



Geological Society of India

INTERNATIONAL EARTH SCIENCE OLYMPIAD - Entrance Test

Date: April 19, 2014; Time: 03.00 pm to 04.30 pm

Name of the Candidate: _____ Registration No.: _____

Candidate's Signature: _____

Name of the Invigilator: _____

Invigilator's Signature: _____ Name & Seal of the Centre

INSTRUCTIONS

1. You have to be present in the examination hall well before the commencement of the test.
2. You will not be permitted to enter the examination hall 30 minutes after the commencement of the test.
3. You will not be permitted to leave the examination hall until after 30 minutes of commencement of the test.
4. If you have any paper/chit with you, surrender them to the invigilator now.
5. All are multiple-choice questions.
6. Please use a BLACK/BLUE ball point pen to mark your answers. DO NOT use pencil.
 - Choose the MOST appropriate answer.
 - Darken the circle corresponding to the answer of your choice. An Example

Question	Answer			
The shape of the Earth is	A	B	C	D
(A) Spherical (B) Spheroidal (C) Ovoid (D) Ellipsoidal	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Marks will not be awarded if more than one answer is chosen.
 - Your answer must be given only in the answer sheet (overleaf) and handover the answer sheet to the invigilator
7. Please enter your Registration No. and affix your signature on the answer sheet before starting to answer the questions.
 8. **The answer keys will be published in Geological Society's Web site:**
www.geosocindia.com/ieso2014 on 21st April 2014

Dear Student

We appreciate your interest in the International Earth Science Olympiad. Please spend a minute to let us know how you learnt about the IESO-Entrance Test (can choose more than one option).

- ☐ From my school / college
- ☐ IESO Poster
- ☐ From a friend
- ☐ From Geological Society's Web site
- ☐ From other source, specify

Please send your comments on the question paper by email (hachyuthan@yahoo.com), or by regular mail to: Prof. Hema Achyuthan, Head, Department of Geology, Anna University, Chennai – 600 025.

ANSWER SHEET

Q.No.	A	B	C	D	Q.No.	A	B	C	D	Q.No.	A	B	C	D	Q.No.	A	B	C	D
1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	26	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	51	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	76	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	27	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	52	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	77	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	28	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	53	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	78	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	29	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	54	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	79	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	30	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	55	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	80	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	31	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	56	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	81	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	32	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	57	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	82	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	33	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	58	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	83	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	34	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	59	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	84	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	35	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	60	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	85	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	36	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	61	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	86	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	37	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	62	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	87	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	38	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	63	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	88	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	39	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	64	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	89	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	40	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	65	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	90	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	41	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	66	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	91	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	42	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	67	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	92	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	43	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	68	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	93	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	44	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	69	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	94	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	45	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	70	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	95	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	46	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	71	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	96	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	47	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	72	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	97	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	48	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	73	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	98	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	49	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	74	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	99	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	50	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	75	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	100	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Questions for IESO Selection 2014

1. Long huge mountain ranges on the ocean floor are known as
A) Orogenic Belts, B) Mid-Oceanic Ridges, C) Oceanic Mountains, D) Transoceanic Ridges
2. The region marked by two adjoining plates moving away from each other is expressed by
A) Subduction Zone, B) Trench, C) Mid-Oceanic Ridge, D) Island arc
3. An igneous rock predominantly composed of quartz and alkali feldspars often with some mica is known as
A) Gabbro, B) Granite, C) Andesite, D) Dacite
4. Which sedimentary rock is widely used in the manufacture of cement?
A) Shale, B) Limestone, C) Sandstone, D) Conglomerate
5. Which of the following raw materials find application in the manufacture of fertilizers?
A) Barite, B) Stromatolitic phosphorite, C) Pyrites, D) Mica
6. Which of the following mineral is used as an abrasive?
A) Felspars, B) Micas, C) Corundum, D) Olivines
7. Large volcanic eruptions from Western India that occurred around late Cretaceous to Eocene times are known as
A) Panjal Traps, B) Sylhette Traps, C) Deccan Traps, D) Nidar volcanic
8. Which of the following rocks in India contain raw materials used for the extraction of aluminium?
A) Limestone, B) Basalts, C) Bauxites, D) Granites
9. A metamorphic rock composed of bands of different mineral composition is known as
A) Schist, B) Gneiss, C) Slate, D) Marble
10. A rock essentially composed of pyroxene and plagioclase feldspars is known as
A) Granite, B) Syenite, C) Gabbro, D) Gneiss
11. Which mineral group is most frequently represented in the earth's crust?
A) Quartz, B) Feldspars, C) Micas, D) Amphiboles
12. Which are the most abundant rocks in the mantle of the earth?
A) Granite, B) Peridotites, C) Basalts, D) Rhyolites
13. A high temperature and pressure metamorphic rock common in South India is known as
A) Marble, B) Granulite, C) Slate, D) Quartzite
14. Which metamorphic rock is the most abundant component of the deep crust of the Earth?
A) Marble, B) Slate, C) Granulite, D) Phyllite

15. Magma that erupts on the surface of the earth is called
A) Geyser, B) Lava, C) Fumarole, D) Hot springs
16. 'Fools gold' is a mineral belonging to the following group of minerals
A) Oxides, B) Sulphides, C) Arsenides, D) Tellurides
17. Asthenosphere is the following type of layer of the Earth
A) Outer Ductile, B) Inner Brittle, C) Inner ductile, D) Outer Brittle
18. Final phase of the uplift of the Himalaya is the result of the following type of collision
A) Ocean-Continent, B) Continent-Continent, C) Ocean-Island-Arc, D) Ocean-Continental Arc
19. Crustal dynamics is controlled by the following processes
A) Weathering, B) Vulcanism, C) Plate tectonics, D) Sedimentation
20. Bauxites are the following type of deposits
A) Igneous, B) Sedimentary, C) Residual, D) Metamorphic
21. What is the third largest abundant gas in Earth's atmosphere?
A) Hydrogen, B) Methane, C) Carbon dioxide, D) Argon
22. The Earth escapes from much of solar UV radiation because of the presence of ozone in the Earth's atmosphere
A) Uniformly at all heights, B) Mostly in the lower atmosphere (< 10 km), C) Mostly in the middle atmosphere (10 to 50 km), D) Mostly in the upper atmosphere (above 50 km)
23. Lightning in the Earth's atmosphere helps in
A) Getting nitrogen to plants, B) Radio broadcast. C) Causing more rain to occur, D) Transmission of electrical signals from place to place
24. In India, monsoon season starts from
A) End of May, B) Beginning of April, C) Beginning of July, D) Mid October
25. The average rainfall in the Indian plains due to the southwest monsoon is
A) 1000 cm, B) 1000 inches, C) 1000 mm, D) 1000 m
26. Maximum rain occurs in India over
A) Meghalaya, B) Manipur, C) Karnataka, D) Arunachal Pradesh
27. Which of India's neighboring countries gets the least share of southwest monsoon rains?
A) Sri Lanka, B) Bangladesh, C) Pakistan, D) Nepal
28. Cyclones do not occur at very low latitudes.
A) This statement is not true, B) Because of low atmospheric moisture, C) Because of intense solar radiation, D) Because of lack of Coriolis force

29. The annual average cloud cover over the Earth is
A) 50%, B) 10%, C) 30%, D) 80%
30. Western Disturbance occurs over
A) Northern parts of India during summer, B) Northeastern part of India during April-May,
C) Northern parts of India during winter, D) Southern parts of India during winter.
31. The instrument that measures relative humidity is called a
A) Barometer, B) Hygrometer, C) Thermometer, D) Clinometer
32. Isohyets refer to line connecting places of same
A) Temperature, B) Rainfall, C) Humidity, D) Pressure
33. Earth's climate is mainly controlled by
A) The Sun, B) The orbital variations of the Earth, C) Greenhouse gas concentrations, D) All the above
34. What percentage of the Solar radiation received by the Earth is reflected by it, on the average?
A) 10%, B) 20%, C) 30%, D) 40%
35. Which of the following is a good reflector of solar radiation?
A) Deserts, B) Oceans, C) Ice caps, D) Atmosphere
36. Rainfall measurements from Satellites is possible by the use of
A) Visible light, B) Infra-red, C) Ultraviolet, D) Microwave
37. The Indian Satellite Kalpana is for the remote sensing of the
A) Atmosphere, B) Oceans, C) Land surface, D) Vegetation
38. Planes fly at
A) Upper tropospheric height, B) Upper stratospheric height, C) Lower exospheric height, D) Lower ionospheric height
39. The little Ice age occurred during
A) Harappan times, B) The 17th Century, C) The 8th Century, D) 21000 years ago
40. Sun spot activity becomes low, generally associated with
A) Dry climate, B) Wet climate, C) Hot climate, D) Cool climate
41. Fossils of Foraminifera found in sediment
A) Lake, B) River, C) Marine, D) Glacial
42. The deepest part of the ocean lies in
A) Northern Atlantic Ocean, B) Southern Indian Ocean, C) Bay of Bengal, D) Northern Pacific

43. The winds blowing from subtropical high pressure to sub-polar low pressure are
A) Jet Stream, B) Polar Winds, C) Easterlies, D) Westerlies
44. Which is the most powerful and effective erosive agent of coastal areas
A) Sea waves, B) Tidal waves, C) Oceanic current, D) Tsunamis
45. High flux of fresh water in Bay of Bengal makes it
A) Less saline and colder, B) Less saline and warmer, C) High saline and warmer, D) High saline and colder
46. The largest, highest and most extensive reefs of all type of coral reefs are
A) Fringing reefs, B) Atoll, C) Barrier reefs, D) Lagoon reefs
47. Temperature of sea surface depends on
A) Upwelling, B) Evaporation, C) Fresh water mixing, D) All of the above
48. Isohalines are
A) The lines that join the places of equal precipitation, B) The lines that join the places of equal temperature, C) The lines that join the places of equal salinity, D) The lines that join the places of equal humidity
49. Which one of the following is the oldest ocean?
A) Indian Ocean, B) Pacific Ocean, C) Atlantic Ocean, D) Arctic Ocean
50. High tides are formed when
A) The sun and the earth at the position of 45^0 with reference to the moon.
B) The sun and the moon at the position of 45^0 with reference to the Earth.
C) The sun, the earth and the moon are in the same line.
D) The sun and the moon are at the position of right angle with reference to the Earth.
51. Highest sea surface salinity is found in
A) The polar region, B) The tropics, C) The equator, D) a and b both
52. Coriolis forces are caused by
A) Rotation of the Moon, B) Rotation of the Saturn, C) Rotation of the Earth, D) Rotation of the Sun
53. Which one of the following is a cold current
A) California current, B) Kuroshio current, C) Brazil current, D) Gulf Stream
54. An iceberg is floating in sea. How much of its mass will remain above the surface of water
A) One – fourth, B) One – tenth, C) One – fifth, D) One – eight
55. Coral reefs developed along the continental margins or along the islands are called
A) Fringing reefs, B) Atoll, C) Barrier reefs, D) Lagoon reefs

56. The height of spring tides is
A) 20 % more than the normal tides, B) 10 % more than the normal tides, C) 15 % more than the normal tides, D) 30 % more than the normal tides
57. Temperate cyclones move towards
A) Easterly direction, B) Northerly direction, C) Westerly direction, D) Southerly direction
58. The surface layer of the ocean where light is sufficient for plant growth is called
A) Aphotic zone, B) Photic zone, C) Twilight zone, D) Dysphotic zone
59. Which among the following has the largest Mass (per cent) of the earth?
A) Mantle, B) Hydrosphere, C) Core, D) Crust
60. Penetration of seismic profiling under the sea at a point depends on
A) Nature of the deposit beneath, B) Depth of water from the sea level, C) Distance from the coast, D) Salinity of sea water
61. In which of the following islands is the Mid-Atlantic Ridge clearly evident?
A) Fiji, B) Iceland, C) Bahamas, D) Hawaii
62. Rifting and Plate separation is best seen within a continent in
A) Western United states, B) East Africa, C) Indian subcontinent, D) Northern Europe
63. Which among the following is a volcanic rock?
A) Termite, B) Stalagmite, C) Rhyolite, D) Monazite
64. In which of the following States of India is lignite mined?
A) Madhya Pradesh, B) Tamil Nadu, C) West Bengal, D) Kerala
65. In agriculture practice, contour ploughing is resorted to in the hills with slopes
A) to increase percolation of water, B) to inhibit erosion, C) for better growth of crops, D) for easier harvesting
66. Aquicludes are
A) potential reservoirs of water, B) artificial canals passing over natural streams, C) hard rocks with very low permeability, D) body of water within the lagoon
67. Which among the following is the most pollutant of ground water within granites?
A) Arsenic, B) Fluoride, C) Iron, D) Chloride
68. Volcano 'Etna' is located in
A) Mexico, B) Indonesia, C) Colombia, D) Italy
69. Which of the following rivers in India exhibits 'cusate' delta?
A) Godavari, B) Narmada, C) Subarnarekha, D) Cauvery

70. Crevasse are characteristic features in
A) Rocky river bed, B) Transverse dunes, C) Glaciers, D) Fractured limestone
71. Barren Island is an active volcano located in
A) Andaman Islands, B) Nicobar Islands, C) Maldives Islands, D) Lakshadweep Islands
72. 'Ablation' refers to
A) Rounding of grains in a flowing stream, B) Weathering of a rock by a chemical process
C) Snow or ice lost from a glacier, D) Process of 'yardang' formation in an arid region
73. Which among the following represents a correct sequence of sedimentary particles from the largest to the smallest?
A) Cobble, boulder, sand, B) Pebble, silt, cobble, C) Grit, sand, silt, D) Grit, sand, pebble
74. Calcium carbonate pellets and nodules get precipitated mostly under
A) Limestone bedrock, B) Wet climate, C) Temperate climate, D) Dry climate
75. Classification of cyclones (type of disturbances) is based on the intensity of the wind-speed in kmph. In the following four which disturbance is correctly matched against its wind-speed?
A) Depression <31, B) Severe cyclonic storm >220
C) Deep depression 50 to 61, D) Hurricane 62 to 88
76. In which of the following cities the day is the longest on June 21?
A) Thiruvananthapuram, B) Chandigarh, C) Hyderabad, D) Jubbulpore
77. The air that contains moisture to its full capacity is referred to as
A) Relative humidity, B) Saturated air, C) Specific humidity, D) Absolute humidity
78. Which among the following terms refers to equality in rainfall?
A) Isograd, B) Isotope, C) Isohyet, D) Isohel
79. Echo-sounder is an instrument used to
A) Measure the hearing capacity of an individual, B) Measure distance between two hills
C) Locate mineral deposits in ocean, D) Measure ocean water depths
80. A tide occurring at the first and third quarters of the Moon is called
A) Neap tide, B) Spring tide, C) High tide, D) Low tide
81. Salinity is expressed as the amount of salt, in grams, dissolved in sea water per
A) 10 gm, B) 100 gm, C) 1000 gm, D) 10,000 gm
82. Both canyons and trenches are found in
A) Continental shelf, B) Abyssal hills, C) Plateaus, D) Continental slopes

83. Guyot is a feature associated with

A) Submarine landforms, B) Karst topography, C) Volcanic landforms, D) Dune topography

84. Earliest evidences of glaciation in India has been found in

A) Permian, B) Pleistocene, C) Cretaceous, D) Precambrian

85. Which among the following minerals weathers fastest?

A) Calcite, B) Muscovite, C) Quartz, D) Gibbsite

86. En echelon pattern of faulting indicates

A) Series of parallel normal faults, B) Series of parallel thrust faults, C) Series of small faults in a staggered arrangement, D) Those emanating from the uplift of a structural dome

87. The density of sun is

A) Very high, B) More than that of earth, C) Less than that of earth, D) Cannot be calculated

88. All stars become red giants

A) After 1 billion years, B) When hydrogen is completely exhausted, C) When helium is completely exhausted, D) When 10% of the hydrogen at the core is exhausted

89. The nuclear reactions taking place in the sun are

A) Proton-proton reactions, B) CNO reactions, C) Uranium fission, D) Not operating when the sun becomes a red giant

90. After 10 billion years the sun will become a

A) White dwarf, B) neutron star, C) black hole, D) blue star

91. The sun is called a yellow star because

A) It looks red at rise and set, B) It emits white light, C) It emits maximum energy in yellow light, D) Sometimes it looks blue

92. Red giants appear brighter because

A) CNO cycle is producing energy, B) p-p reactions have stopped, C) the stars swell to a larger size, D) hydrogen is exhausted

93. Nebulae implies

A) Galaxies like Andromeda, B) Crab nebula, C) Orion nebula, D) Cloud like tenuous material of Milky Way

94. Globular clusters are

A) Star forming regions, B) Young clusters, C) Very rich in metal content, D) Spread across the halo region of the Galaxy

95. Novae are

A) Faint explosion of stars, B) New stars that are born million years ago, C) Death of a massive star in another galaxy, D) Temporary increase in brightness caused by accretion disc in a binary

96. The distance to farther galaxies is estimated by

A) Method of parallax, B) Measuring luminosities, C) Cepheid variables, D) Supernovae

97. Inter stellar matter may be identified

A) By optical spectroscopy, B) by reddening, C) by parallax, D) from radio observations

98. Metallicity means

A) Iron content, B) Ratio of Fe/H abundances, C) Fraction of all elements other than hydrogen and helium, D) Ratio of inorganic metal content to organic content

99. Andromeda galaxy is

A) A spiral galaxy, B) an elliptical galaxy, C) a nebula in our Galaxy, D) a super nova remnant

100. Red shift implies

A) Galaxies are moving away, B) The star or galaxy looks red, C) There is no blue light emitted from the star or galaxy, D) The source of light is moving away from us