A.

b) Both A and R are true and but R is not the correct explanation of A.

c) A is true, but R is false.

d) A is false, but R is true.

74. Which among the following is not exclusively marine ?

a) Radiolaria. b) Ostracoda.

c) Foraminifera. d) Conodonts.

75. Match the *Lamellibranchia* genera in Group I with their dentition pattern in Group II.

Group I	Group II
A Trigonia	i Desmodont
B Gryphaea	ii Dysodont
C Glycimeris	iii Schizodont
D Mytilus	iv Taxodont

a) A-i, B-iv, C-ii, D-iii. b) A-iii, B-i, C-ii, D-iv.

c) A-iii, B-i, C-iv, D-ii. d) A-i, B-iii, C-iv, D-ii.

76. Identify the wrong statement about Ichnofossils :

a) Not the actual remains of an organism.

b) Organically derived compounds that are preserved in the rocks.

c) Preserved evidences or impressions of the activities of organisms of the past.

d) May include tracks, trails, burrows, footprints and borings.

77. Fossils which are characterized by short geological range (age), wide geographic distribution, rapid evolutionary rate and distinct morphological features.

a) Macrofossils. b) Index fossils.

c) Ichnofossils. d) Pseudofossils.

78. Identify the one belonging to the Hominidae family :

a) Stegodon. b) Epihippus.

c) Stegolophodon. d) Gigantopithecus.

79. Sinistral form of Gastropoda is :

a) Natica. b) Murex.

c) Physa. d) Voluta.

80. Attachment of the soft tissues to the interior of the Bivalve shell is :

a) Pallial line. b) Hinge.

c) Pallial sinus. d) Lunule.

81. Given below are two statements marked as Assertion (A) and Reason (R). Read both the statements carefully and choose the correct alternative from the following

Assertion (A) : Adductor muscles hold the shell tightly closed when they contract.

Reason (R) : Based on the adductor muscles, species can be isomyarian, anisomyarian, and dimyarian.

a) Both A and R is true and R is the correct explanation of A.

b) Both A and R are true and but R is not the correct explanation of A.

c) A is true, but R is false.

d) A is false, but R is true.

82. Extinction of Trilobites was during :

a) Devonian. b) Silurian.

c) Carboniferous. d) Permian.

83. Which of the following mineral deposits results from a magmatic ore-forming process ?

a) Chromite. b) Graphite.

c) Gibbsite. d) Gold.

84. Match the following VMS (volcanic-hosted massive sulphides) types with appropriate host lithologies.

Group I	Group II
A Cyprus	i. Turbidites
B Kuroko	ii Mafic volcanics
C Besshi	iii Felsic volcanics

a) A-iii, B-ii, C-i. b) A-ii, B-i, C-iii.

c) A-ii, B-iii, C-i. d) A-iii, B-i, C-ii.

85. Identify the correct combination of minerals formed in greisen deposits :

a) Quartz-kaolinite-montmorillonite-chlorite.

b) Wollastonite-diopside-grossular-andradite.

c) Muscovite-cassiterite-ferberite-tourmaline.

d) Pyrite-arsenopyrite.

86. Formation of pegmatites is a ———— magmatic process. The ———— viscosity of the pegmatitic magma produces coarse grained deposits.

a) Early-stage, low. b) Late-stage, low.

c) Early-stage, high. d) Late-stage, high.

87. Which are of the following conditions are essential for formation of laterite deposits ?

a) High relief-cool climate-less rainfall.

b) Low relief- humid climate-less rainfall.

c) Low relief-dry climate-adequate rainfall.

d) Low relief-humid climate-adequate rainfall.

88. Which of the following is not a skarn deposit ?

a) Fe, Au skarn.
b) Cu, Pb, W, Zn skarn.
c) Mo, Sn skarn.
d) Au, U skarn.

89. Which of the following mineral combinations contain REE (rare earth elements), in association with carbonatite deposits ?

a) Monazite-bastnasite.
b) Apatite-gadolinite.
c) Xenotime-euxenite.
d) Allanite-sphene.

90. Given below are two statements marked as Assertion (A) and Reason (R). Read both the statements carefully and choose the correct alternative from the following

Assertion (A) : Dunite, peridotite and pyroxenite are the best host rocks for chromite deposits.

Reason (R) : Chromium is enriched in upper mantle relative to the crust.

a) Both A and R is true and R is the correct explanation of A.
b) Both A and R are true and but R is not the correct explanation of A.
c) A is true, but R is false.
d) A is false, but R is true.

91. Which Indian state is the leading producer of bauxite ?

a) Gujarat.
b) Odisha.
c) Maharashtra.
d) None of these.

92. The famous Kolar Gold Fields (KGF) is located in which Indian state ?

a) Karnataka.
b) Tamil Nadu.
c) Andhra Pradesh.
d) Kerala.

93. Which state ranks as the leading producer of coal in India ?

a) Jharkhand.
b) Maharashtra.
c) Karnataka.
d) Rajasthan.

94. The famous Damodar Valley is known for the extraction of which mineral resource ?

a) Limestone.
b) Coal.
c) Gold.
d) Diamond.

95. The East Coast bauxite deposits play a vital role in supporting the economic growth of the region by contributing to which industry ?

a) Textile.
b) Mining.
c) Agriculture.
d) Aluminum.

96. Given below is two statements marked as Assertion (A) and Reason (R). Read both the statements carefully and choose the correct alternative from the following.

Assertion (A) : Madhya Pradesh contributes to nearly 30% of the country's bauxite production.

Reason (R) : The presence of bauxite deposits in Madhya Pradesh is observed in various regions, including Amarkantak Plateau in Shahdol district, Maikala hills, the plateau area of Sarguja-Bilaspur-Raigarh-Katni, Durg, and Balaghat region.

a) Both A and R is true and R is the correct explanation of A.
b) Both A and R are true and but R is not the correct explanation of A.
c) A is true, but R is false.
d) A is false, but R is true.

97. Tummalapalle uranium deposit, one of the world's largest, is located in which Indian state :

a) Jharkhand.
b) Andhra Pradesh.
c) Rajasthan.
d) Madhya Pradesh.

98. Chavara deposit in Kerala is known :

a) Ilmenite.
b) Barytes.
c) Kaolin.
d) Dolomite.

99. Limestone-rich belt in India :

a) North-Eastern Plateau region.

b) South-Western Plateau region.

c) Himalayan region.

d) North-Western region.

100. Match the mineral belts or regions in Group II with their mineral deposits in Group I :

Group I	Group II
A Lignite Coal	i Chotanagpur
B Limestone	ii Neyveli
C Mineral Oil	iii Aravalli
D Iron Ore	iv Assam

a) A-ii, B-iv, C-iii, D-i.

b) A-ii, B-iii, C-iv, D-i.

c) A-iv, B-iii, C-i, D-ii.

d) A-i, B-ii, C-iv, D-iii.