

## 1. Physical Geography

### 1. Our Universe

1. The summer and winter seasons in a year are caused by
  - (a) aphelion (farthest) and perihelion (nearest) positions of the Earth from the Sun during the annual revolution
  - (b) rotation in solar insolation
  - (c) variation in solar insolation
  - (d) revolution of the Earth on its inclined axis [NDA 2014]
2. Which among the following planets is smaller in size than the Earth?
  - (a) Neptune (b) Venus (c) Saturn (d) Uranus
3. Advanced sunrise and delayed sun-set found in the sky are due to the phenomenon of—
  - (a) diffraction of sunlight (b) refraction of sunlight
  - (c) scattering of sunlight
  - (d) total internal reflection of sun-light [UPSC A.C. 2013]
4. The Circle of illumination divides Earth into two hemispheres known as :
  - (a) East and West (b) North and South
  - (c) Day and Night (d) Summer and Winter [CDS II 2013]
5. Which planet was named after the Roman God Zeus?
  - (a) Mars (b) Earth (c) Venus (d) Jupiter
6. Which of the following is the farthest planet to the Sun?
  - (a) Mars (b) Jupiter (c) Neptune (d) Earth
7. Which is the closest star to earth?
  - (a) Sirius (b) Sun (c) Rigel (d) Deneb
8. Who discovered the solar system?
  - (a) Copernicus (b) Kepler
  - (c) Aryabhata (d) Newton
9. How many kilometres are represented by 1° of latitude?
  - (a) 321 km (b) 211 km
  - (c) 111 km (d) 91 km [CDS 2011]
10. The average distance from the sun to earth is—
  - (a) 150mkm (b) 57.8 million km
  - (c) 227.9 mkm (d) 778.2 mkm
11. Which one of the following is present in the largest amount in terms of percent by mass in the earth's crust?
  - (a) Silicon (b) Oxygen (c) Carbon (d) Calcium
12. The difference in the duration of day and night increases as one moves from—
  - (a) West to East
  - (b) East and west of the prime meridian
  - (c) Poles to equator (d) Equator to poles
13. The Sun is never overhead at any time in—
  1. North Temperate zone 2. South Temperate Zone
  3. North Frigid Zone 4. Torrid Zone
  - (a) 3 only (b) 1, 2 and 3 (c) 2 and 3 (d) All
14. Which one among the following statements is not correct?
  - (a) Solar noon occurs simultaneously at locations with the same longitude
  - (b) One meridian, which is directly under the sun, experiences solar noon at a given time
  - (c) Places having same longitude experience solar noon at different times
  - (d) Solar noon occurs at different times at locations with the same latitude [CDS II 2013]
15. Variations in the length of daytime and nighttime from season to season are due to
  - (a) the earth's rotation on its axis
  - (b) the earth's revolution round the sun in an elliptical manner
  - (c) latitudinal position of the place
  - (d) revolution of the earth on a tilted axis [IAS 2013]
16. What is the time taken by the Earth to complete one rotation on its imaginary axis?
  - (a) 24 hr 37 min 23 sec (b) 24 hr
  - (c) 23 hr 56 min 4 sec (d) 23 hr 52 min [MPSI 2012]
17. The Tropic of Cancer does not pass through :
  - (a) India (b) Egypt (c) Mexico (d) Iran [MPSI 2012]
18. How does the Sun get its energy?
  - (a) From gravitational pressure
  - (b) From nuclear fission (c) From nuclear fusion
  - (d) None of the above [MPSI 2012]
19. Which of the following statements regarding the duration of day and night is correct?
  - (a) Difference is least near the Equator and progressively increases away from it
  - (b) Difference is maximum at the Equator and progressively decreases away from it
  - (c) Difference is least at the Tropics and progressively increases towards the Equator and Poles
  - (d) Difference is maximum at the Tropics and progressively decreases towards the Equator and Poles [CDS I 2014]
20. On December 22, the Sun—
  1. Is not visible at north pole
  2. is only visible for a few minutes at the Antarctic Circle
  3. rises south of east and sets south of west at the Tropic of Cancer
  4. rises south of east and sets south of west at the equator
  - (a) 1 and 3 (b) 2, 3 and 4 (c) 1, 3 and 4 (d) all
21. What is the correct sequence of the following in the context of the age of the earth since its origin—
  1. Cenozoic 2. Mesozoic 3. Paleozoic 4. Protozoic
  - (a) 4, 3, 1, 2 (b) 3, 4, 2, 1 (c) 3, 4, 1, 2 (d) 4, 3, 2, 1
22. Tides are complex and they vary from place to place because of—
  - (a) The movement of moon in relation to earth
  - (b) Uneven distribution of water over the globe
  - (c) Irregularities in the configuration of oceans
  - (d) All of the above



23. Which of the following phenomenon is/are the effect of the rotation of the earth ?  
 1. Apparent movement of the Sun, the Moon and the Stars  
 2. Flatness of the poles and bulge at the equator  
 3. Occurrence of Sunrise, noon and sunset  
 4. Magnetic field of the earth  
 (a) 1 and 3 (b) 2 and 3 (c) 1, 2 and 3 (d) All
24. Eclipses occur due to which optical phenomena ?  
 (a) Reflection (b) Refraction  
 (c) Rectilinear propagation (d) Diffraction [FCI 2012]
25. **Statement I** : Comets revolve round the Sun only in long elliptical orbits.  
**Statement II** : A comet develops a tail when it gets close to the Sun  
 (a) Both the statements are individually true and statement II is the correct explanation of statement I  
 (b) Both the statements are individually true but statement II is not the correct explanation of statement I  
 (c) Statement I is true but statement II is false  
 (d) Statement I is false but statement II is true [CDS (II) 2012]
26. The earth rotates around an axis pointing towards—  
 (a) The moon (b) The pole star  
 (c) The sun (d) Venus
27. **Statement I** : The planet Neptune appears blue in colour  
**Statement II** : The presence of methane gas in the atmosphere of Neptune is responsible for its colour.  
 (a) Both the statements are individually true and statement II is the correct explanation of statement I  
 (b) Both the statements are individually true but statement II is not the correct explanation of statement I  
 (c) Statement I is true but statement II is false  
 (d) Statement I is false but statement II is true [CDS (II) 2012]
28. During the recent Venus transit (June 2012), the planet appeared as a tiny black circle moving on the Sun. The black colour on the Sun is because the planet :  
 (a) Is black in colour  
 (b) Obstructed all light from the Sun  
 (c) Was invisible due to bright rays from the Sun  
 (d) Behaved as a black hole during its transit [CDS (II) 2012]
29. Which one among the following is called terrestrial planet?  
 (a) Mercury (b) Jupiter  
 (c) Saturn (d) Uranus [CDS (II) 2012]
30. The twinkling of a star is due to :  
 (a) The variation in the intensity of light emitted by it with time  
 (b) The variation in the composition of the star with time  
 (c) The transit of other celestial objects across the line of sight  
 (d) The atmospheric refraction of starlight [SSC 2012]
31. The earth is at its maximum distance from the Sun on :  
 (a) January 30th (b) December 22nd  
 (c) September 22nd (d) July 4th [SSC (Tier-I) 2012]
32. One degree of the circumference of the earth measures (approx)—  
 (a) 100 km (b) 111 km (c) 151 km (d) 175 km
33. Why do we have a leap year every four years ?  
 (a) The Earth gets shifted out of orbit every four years  
 (b) The revolution slows down a little once every four years  
 (c) The length of a year is not an integer number of days  
 (d) It is a convention [CDS (II) 2012]
34. Variation in duration of day and night is due to—  
 1. Rotation of earth on its axis  
 2. Revolution of earth around the sun.  
 3. Inclination of earth at an angle of  $66\frac{1}{2}^{\circ}$   
 (a) 1 and 2 (b) 2 and 3  
 (c) 1 and 3 (d) 1, 2 and 3
93. The brightest planet is :  
 (a) Jupiter (b) Mars (c) Venus (d) Mercury [SSC (Tier-I) 2012]
36. What is meant by the term "midnight sun" ?  
 (a) Twilight (b) Rising Sun  
 (c) Very bright moon  
 (d) Sun shining in the polar circle for long time [SSC (LDC) 2011]
37. The earth rotate around its axis from—  
 (a) North to south (b) East to west  
 (c) South to north (d) West to east
38. The inclination of the earth's axis to the orbital plane is—  
 (a)  $21\frac{1}{2}^{\circ}$  (b)  $23\frac{1}{2}^{\circ}$  (c)  $66\frac{1}{2}^{\circ}$  (d)  $90^{\circ}$
39. Match the following—
- | Date                          | Conditions in Northern Hemisphere |
|-------------------------------|-----------------------------------|
| A. March 21 <sup>st</sup>     | 1. Winter                         |
| B. June 21 <sup>st</sup>      | 2. Autumnal Equinox               |
| C. September 21 <sup>st</sup> | 3. Summer Solstice                |
| D. December 22 <sup>nd</sup>  | 4. Vernal Equinox                 |
- | Code : A | B | C | D |
|----------|---|---|---|
| (a) 1    | 2 | 3 | 4 |
| (b) 1    | 3 | 4 | 2 |
| (c) 2    | 3 | 1 | 4 |
| (d) 4    | 3 | 2 | 1 |
40. The name of Saturn's largest moon is :  
 (a) Mimas (b) Enceladus  
 (c) Titan (d) Tethys [SSC (Nar) 2012]
41. The mean radius of the earth is—  
 (a) 3200 km (b) 6400 km  
 (c) 9600 km (d) 12800 km
42. The total surface area of earth is—  
 (a) 510 million sq. km. (b) 610 million sq. km  
 (c) 710 million sq. km (d) 810 million sq. km
43. What is the approximate equatorial circumference of the earth ?  
 (a) 30,000 km (b) 35,000 km  
 (c) 40,000 km (d) 45,000 km
44. The approximate diameter of the earth is—  
 (a) 4,200 km (b) 6,400 km  
 (c) 12,800 km (d) 15,600 km
45. An ape like creature identified as man appeared in the  
 (a) Pleistocene epoch (b) Pliocene epoch  
 (c) Miocene epoch (d) Oligocene epoch
46. The first dinosaurs appeared in the—  
 (a) Permian period (b) Triassic period  
 (c) Jurassic period (d) Cretaceous period



47. Who discovered the first four satellites of Jupiter ?  
 (a) Galileo (b) Copernicus  
 (c) Newton (d) Kepler [SSC (LDC) 2012]
48. Which planet in our solar system is nearly as big as the earth ?  
 (a) Mercury (b) Mars (c) Venus (d) Pluto  
 [SSC (LDC) 2011]
49. The planet that takes 88 days to make one revolution of the sun is—  
 (a) Mercury (b) Saturn (c) Jupiter (d) Mars  
 [SSC (LDC) 2011]
50. What is meant by the eclipse of moon ?  
 (a) It is path along which the moon revolves.  
 (b) When the moon comes between the Sun and the Earth it cause the shadows of the moon to fall on Earth.  
 (c) It occurs when the Earth comes between the Sun and the moon and the centres of all three are on the same straight line.  
 (d) For any place, it is the average angle made by a line drawn from the moon to place and horizontal at midnight.
51. The permanent tilt of the earth's axis and the revolution of the earth its orbit together cause—  
 (a) Day and night  
 (b) Varying lengths of day and night at different times of the year  
 (c) Differences in time between place on different meridian.  
 (d) The deflection of wind.
52. When the sun is vertically overhead along the Tropic of Capricorn at midday—  
 (a) Days and nights are of equal length in the Northern Hemisphere.  
 (b) Nights are longer than days in the Southern Hemisphere.  
 (c) Days and nights are of equal length at the poles.  
 (d) Night is equal to 24 hours of the North pole.
53. The distance of the earth from the sun is about—  
 (a) 1500 million km. (b) 300 million km.  
 (c) 227 million km. (d) 149 million km. 1150
54. Which of the following is called "Blue Planet" ?  
 (a) Saturn (b) Earth (c) Jupiter (d) Mars  
 [SSC (LDC) 2011]
55. Which of the following statements can be taken as evidence to show that the Earth is spherical ?  
 (a) The rotation of the earth from west to east.  
 (b) Some parts of the earth have day when other parts have night.  
 (c) The earth horizon is seen to be curved when seen from an aeroplane.  
 (d) The earth's revolution around the sun.
56. The Earth makes one complete revolution in—  
 (a) 365 days (b) 360 days  
 (c) 365 ½ days (d) 1 day
57. Which one of the following is not connected with proofs of the earth's shape ?  
 (a) Rotation and revolution  
 (b) Circumnavigation (c) The Earth's shadow  
 (d) The Bedford level canal experiment
58. An eclipse of the sun, takes place—  
 (a) When the moon passes between the Sun and the Earth.  
 (b) Once every five years (c) When the moon is full  
 (d) When the Earth comes between the Sun and the moon
59. The outermost layer of the Sun is called—  
 (a) Chromosphere (b) Photosphere  
 (c) Corona (d) Lithosphere  
 [SSC (UDC) 2011]
60. Titan is the largest natural satellite of planet—  
 (a) Mercury (b) Venus  
 (c) Saturn (d) Neptune
61. Which of the following planets rotates clock wise ?  
 (a) Pluto (b) Jupiter  
 (c) Venus (d) Mercury
62. A difference of 1 degree in longitude at the Equator is equivalent to nearly—  
 (a) 101 km (b) 111 km (c) 121 km (d) 125 km  
 [CDS 2011]
63. When we consider 15° meridian on a world map or globe and count them in an eastward direction starting with Greenwich meridian (0°), we find that the time of this meridian is ?  
 (a) Same as Greenwich (b) 1 hour fast  
 (c) 1 hour slow (d) 12 hours fast [CDS 2011]
64. Consider the following axioms regarding Tidal Hypothesis on origin of the earth—  
 1. The solar system was formed from the primitive sun and another intruding star  
 2. The intruding star was smaller in size than the primitive sun  
 3. The primitive sun was rotating on its axis  
 4. The tidal force of intruding star was greater than the primitive sun  
 Which of the axioms given above were presented by Sir James Jeans ?  
 (a) 1, 2 and 3 (b) 2, 3 and 4  
 (c) 1, 2 and 4 (d) 1, 3 and 4
65. Consider the following factors:  
 1. Rotation of the Earth 2. Air pressure and wind  
 3. Density of ocean water 4. Revolution of the Earth  
 Which of the above factors influence the ocean currents?  
 (a) 1 and 2 only (b) 1, 2 and 3  
 (c) 1 and 4 (d) 2, 3 and 4 [IAS 2012]
66. Which of the following is/are cited by the scientists as evidence/evidences for the continued expansion of universe?  
 1. Detection of microwaves in space  
 2. Observation of redshift phenomenon in space  
 3. Movement of asteroids in space  
 4. Occurrence of supernova explosions in space  
 Select the correct answer using the codes given below :  
 (a) 1 and 2 (b) 2 only (c) 1, 3 and 4  
 (d) None of the above can be cited as evidence  
 [IAS 2012]
67. Match List-I (Characteristic) with List-II (Area in which it exists) and select the correct answer using the codes given below the lists:



## List-I

- A. Asthenosphere  
B. Inversion  
C. Lithosphere  
D. Mantle

## List-II

1. Troposphere (lower part)  
2. The oceanic part of the earth  
3. Mantle of the earth (upper part)  
4. Solid earth  
5. Mantle of the earth (lower part)

Code : A

B

C

D

- (a) 2  
(b) 3  
(c) 3  
(d) 5

- 4  
1  
2  
1

- 3  
4  
1  
4

- 5  
5  
4  
3

68. Which one of the following planets has largest number of natural satellites or moons?

- (a) Jupiter (b) Mars (c) Saturn (d) Venus

[IAS (Pre) 2009]

69. Assertion (A) : Venus is the brightest object in the sky after the sun.

Reason (R) : Venus is the second planet from the sun in our solar system.

Codes :

- (a) Both A and R are individually true and R is the correct explanation of A  
(b) Both A and R are individually true 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

[CDS 2009]

70. Light-year measures which of the following?

- (a) Intensity of light (b) Mass  
(c) Distance (d) Time

[RRB ASM 2009]

71. Meteorites are the heavenly bodies—

- (a) Between the Mars and the Jupiter  
(b) Between the Saturn and the Neptune  
(c) Between the Mars and the Venus  
(d) That burn brightly on entering the Earth atmosphere

[Central Bank of India Clerical 2010]

72. The largest planet in our solar system is—

- (a) Mars (b) Jupiter (c) Butterfly (d) Saturn

[SSC Tax Assistant 2007]

73. We always see the same face of the moon, because—

- (a) It is smaller than the earth  
(b) It revolves on its axis in a direction opposite to that of the earth  
(c) It takes equal time for revolution around the earth and rotation on its own axis  
(d) It rotates at the same speed as the earth around the sun

[SSC Tax Assistant 2007]

74. Consider the following statements—

- (a) The Earth receives the Sun's energy at the infrared end of the spectrum.  
(b) The Earth re-radiates the Sun's heat as ultraviolet energy.

Which of the statements given above is/are correct?

- (a) a only (b) b only  
(c) Both a and b (d) Neither a nor b

[UPSC CPF Assistant Commandants 2009]

75. The 'blue moon' phenomenon occurs—

- (a) When two full moons occur in the same month  
(b) When four full moons appear in two consecutive months of the same calendar year  
(c) When two full moons appear in the same month thrice in a calendar year  
(d) None of the above

[UPPCS 2009]

76. The inexhaustible source of energy of the stars is due to

- (a) Conversion of Hydrogen to Helium  
(b) Conversion of Helium to Hydrogen  
(c) Decay of radioactive elements  
(d) Excess of oxygen that helps burning and release of energy

[UPPCS 2009]

77. What is the difference between asteroids and comets?

1. Asteroids are small rocky planets, while comets are formed of frozen gases held together by rocky and metallic material.  
2. Asteroids are found mostly between the orbits of Jupiter and Mars, while comets are found mostly between Venus and Mercury.  
3. Comets show a perceptible glowing tail, while asteroids do not.

Which of the statements given above is/are correct?

- (a) 1 and 2 only (b) 1 and 3 only  
(c) 3 only (d) 1, 2 and 3

[IAS 2011]

78. Satellites used for telecommunication relay are kept in a geostationary orbit. A satellite is said to be in such an orbit when:

1. The orbit is geosynchronous.  
2. The orbit is circular.  
3. The orbit lies in the plane of the Earth's equator.  
4. The orbit is at an altitude of 22,236 km.

Select the correct answer using the codes given below:

- (a) 1, 2 and 3 only (b) 1, 3 and 4 only  
(c) 2 and 4 Only (d) 1, 2, 3 and 4

[IAS 2011]

79. The Earth revolves around the Sun in an elliptical path and the Sun is located at one focus of the ellipse. Imagine a situation in which the Earth goes around the Sun on a circular path. Which one among the following would result in under that situation?

- (a) It would not make any difference  
(b) Difference between seasons will be reduced  
(c) The Earth would become very hot  
(d) The Earth would become very cold

[CDS, 2011]

80. We observe twinkling of stars due to

- (a) frequent and periodic fluctuation of temperature of the surface  
(b) constant change of refractive index of the medium between the stars and the Earth because of temperature variation  
(c) rise and fall of gaseous ball of fire inside the stars  
(d) great distance of stars from the Earth

[CDS, 2011]

81. Which of the following do not belong to solar system?

- (a) Asteroids (b) Comets  
(c) Planets (d) Nebulae

[BPSC 2011]

82. One astronomical unit is the average distance between.

- (a) The Earth and the Sun (b) The Pluto and the Sun  
(c) The Jupiter and the Sun  
(d) The Earth and the Moon

[JPSC 2011]

83. A person stood alone in a desert on a dark night and wanted to reach his village which was situated 5 km east of the point where he was standing. He had no instruments to find the direction but he located the polestar. The most convenient way now to reach his village is to walk in the

(a) direction facing the polestar  
(b) direction opposite to the polestar  
(c) direction keeping the polestar to his left  
(d) direction keeping the polestar to his right

[IAS 2012]



**Answers**

1. (d) 2. (a) 3. (c) 4. (b) 5. (d) 6. (c) 7. (b) 8. (a) 9. (c) 10. (a) 11. (b) 12. (d) 13. (b)  
 14. (c) 15. (b) 16. (c) 17. (d) 18. (c) 19. (a) 20. (c) 21. (d) 22. (d) 23. (d) 24. (c) 25. (b) 26. (b)  
 27. (b) 28. (d) 29. (a) 30. (d) 31. (d) 32. (b) 33. (c) 34. (b) 35. (c) 36. (d) 37. (d) 38. (c) 39. (d)  
 40. (c) 41. (b) 42. (a) 43. (c) 44. (c) 45. (a) 46. (b) 47. (a) 48. (c) 49. (a) 50. (b) 51. (b) 52. (b)  
 53. (d) 54. (b) 55. (b) 56. (c) 57. (d) 58. (a) 59. (c) 60. (c) 61. (c) 62. (b) 63. (b) 64. (d) 65. (b)  
 66. (d) 67. (b) 68. (a) 69. (b) 70. (c) 71. (d) 72. (b) 73. (c) 74. (d) 75. (a) 76. (a) 77. (b) 78. (a)  
 79. (b) 80. (b) 81. (a) 82. (a) 83. (c)

**2. Interior of Earth**

1. Which of the following layers of the earth is believed to have the heaviest mineral materials of highest density?

- (a) Central core (b) Crust  
 (c) Mantle (d) Both (b) and (c)

2. The mapping of which of the following is most difficult?

- (a) Mountains  
 (b) Plateau and plains  
 (c) Interior of the earth  
 (d) Oceans and their depth

3. The upper part of the mantle upon which the crust of the earth floats is called—

- (a) Barysphere  
 (b) Mesosphere  
 (c) Mohorovic discontinuity  
 (d) Asthenosphere

4. Which of the following are true regarding the crust of the earth?

- It is the outer thin layer with a total thickness of about 100 km.
- It forms around 0.5 percent of the earth's volume.
- The outer covering of the crust is of sedimentary material.
- The lower layer of the crust consist of basaltic and ultra – basic rocks.

- (a) 1 and 2 (b) 1, 2 and 3  
 (c) 1, 2 and 4 (d) 1, 2, 3 and 4

5. 'Mohs scale' is used to indicate the—

- (a) degree of brittleness of a substance  
 (b) degree of hardness of minerals  
 (c) degree of viscosity of a liquid  
 (d) degree of elasticity of a material

6. Which of the following is/are direct source (s) of information about the interior of the earth?

- Earthquake wave
- Volcano
- Gravitational force
- Earth magnetism

Select the correct answer using the code given below.

- (a) 1 and 2 only (b) 2 only  
 (c) 3 and 4 only (d) 1, 2, 3 and 4

[CDS I 2014]

7. What is the correct sequence of the following layers of the Earth as one moves from the surface to the interior—

- Mantle
  - Crust
  - Core
- (a) 1, 2, 3 (b) 1, 3, 2  
 (c) 2, 1, 3 (d) 3, 1, 2

8. Match of the following List-I (Name of the layer) and List-II (Physical property).

**List-I**

- (a) Outer crust  
 (b) Mantle  
 (c) Core  
 (d) Inner crust

**Code : A**

- (a) 1  
 (b) 2  
 (c) 4  
 (d) 1

**B**

- 2  
 1  
 3  
 4

**List-II**

- Solid
- Partly molten
- Liquid or plastic state
- Solid and partly plastic

**C**

- 3  
 4  
 2  
 1

**D**

- 4  
 3  
 1  
 2

9. Select the correct chronological order of the following geological periods :

- Oligocene
  - Miocene
  - Eocene
  - Pliocene
- (a) 1, 2, 3, 4 (b) 2, 1, 4, 3  
 (c) 4, 2, 1, 3 (d) 3, 1, 2, 4

10. Assertion (A) : The continents are floating on the sea.

Reason (R) : The continents are composed of silica and aluminum while the oceans are composed of silica and magnesium.

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

11. What is the average density of the earth?

- (a)  $0.49 \text{ g cm}^{-3}$  (b)  $3.3 \text{ g cm}^{-3}$   
 (c)  $1/1 \text{ g cm}^{-3}$  (d)  $5.517 \text{ g cm}^{-3}$

12. Consider the following statements—

- The whole core is in a molten state.
- The outer core is in a solid state and the inner core is in a molten state.
- The outer core is in a molten state and the inner core is in a solid state.
- The whole core is in a solid state.

**Codes :**

- (a) 1 is true (b) 2 is true  
 (c) 3 is true (d) 4 is true

13. Which of the following is present in the largest amount in terms of percent by mass in the earth's crust?

- (a) Silicon (b) Oxygen  
 (c) Carbon (d) Calcium

14. Quartz composed of which two elements—

- (a) Iron and magnesium. (b) Iron and oxygen  
 (c) Oxygen and silicon (d) Silicon and iron.

15. The most abundant metal in the earth's crust is:

- (a) Calcium (b) Aluminium  
 (c) Iron (d) Magnesium [FCI 2012]



16. Mantle of the earth crust is—

- (a) A layer with the composition of solid mineral matter  
 (b) A layer with the composition of fluid mineral matter  
 (c) Layer with the composition of semi – fluid mineral matter  
 (d) A layer with the composition of gaseous mineral matter

17. Crust is a layer—

- (a) Having 8 to 40 km thickness.  
 (b) Having 20 to 60 km thickness.  
 (c) Having 5 to 15 km thickness.  
 (d) Having 8 to 20 km thickness.

18. What is the surface area of the earth ?

- (a) 15% of the earth's surface is mass of the crust 5976 million tones land  
 (b) 29% of the earth's surface is mass of the crust 5976 million tones land  
 (c) 50% of the earth's surface is mass of the crust 5976 million tones land  
 (d) None of these

19. An intrusion of magma along a bedding plane is called a—

- (a) Dyke (b) Still  
 (c) Batholith (d) Laccolith

20. Exogenic forces are connected with—

- (a) Plucking action (b) Volcanic action  
 (c) Lithospheric (d) Atmospheric

21. Epirogenetic movement give rise to—

- (a) Shields (b) Plains  
 (c) Volcano (d) Fold mountain

22. Which of the following features may occur when lava cool at the surface ?

- (a) Basalt plateau (b) Still  
 (c) Batholith (d) Dyke

23. Match List-I with List-II and select the correct answer using the code given below the lists—

**List-I**  
 (Discontinuity)

- A. Weichert-Gutenberg  
 B. Mohorovicic (Moho)  
 C. Lehman discontinuity  
 D. Conrad discontinuity

**List-II**  
 (Layer of Earth's interior associated with discontinuity)

1. Outer core and inner core discontinuity  
 2. Lowermantleandouter core discontinuity  
 3. Upper mantle and lower mantle  
 4. Lower crust and upper mantle  
 5. Division of Sial and Sima with the crust

Code:	A	B	C	D
(a)	5	1	3	2
(b)	2	1	3	5
(c)	2	4	1	5
(d)	5	4	1	2

24. With reference to seismic waves, consider the following statements—

1. P-waves travel through a solid rock faster. Than sound waves traveling through air.  
 2. S-waves travel at about half the speed of P-waves.

Which of the statements given above is/are correct ?

- (a) 1 only  
 (b) 2 only  
 (c) Both 1 and 2  
 (d) Neither 1 nor 2

25. During Pleistocene epoch, four glacial phases were identified. Which one of the following is the correct chronological order in which they appeared during this epoch from early times ?

- (a) Gunz — Mindel — Wurm — Riss  
 (b) Gunz — Mindel — Riss — Wurm  
 (c) Wurm — Riss — Mindel — Gunz  
 (d) Mindel — Gunz — Riss — wurm

26. Which one of the following is the correct statement ? The boundary zone between the North American plate and the Eurasian plate exhibits conditions of

- (a) convergence (b) divergence  
 (c) sinking (d) sliding

27. Consider the following statements—

1. The acid lava usually melts at a relatively higher temperature as compared to basic (basaltic) lava.  
 2. The acid lava solidifies into glass-like sheets and the basaltic lava solidifies into rough surfaces.

Which of the statements given above is/are correct?

- (a) 1 only  
 (b) 2 only  
 (c) Both 1 and 2  
 (d) Neither 1 nor 2

28. What does the term 'Lithosphere' refer to ?

- (a) Interior of the Earth  
 (b) Crust of the Earth  
 (c) Plants and animals  
 (d) None of the above

[CPO (SSC) 2012]

29. In the structure of planet Earth, below the mantle, the core is mainly made up of which one of the following ?

- (a) Aluminium (b) Chromium  
 (c) Iron (d) Silicon

[IAS (Pre), 2009]

30. In the interior of the Earth

- (a) The temperature falls with increasing depth  
 (b) The pressure falls with increasing depth  
 (c) The temperature rises with increasing depth  
 (d) Both temperature and pressure fall with increasing depth

[CDS, 2011]

31. Which is the second most abundant metal in the earth's crust ?

- (a) Iron (b) Aluminum  
 (c) Copper (d) Zinc

[Jpsc 2011]

### Answers

1. (a) 2. (c) 3. (d) 4. (c) 5. (b) 6. (a) 7. (c) 8. (d) 9. (c) 10. (a) 11. (d) 12. (c) 13. (b)  
 14. (c) 15. (b) 16. (a) 17. (a) 18. (b) 19. (c) 20. (d) 21. (d) 22. (a) 23. (c) 24. (a) 25. (b) 26. (b)  
 27. (a) 28. (b) 29. (c) 30. (c) 31. (b)



### 3. Longitude and Latitude

- The latitude of a place expresses its angular position relative to the place of—  
(a) Axis of the earth (b) Equator  
(c) North pole (d) South pole
- When would you record the maximum angle of incidence of the Sun's rays at the north pole?  
(a) March 21 (b) September 21  
(c) When the sun's rays fall vertically on the Tropic of Cancer  
(d) When the Sun's rays fall vertically on the Tropic of Capricorn
- One degree of longitude on the equator is equal to a distance of—  
(a) 34.5 miles (b) 50 miles (c) 60 miles (d) 39 miles
- Which of the following best describes longitude?  
(a) A imaginary line joining north and south poles.  
(b) The distance between a place east or west of the Greenwich Meridian  
(c) The angular distance east or west of the Greenwich Meridian  
(d) The position of a place on earth's surface with reference to the Prime meridian
- Assume that the moon takes exactly 30 days to complete the cycle and also assume that it rises in the east exactly at 6:48 p.m. on the first day. On the fourth day, at what time will it rise?  
(a) 8 : 24 p.m. (b) 9 : 12 p.m.  
(c) 10 : 00 p.m. (d) 11 : 48 p.m.
- Which one of the following would have occurred if the earth had not been inclined on its own axis?  
(a) All the seasons would have been of same duration  
(b) The seasons would not have changed  
(c) The summer would have been of longer duration  
(d) The winter would have been longer duration
- Latitude of place is indicated of its—  
(a) Time (b) Altitude  
(c) Amount of rain (d) Temperature
- Which one of the following cities does not have same clock time as that of the other three cities at any given instant?  
(a) London (UK) (b) Lisbon (Portugal)  
(c) Accra (Ghana) (d) Addis Ababa (Ethiopia)
- The place which has the longest day and the shortest night on 22<sup>nd</sup> December, is—  
(a) Chennai (b) Madrid  
(c) Melbourne (d) Moscow
- Geostationary orbit is at a height of—  
(a) 6 km (b) 1000 km  
(c) 3600 km (d) 36, 000 km
- Owing to the equatorial bulge and the polar flattening, the polar radius of the earth falls short of the equatorial radius by about—  
(a) 22 km (b) 36 km  
(c) 41 km (d) 53 km
- The Prime Meridian passes through :  
(a) Paris (b) Greenwich  
(c) New York (d) Delhi [SSC (Nar) 2012]
- Which countries are separated by the 49<sup>th</sup> parallel?  
(a) USA and Canada (b) USA and Mexico  
(c) France and Germany (d) Russia and China [SSC (LDC) 2012]
- The Tropic of Cancer does not pass through :  
(a) India (b) Pakistan  
(c) Bangladesh (d) Myanmar [SSC (LDC) 2012]
- Which of the following are wrongly matched?  
(i) Tropic of Cancer-23<sup>1/2</sup>° N latitude  
(ii) Tropic of Capricorn-66<sup>1/2</sup>° N latitude  
(iii) International Date line-0° longitude 00, (180°)  
(iv) Antarctic Circle-66<sup>1/2</sup>° S latitude  
(a) (i) (b) (ii) and (iii)  
(c) (i), (ii) and (iv) (d) None of these [SSC (TIER-I) 2012]
- What is the International Date Line?  
(a) It is the equator  
(b) It is the 00 longitude  
(c) It is the 900 east longitude  
(d) It is the 1800 longitude 180° [SSC Tax Assistant 2007]
- The time at Cairo is 2 hours ahead of Greenwich. Hence, it is located at  
(a) 30° W longitude (b) 30° E longitude  
(c) 28° E longitude (d) 28° W longitude [BPSC 2011]

### Answers

1. (b) 2. (c) 3. (b) 4. (a) 5. (c) 6. (b) 7. (d) 8. (d) 9. (c) 10. (d) 11. (a) 12. (b) 13. (a)  
14. (b) 15. (d) 16. (d) 17. (b)

### 4. Period, Epoch and Era

- Match List-I (Era) with List-II (Period/Epoch) and select correct answer by using the codes given below the lists—

List-I

- Palaeozoic
- Mesozoic
- Pre-Cambrian
- Cenozoic

List-II

- Triassic
- Archaean
- Oligocene
- Devonian
- Neocene

Code :	A	B	C	D
(a)	1	4	2	5
(b)	4	1	2	5
(c)	1	5	3	2
(d)	4	1	3	2

- Match List-I (Geological Era) with List-II (Geological Period) and select the correct answer using the codes given below the lists—



## List-I

- A. Mesozoic  
B. Proterozoic  
C. Cainozoic  
D. Palaeozoic

## List-II

1. Tertiary  
2. Triassic  
3. Pre-Cambrian  
4. Permian

Code : A B C D

- (a) 3 2 1 4  
(b) 2 3 1 4  
(c) 2 3 4 1  
(d) 3 2 4 1

3. The correct sequence (from the oldest to the youngest) of different periods of Tertiary epoch is—

- (a) Pliocene, Miocene, Eocene, Oligocene  
(b) Eocene, Oligocene, Pliocene, Miocene  
(c) Pliocene, Eocene, Miocene, Pliocene  
(d) Eocene, Oligocene, Miocene, Pliocene

4. Match List-I (Geological period) with List-II (Events associated with the period) and select the correct answer using the codes given below the lists—

## List-I

- A. Carboniferous  
B. Pre-Cambrian  
C. Pleistocene

## List-II

1. Start of Himalayan Orogeny  
2. Birds made their appearance  
3. Formation of rocks containing coal, petroleum and natural gas  
4. Large areas subjected to glaciations  
5. Rock formation having rich metallic materials

Code : A B C D

- (a) 5 3 2 4  
(b) 3 5 4 1  
(c) 5 3 4 1  
(d) 3 5 2 4

5. The arrangement of planets with smallest on either ends and big planet in the middle, supports which one of the following theories of origin of the solar system ?

- (a) Big Bang theory (b) Tidal hypothesis  
(c) Binary Star theory (d) Cepheid theory

6. The most recent geological epoch of the Quaternary period covering the 10000 years or so from the end of the Pleistocene epoch to the present day is known as—

- (a) Pliocene (b) Miocene  
(c) Oligocene (d) Holocene

7. Tertiary period had five epochs. Select the correct order in which these epochs appeared in the geological time scale from ancient to more recent times—

- (a) Palaeocene — Oligocene — Miocene — Eocene — Pliocene  
(b) Palaeocene — Palaeocene — Miocene — Eocene — Pliocene  
(c) Oligocene — Palaeocene — Miocene — Eocene — Pliocene  
(d) Palaeocene — Eocene — Oligocene — Miocene — Pliocene

8. Match List-I (Geological Period) with List-II (Distinctive Life/Incidence) and select the correct answer using the codes given below the lists—

## List-I

- A. Late Precambrian  
B. Carboniferous  
C. Devonian  
D. Upper Cretaceous

## List-II

1. Himalayan orogeny  
2. Sponges  
3. Man  
4. Coal  
5. Fish

Code : A B C D

- (a) 5 4 3 1  
(b) 2 1 5 4  
(c) 5 1 3 4  
(d) 2 4 5 1

9. Which one of the following periods is largely associated with extinction of Dinosaurs and the increase in flowering plants and reptiles ?

- (a) Jurassic (b) Triassic  
(c) Cretaceous (d) Permian

## Answers

1. (b) 2. (b) 3. (d) 4. (b) 5. (b) 6. (a) 7. (d) 8. (d) 9. (a)

## 5. Earthquake And Volcano

1. Composite volcanic cone is also called strata cone because of the :

- (a) alternating sheets of lava and pyroclastic materials  
(b) uneven streams of lava flow  
(c) cataclysmic eruption  
(d) eruption of lava flow from a fissure [CDS II 2013]

2. The cup-shaped mouth of the volcano is :

- (a) Crater (b) Cinder cone  
(c) Focus (d) Epicentre [SSC 2013]

3. Creators or calderas are—

- (a) Rift valley  
(b) Hollows created by removed of volcanic cones  
(c) Sink holes (d) Pot holes

4. A volcanic eruption is most likely to be violent when—

- (a) The volcano is near to the sea  
(b) The neck of the volcano is sealed by a plug  
(c) The lava is viscous  
(d) The lava reaches the surface through a fissure

5. Which of the following features is not an aspect of vulcanicity ?

- (a) Geyser (b) Batholith  
(c) Dyke (d) Fold

6. Which of the following statements relating to earthquakes is/are correct ?

1. The point of origin of an earthquake is called the epicenter.  
2. The lines joining the places which were affected by earthquake at the same point of time are called homoseismal lines.

Select the correct answer using the code given below.

- (a) 1 only (b) 2 only  
(c) Both 1 and 2 (d) Neither 1 nor 2

[CDS I 2014]

7. Which of the following features is the product of vulcanicity ?

- (a) Geosyncline (b) Escarpment  
(c) Atoll (d) Fold mountain



8. The earthquake at Sagami bay in Japan which killed two and a half lakh people was an example of—  
 (a) Tectonic earthquake  
 (b) Plutonic earthquake  
 (c) Main-induced earthquake  
 (d) Isostatic earthquake.
9. The lines joining the place of equal intensity of seismic waves are known as :  
 (a) Seismic line (b) Isoseismic line  
 (c) Isogonal line (d) Isogonic line
10. Which is not a causative factor of earthquake ?  
 (a) Volcanoes (b) Isostasy (c) Tectonics (d) Waves
11. The place of origin of an earthquake is called—  
 (a) Epicentre (b) Focus  
 (c) Seismal (d) Amphidromic point
12. Tsunamis are originated due to—  
 (a) Sea waves (b) Earthquake  
 (c) Hurricane (d) Rotation of the earth
13. The famous 'Ring of fire' which account for 68% of an earthquakes occurring in the earth is in the—  
 (a) Atlantic ocean (b) Indian ocean  
 (c) Pacific ocean (d) Arctic ocean
14. The number indicating the intensity of an earthquake on a Richter scale range between—  
 (a) 1 to 7 (b) 1 to 8 (c) 1 to 9 (d) 1 to 12
15. Which is not a topography produced by volcanicity—  
 (a) Cones (b) Crater (c) Caldera (d) Cirque
16. Which of the following is not an effect of volcanic eruptions—  
 (a) Tsunamis or seismic waves  
 (b) Climatic changes  
 (c) Extinction of species (d) Creation of cyclones
17. Which of the following continents has no volcanoes—  
 (a) Africa (b) Australia  
 (c) North America (d) South America
18. 'A valley of ten thousand smokes' is the name given to a zone near the volcano—  
 (a) Matua loa of Hawaie  
 (b) Pinatubu of Philippines  
 (c) Pelle in the Caribbean sea  
 (d) Katmai of Alaska
19. Ema is an example of—  
 (a) Active volcano  
 (b) Dormant volcano  
 (c) Extinct volcano  
 (d) Plateau in a volcano region
20. Which of the following active volcanoes is known as 'the light house of the Mediterranean Sea'—  
 (a) Volcano (b) Stromboli (c) Veoavius (d) Ema
21. Which of the following is the highest active volcano in the world ?  
 (a) Etna (b) Fujiyoma  
 (c) Mount tai (d) Catopaxi
22. Match of the following List-I and List-II
- |            |              |
|------------|--------------|
| List-I     | List-II      |
| A. Japan   | 1. Etna      |
| B. Hawaii  | 2. Laki      |
| C. Sicily  | 3. Muuna loa |
| D. Iceland | 4. Fujiyama  |

<b>Code : A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(a) 1	2	3	4
(b) 4	3	2	1
(c) 3	2	1	2
(d) 3	4	1	2

23. Which one of the following best describes the world distribution of active and recently active volcanoes ?  
 (a) They are found in association with young fold mountain chains  
 (b) They occur in river flood plains.  
 (c) They are associated with old eroded mountain chains.  
 (d) They are located on the western sides of continents.
24. Which of the following is a volcanic plateau ?  
 (a) Anatolia plateau (b) Tibetan plateau  
 (c) Antrum plateau (d) Brazilian plateau
25. Tectonic activity—  
 (a) Breaks and bends the crustal rocks  
 (b) Forms and bends the crystal rocks  
 (c) Reshapes by bending the crustal  
 (d) None of these
26. Which one of the following pairs is not correctly matched?  
 (a) Ol Doinyo Lengai : Birthern Tanzania  
 (b) Mount Egmont : Hawaii  
 (c) Volcan poas : Costa Rica  
 (d) Mount Klyuchevskaya : Kamchatka Peninsula
27. Which one of the following types of volcanic eruptions is not usually explosive ?  
 (a) Pelean (b) Hawaiian  
 (c) Strombolian (d) Vulcanian
28. What is seismic zone extending at an angle of about 45° from the base of an ocean trench, down through lithosphere to the asthenosphere known as ?  
 (a) Appleton layer (b) Benioff zone  
 (c) Conard discontinuity (d) Convergence zone
29. **Assertion (A)** : The outer core of the earth's interior is in molten state while the inner core is in solid state.  
**Reason (R)** : The P-seismic waves disappear in outer core while S-waves penetrate up to the inner core.  
**Codes :**  
 (a) Both A and R are individually true and R is the correct explanation of A  
 (b) Both A and R are individually true 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
30. **Assertion (A)** : In a resequent fault line scarp the down throw side will form lower ground.  
**Reason (R)** : The down throw side possesses the softer rock at the level of present erosion surface.  
**Codes :**  
 (a) Both A and R are individually true and R is the correct explanation of A  
 (b) Both A and R are individually true 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



31. The study of lakes is called :

- (a) Limnology (b) Potomology  
(c) Topology (d) Hydrology

[SSC (Tier-I) 2012]

32. A series of lines connecting places having a quake at the same time are called :

- (a) Coseismal lines (b) Isoseismal lines  
(c) Homoseismal lines (d) Seismolines

[SSC (Tier-I) 2012]

33. Consider the following statements regarding earthquakes

1. In earthquakes, shocks are generated at a point known as the epicenter
2. The point of origin of shock may be within the crust or mantle
3. The more earthquake prone areas are at the merging of tectonic plates

Which of the above statements are correct ?

- (a) 1, 2 and 3 (b) 1 and 2  
(c) 1 and 3 (d) 2 and 3

34. Which of the following is *not* a natural disaster ?

- (a) Earthquakes (b) Floods  
(c) Nuclear Explosion (d) Volcanic Explosion

[SSC (LDC) 2012]

35. **Assertion (A) :** Circum-Pacific belt accounts for major percentage share of world's total earthquakes of varying magnitude and deep focus.

**Reason (R) :** Maximum occurrence of earthquakes along Circum-Pacific belt is caused by divergent motion of tectonic plates and consequent formation of faults.

**Codes :**

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

36. Hawaii islands are known for active volcanoes because—

- (a) They are located in the subduction zone of covering plates  
(b) Faults and fractures are found there  
(c) They are situated over a hot plume  
(d) They are situated on a mild oceanic ridge with rising convective currents

37. Spot the odd one from the following :

- (a) Tsunami (b) Earthquakes  
(c) Windmills (d) Cyclones

[SSC (Tier-I) 2012]

38. Which of the following is/are the correct characteristic (s) of primary seismic wave ?

- (a) It is a longitudinal and compressional wave  
(b) It is analogous to sound waves  
(c) It travels with faster speed through solids but slowly through liquids  
(d) All the above three

39. Consider the following statements—

'Vulcan city' refers to:

1. All those processes in which molten rock material or magma rises into the crust.

2. The greater bulk of the volcanic rocks of the earth's surface were erupted from volcanoes.

3. The process of solidification of rock into crystalline or semi crystalline form molten rock material after being poured out on the surface.

Which of the statements given above are correct ?

- (a) 1, 2 and 3 (b) 1 and 2  
(c) 2 and 3 (d) 1 and 3

40. Consider the following statements—

The circum Pacific belt is highly prone to the occurrence of earthquakes because it is a zone of:

1. Young folded mountains
2. Active volcanoes
3. Divergent place boundaries
4. Convergent plate boundaries

Which of the statements given above are correct?

- (a) 1, 2 and 3 (b) 1, 2 and 4  
(c) 2, 3 and 4 (d) 1, 3 and 4

41. Consider the following statements—

1. P-waves are the first seismic waves to reach a place
2. S-waves travel only through liquids
3. Arrival time of p-and S-waves is used to locate the epicenter
4. Richter scale is a logarithmic scale

Which of the statements given above are correct?

- (a) 1, 2 and 3 (b) 1, 3 and 4  
(c) 1 and 4 (d) 3 and 4

42. **Assertion (A) :** The location of the epicenter of an earthquake may be estimated using the time-lag between the arrival of 'P' and 'S' waves.

**Reason (R) :** The 'L' wave cannot start until the 'P' wave hits the surface.

**Codes :**

- (a) Both A and R are individually true and R is the correct explanation of A  
(b) Both A and R are individually true 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

43. Match List-I (Technical Terms) with List-II (Definitions) and select the correct answer using the codes given below the lists—

List-I

List-II

- |                  |                                                                                              |
|------------------|----------------------------------------------------------------------------------------------|
| A. Magma Chamber | 1. A point on earth's surface where impact of the earthquake is felt maximum                 |
| B. Epicentre     | 2. An opening in the earth's crust through which magma flows out                             |
| C. Vent          | 3. A point below the earth's surface where earthquake originates                             |
| D. Seismic Focus | 4. A place below earth's surface where lava is formed and acts as a source of magma outflow. |

Code : A B C D

- (a) 3 1 2 4  
(b) 3 2 1 4  
(c) 4 2 1 3  
(d) 4 1 2 3



44. Consider the following statements in relation to Earth's topmost layer—
1. Transverse earthquake waves move at a speed of 3.5 km/second in that layer.
  2. The specific gravity is 2.7
  3. It is shallowest under Continents and deepest under Oceans.
  4. Abundance of magnesium.

Which of the above statements are correct?

- (a) 1 and 2 (b) 2 and 3  
(c) 3 and 4 (d) 1, 2 and 4

45. Consider the following statements—

1. A tectonic scarp is a steep slope that results from differential movement of the earth surface.
2. The typical angle of repose for scarps of all origins is between  $25^{\circ}$  and  $40^{\circ}$
3. A scarp produced by structurally controlled erosion at an ancient fault is known as fault line scarp.
4. A capable fault is one that shows movement at near the ground surface at least one within the past 35,000 years.

Which of the above statements are correct ?

- (a) 1, 2, 3 and 4 (b) 2, 3 and 4  
(c) 1 and 3 (d) 2 and 3

46. **Assertion (A)** : Basalt is a fine grained and dark coloured igneous rock which is formed below the earth's surface.  
**Reason (R)** : The rate of cooling and solidification of magma inside the earth is very slow.

**Codes :**

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

47. **Assertion (A)** : The structure of the interior of the earth is deduced with the help of seismic waves.

**Reason (R)** : The 'S' waves travel in solid, liquid and gas while the 'P' waves travel only in solid

**Codes :**

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

48. The monster earthquake-cum-tsunami which hit Japan on March 11, 2011 has moved the country's main island, Honshu, by about—

- (a) Two feet (b) Three feet  
(c) Five feet (d) Eight feet

[SSC (UDC) 2011]

49. Which of the following statements are true ?

1. Moderate earthquake are caused along constructive plate boundaries.
2. Low magnitude earthquakes are caused along conservative plate boundaries.
3. Disastrous earthquakes are caused along destructive plate boundaries.
4. Severe earthquakes are caused along the conservative plate boundaries with the creation of transform faults.

Select the correct answer using the codes given below:

- (a) 1 and 2  
(b) 1 and 3  
(c) 1, 3 and 4  
(d) 2, 3 and 4

50. Earthquake is caused by—

- (a) Disturbance of earth surface  
(b) Adjustment of layers of earth crust  
(c) Breakage of rock system  
(d) Upliftment of rocks

[SSC Tax Assistant 2007]

51. Epicentre is concerned with—

- (a) Earthquake  
(b) Volcano  
(c) Cyclone  
(d) Land-sliding

[SSC Tax Assistant 2009]

52. Which scale is used to measure the intensity of earthquake?

- (a) Richter (1 to 9)  
(b) Metric  
(c) Centigrade  
(d) Newton

[SSC Tax Assistant 2009]

53. The World's most active Volcano—

- (a) Cotopaxi (b) Fujiyama  
(c) Kilaueu (d) Vesuvius [UPPCS 2009]

54. Mohorovicic discontinuity separates—

- (a) Upper mantle and lower crust  
(b) Mantle and asthenosphere  
(c) Inner solid core and outer liquid core  
(d) Core and mantle

**Answers**

1. (a) 2. (a) 3. (b) 4. (c) 5. (a) 6. (b) 7. (c) 8. (a) 9. (b) 10. (d) 11. (b) 12. (b) 13. (c)  
14. (c) 15. (d) 16. (d) 17. (b) 18. (d) 19. (a) 20. (b) 21. (d) 22. (c) 23. (a) 24. (c) 25. (a) 26. (b)  
27. (b) 28. (b) 29. (c) 30. (a) 31. (a) 32. (b) 33. (d) 34. (c) 35. (c) 36. (c) 37. (c) 38. (d) 39. (a)  
40. (b) 41. (b) 42. (b) 43. (d) 44. (a) 45. (a) 46. (d) 47. (c) 48. (d) 49. (c) 50. (a) 51. (a) 52. (a)  
53. (a) 54. (a)

**6. Mountain, Plateau Deserts And Rocks**

1. What is the correct sequence from the smallest to the largest grain of the following types of clastic rocks ?

- (a) Shale, sandstone, conglomerate, siltstone

- (b) Shale, siltstone, sandstone, conglomerate  
(c) Conglomerate, sandstone, shale, siltstone  
(d) Sandstone, siltstone, conglomerate, shale

[NDA (I) 2014]



2. Match List-I with List-II and select the correct answer using the code given below the Lists :

List-I (Continent)		List-II (Desert)	
A. Asia		1. Atacama	
B. Africa		2. Mojave	
C. North America		3. Kalahari	
D. South America		4. Gobi	
<b>Codes : A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(a) 4	2	3	1
(b) 1	3	2	4
(c) 4	3	2	1
(d) 1	2	3	4

3. Oil is found in petroliferous rock. Which one among the following structures demonstrates an ideal trap ?  
(a) Horizontal structure (b) Fault structure  
(c) Synclinal structure (d) Anticlinal structure  
[CDS II 2013]

4. Which one of the following is an example igneous rock ?  
(a) Marble (b) Sandstone  
(c) Gabbro/Basalt (d) Gimestone  
[SSC Ste. 2013]

5. Match correctly the following deserts and their location by choosing the correct response :

Desert		Location	
A. Kalahari		1. South America	
B. Atacama		2. Australia	
C. Thar		3. Africa	
D. Great Victoria		4. Asia	
<b>Codes : A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(a) 3	2	1	4
(b) 3	1	4	2
(c) 2	3	1	4
(d) 4	3	2	1

6. Contour line is the imaginary line joining places of equal :  
(a) Elevation (b) Temperature  
(c) Rainfall (d) Humidity [SSC LDC 2013]

7. The formation of 'Mushroom rock' in desert region is an example of :  
(a) Abrasion (b) Erosion (c) Deflation (d) Attrition  
[SSC (CGL)-2013]

8. Breaking down of rock in situ is known as :  
(a) Erosion (b) Weathering  
(c) Mass wasting (d) Degradation  
[SSC (LDC)-2013]

9. Which of the following is an example of Plutonic Igneous Rock ?  
(a) Basalt (b) Granite (c) Slate (d) Dolomite  
[SSC (LDC)-2013]

10. Rocks having large quantity of underground water and permitting ready flow of water as called :  
(a) Aquifers (b) porous  
(c) Permeable (d) Aquicludes  
[SSC (LDC)-2013]

11. Match the following—

Mountain	Type		
A. Mt. Monednock	1. Fold mountains		
B. Mt. Mayon	2. Residual mountains		
C. Vosges	3. Volcanic mountains		
D. Pennines	4. Block mountains		
<b>Code : A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(a) 3	4	1	2
(b) 2	3	4	1
(c) 1	4	3	2
(d) 2	4	1	3

12. Which of the following is piedmont plateau?

- (a) Tibet (b) Anatolia  
(c) Patagonia (d) Brazil

13. The main activity associated with the fold mountains is—

- (a) Volcanoes (b) Rift valley  
(c) Earthquakes (d) Horst

14. Define intermontane plateau—

- (a) They are the outcome of volcanic activity.  
(b) Outcome of diastrophic activity.  
(c) They are the remains of certain mountains.  
(d) They are elevated segment of the earth crust.

15. Sedimentary rocks are also called as—

- (a) Intrusive (b) Extrusive  
(c) Plutonic (d) Dyke rocks

16. Sedimentary rocks are characterised by—

- (a) Stratification  
(b) Crystalline nature  
(c) Coarse texture  
(d) Previous nature

17. Metamorphic rocks are those derived from—

- (a) Igneous rocks (b) Sedimentary rocks  
(c) Both  
(d) Neither igneous nor sedimentary

18. Which of the following is an igneous rocks?

- (a) Limestone (b) Slate  
(c) Marble (d) Basalt

19. Rocks break up when they are exposed on the earth's surface, mainly because—

- (a) Temperature changes effect them  
(b) Force of gravity acts on them  
(c) They and themselves in an environment different from that of their origin  
(d) Rocks gets decomposed when exposed to the atmosphere

20. Which of the following statements is not true in respect of sedimentary rocks ?

- (a) The particles of rocks are sometimes completely of organic origin.  
(b) The rocks are non - crystalline  
(c) They are rocks whose structure is determined by great pressure of heat  
(d) The rocks have been deposited in layers

21. Mechanically formed sedimentary rocks are—

- (a) Chalk (b) Coral  
(c) Gravel (d) Borax



22. Tin is example of—

- (a) Igneous ore deposit
- (b) Sedimentary ore deposit
- (c) Metamorphic ore deposit
- (d) Alluvial deposit

23. Consider the following statements—

1. All sedimentary rocks are formed under water.
2. All sedimentary rocks have layers
3. Loess is formed at the land surface and has no layer.
4. Loess is a sedimentary rocks.

**Codes :**

- (a) 1 and 2 are correct      (b) 2 and 3 are correct.
- (c) 3 and 4 are correct      (d) 1 and 4 are correct.

24. **Assertion (A) :** Three-fourth of the earth's surface is covered with sedimentary rocks.

**Reason (R) :** They make up only about 5 percent of the volume of earth's crust.

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

25. Match the following **List-I** and **List-II**—

- | <b>List-I</b> | <b>List-II</b>            |
|---------------|---------------------------|
| A. Batholith  | 1. Metamorphic rock       |
| B. Pumice     | 2. Sedimentary rock       |
| C. Sandstone  | 3. Extrusive igneous rock |
| D. Quartzite  | 4. Intrusive igneous rock |

- | <b>Code : A</b> | <b>B</b> | <b>C</b> | <b>D</b> |
|-----------------|----------|----------|----------|
| (a) 2           | 4        | 1        | 3        |
| (b) 3           | 2        | 1        | 4        |
| (c) 1           | 2        | 3        | 4        |
| (d) 4           | 3        | 2        | 1        |

26. Which of the following statements is true about igneous rock ?

- (a) They have little amount of fossils.
- (b) They are porous of water.
- (c) They are crystalline as well as non- non crystalline.
- (d) These rocks do not contain silica.

27. Which of the following is true about sedimentary rock?

- (a) They are rocks whose structure is contingent on heat and pressure.
- (b) The rocks are crystalline.
- (c) The rocks have been deposited in layers.
- (d) The rocks cannot be formed under water

28. Open folds are those in which the angle between the two limbs of the fold is—

- (a) more than 90° but less than 180°
- (b) more than 75° but less than 150°
- (c) more than 45° but less than 90°
- (d) more than 120° but less than 210°

29. Match **List-I** (Highest peak) with **List-II** (Country) and select the correct answer using the code given below the lists—

- | <b>List-I</b>      | <b>List-II</b> |
|--------------------|----------------|
| A. Mount Logan     | 1. Australia   |
| B. Mount McKinley  | 2. USA         |
| C. Mount Kosciusko | 3. Canada      |

**Code : A      B      C**

- (a) 1      3      2
- (b) 1      2      3
- (c) 3      2      1
- (d) 2      3      1

30. Among the following elements, which one is in the highest amount in the composition of basalt rock ?

- (a) Aluminum      (b) Calcium
- (d) Iron      (d) Silicon

31. Consider the following—

1. Harz mountains
2. Vosges mountains
3. Eastern highlands of Madagascar

Which of the above are block mountains ?

- (a) 1 and 2 only      (b) 2 and 3 only
- (c) 1 and 3 only      (d) 1, 2 and 3

32. Consider the following statements—

1. Intrusive igneous rocks tend to have larger mineral crystals than extrusive igneous rocks.
2. Vast majority of sedimentary rock.
3. Shale is the finest grained elastic sedimentary rock.

Which of the statements given above is/are correct?

- (a) 1 only      (b) 2 and 3 only
- (e) 1 and 3 only      (d) 1, 2 and 3

33. Consider the following—

1. Andes mountains
2. New Zealand
3. Philippines
4. Taiwan

Which of the above is/are parts (s) of the Pacific Ring of Fire ?

- (a) 1 only      (b) 1 and 2 only
- (c) 2, 3 and 4 only      (d) 1, 2, 3 and 4

34. **Assertion (A) :** The origin of Himalayas is due to the collision of the Indian Subcontinent with Eurasian landmass.

**Reason (R) :** The convergence of crystal plates is often associated with mountain building.

**Codes :**

- (a) Both A and R are individually true and R is the correct explanation of A
- (b) Both A and R are individually true 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

35. Which of the following pairs are correctly matched ?

1. Tienshan — Fold mountain
2. Vosges — Structural dome
3. Ferghana — Deep-seated fault
4. Mauna Loa — Volcanic cone

Select the correct answer using the codes given below :

**Codes :**

- (a) 1 and 2      (b) 1 and 3
- (c) 1, 3 and 4      (d) 2, 3 and 4

36. The molten rock below the surface of earth is called :

- (a) Lava      (b) Magma      (c) Batholith      (d) Basalt
- [SSC (LDC) 2012]*

37. Sedimentary rocks are formed when sediments become compressed and cemented together in a process known as—

- (a) Crystallisation      (b) Sedimentation
- (c) Solidification      (d) Lithification



38. Folds in which one limb inclines moderately with regular slope while the other inclines steeply at right angle and the slope is almost vertical are known as—  
 (a) Isoclinal (b) Monoclinical  
 (c) Recumbent (d) Asymmetrical
39. Which one among the following is a primary rock?  
 (a) Sedimentary (b) Igneous  
 (c) Metamorphic (d) None of the above  
 [NDA 2011]
40. Consider the following statements—  
 Larger bodies of intrusive rocks called batholiths are—  
 1. Very commonly formed of granites though not invariably.  
 2. Lens shaped masses of rock occupying the saddles of anticlines or the keels of synclines of mountains.  
 3. Larger dome shaped masses the sides of whose plunge steeply to unknown depths.  
 (a) 1, 2 and 3 (b) 1 and 2 (c) 2 and 3 (d) 1 and 3
41. Consider the following statements regarding peninsular India—  
 1. It is largely composed of Archaean crystalline rocks.  
 2. Most of the mountains here are of relict type.  
 3. The interior parts have post Cambrian marine deposits.  
 4. Deccan basalts are formed at the end of Cretaceous.  
 Which of the statements given above are correct?  
 (a) 1, 2, 3 and 4 (b) 1, 2 and 4  
 (c) 3 and 4 (d) 1 and 2
42. Alps mountains are spread over—  
 (a) France, Switzerland, Italy, Romania  
 (b) France, Switzerland, Italy, Austria  
 (c) France, Switzerland, Italy, Spain  
 (d) France, Switzerland, Italy, Belgium
43. Which of the following is the highest plateau in the world?  
 (a) Colorado Plateau (b) Pamir Plateau  
 (c) Patagonia Plateau (d) Potwar Plateau  
 [RRB, Bhopal, TC 2008]
44. Why do Fold Mountains have enormous thickness of sedimentary rocks?  
 (a) Due to deposition of sediments in a valley for millions of years  
 (b) Due to accumulation of sediments in a geosyncline  
 (c) The plains were folded into mountains  
 (d) The sediments were folded into recumbent and nappe  
 [CDS, 2011]
45. Metamorphic rocks originate from  
 (a) Igneous rocks  
 (b) Sedimentary rocks  
 (c) Both igneous and sedimentary rocks  
 (d) None of the above  
 [Jpsc 2011]
46. Folding is the result of  
 (a) Epeirogenetic force (b) Coriolis force  
 (c) Orogenetic force (d) Exogenetic force  
 [Bpsc 2011]
47. Continents have drifted apart because of  
 (a) Volcanic eruptions  
 (b) Tectonic activities  
 (c) Folding and faulting of rocks  
 (d) All of the above  
 [Bpsc 2011]

### Answers

1. (b) 2. (c) 3. (d) 4. (c) 5. (b) 6. (a) 7. (a) 8. (b) 9. (a) 10. (c) 11. (b) 12. (c) 13. (c)  
 14. (d) 15. (b) 16. (a) 17. (c) 18. (d) 19. (c) 20. (b) 21. (c) 22. (d) 23. (c) 24. (b) 25. (d) 26. (c)  
 27. (c) 28. (c) 29. (c) 30. (d) 31. (d) 32. (c) 33. (d) 34. (a) 35. (a) 36. (c) 37. (b) 38. (b) 39. (b)  
 40. (d) 41. (b) 42. (b) 43. (b) 44. (b) 45. (c) 46. (c) 47. (b)

## 7. Weathering And Erosion

1. Moraines are formed in—  
 (a) Glacial regions (b) Monsoon region  
 (c) River deltas (d) Arid regions  
 [SSC LDC 2013]
2. Sandstone is metamorphosed to:  
 (a) Quartzite (b) Marble  
 (c) Shale (d) Slate  
 [SSC LDC 2013]
3. Rift valley or graben is the result of—  
 (a) Faulting  
 (b) Earthquake  
 (c) Presence of lakes in the surrounding area  
 (d) None of these
4. Waterfalls and rapids are commonly found in—  
 (a) Upper course of a river  
 (b) Middle course of a river  
 (c) Lower course of a river  
 (d) Area near the mouth of a river
5. Rift valley is formed by  
 (a) Earthquake (b) Folding  
 (c) Faulting (d) All of these
6. Gorge or canyon is—  
 (a) Steep walled and has a V shaped cross section.  
 (b) Sleep walled and has a U shaped cross section.  
 (c) Broad walled and has cylindrical shape.  
 (d) Round walled and has cylindrical shape.
7. Alluvial cone is—  
 (a) It is a low cone of alluvial sands and gravels  
 (b) It is a high conical form of alluvial sands and gravels  
 (c) It is a cone of soft clay and silt  
 (d) It is a cone of hard clay and silt
8. Which one of the following is the correct statement?  
 Granite of plutonic origin consists essentially of  
 (a) Shale, conglomerate and sandstone  
 (b) Quartz, schist and phyllite  
 (c) Biotite, hornblende and augite  
 (d) Quartz, feldspar and mica
9. Match List-I (Author) with List-II (Concept) and select the correct answer using the code given below the lists—
- |                                                                                    |                                                                                                                          |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| <p>List-I</p> <p>a. Davis</p> <p>b. Hack</p> <p>c. Hutton</p> <p>d. King L. C.</p> | <p>List-II</p> <p>1. Pediplanation</p> <p>2. Peneplanation</p> <p>3. Dynamic Equilibrium</p> <p>4. Uniformitarianism</p> |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|



<b>Code:</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(a)	1	4	3	2
(b)	1	3	4	2
(c)	2	4	3	1
(d)	2	3	4	1

10. An area which has not been glaciated may show—  
 (a) Hanging valleys  
 (b) Corries and pyramidal peaks  
 (c) Drumlins (d) V-shaped valleys
11. With reference to earthquakes which one of the following statements is NOT correct ?  
 (a) L waves travel along the surface of the earth's crust  
 (b) As the waves propagate, they move material in a path parallel to the direction of movement  
 (c) S waves move objects at right angles to their direction of motion  
 (d) All the above
12. Match List-I (Composition) with List-II (Rock type) and select the correct answer using the codes given below the lists:

<b>List-I</b>		<b>List-II</b>	
A. Quartz and feldspar		1. Basalt	
B. Quartz, feldspar and mica		2. Tuff	
C. Compacted volcanic ash		3. Granite	
D. Feldspar, mica, pyroxenes and olivine		4. Sandstone	

<b>Code:</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(a)	4	1	2	3
(b)	1	2	3	4
(c)	3	2	1	4
(d)	4	3	2	1

13. The profile of equilibrium refers to the—  
 (a) Profile of a glaciated valley  
 (b) Transverse profile of a graded stream  
 (c) Longitudinal profile of a graded stream  
 (d) Profile along the shoreline
14. Which one of the following sets indicates the Aeolian process ?  
 (a) Corrosion, transportation, deposition  
 (b) Nivation, down-cutting, solifluction  
 (c) Corrosion, attrition, deflation  
 (d) Ablation, deposition, oxidation
15. **Assertion (A)** : Straight slope is a type recognized by W. Penck.  
**Reason (R)** : Straight slope develops due to increasing intensity of erosion.  
**Codes** :  
 (a) Both A and R are true and R is the correct explanation of A  
 (b) Both A and R are true but R is not a correct explanation of A  
 (c) A is true but R is false  
 (d) A is false but R is true

16. The concept of Ice Age was first put forward by—  
 (a) Louis (b) Jean de Charpentier  
 (c) James Geike (d) De Geer
17. Which one of the following is not a soil forming process?  
 (a) Weathering (b) Translocation  
 (c) Gleying (d) Hydration

18. Which of the following are examples of peneplains ?  
 1. Central Russia 2. Paris Basin  
 3. Eastern England 4. Upper Mississippi Basin  
 Select the correct answer using the codes given below:

**Codes :**

(a) 2 and 3	(b) 1, 3 and 4
(c) 1, 2 and 4	(d) 1, 2, 3 and 4

19. Chemical weathering is most prominent in—  
 (a) Arid region (b) Semi-arid region  
 (c) Humid tropical region (d) Mediterranean region

20. Which of the following pairs are correctly matched ?  
 1. Granites — Batholiths  
 2. Marbles — Hogback ridges  
 3. Quartzite — Ridge crests  
 4. Hard rocks — Monadnocks

Select the correct answer using the codes given below.  
**Codes :**

(a) 1, 2, 3 and 4	(b) 1, 3 and 4
(c) 2 and 4	(d) 1, 2 and 3

21. Which one of the following statements regarding a Fiord are correct ?  
 1. Most of the fiords were formed due to a rise in sea level after melting of Pleistocene ice sheets  
 2. It is an emergent coast which originally was a submerged glaciated valley  
 3. It is a long, narrow inlet of the sea bounded by steep mountain slopes extending to considerable depths  
 4. It is a glaciated valley that has been inundated by the sea and forms a deep steep-sided coastal inlet  
 Select the correct answer using the codes given below:

**Codes :**

(a) 1, 2, 3 and 4	(b) 1, 3 and 4
(c) 2 and 4	(d) 1, 2 and 3

22. Which one of the following is the correct sequence of landforms developed under fluvial cycle of erosion ?  
 (a) Gorge, flood plain, piedmont plain, delta  
 (b) Gorge, piedmont plain, flood plain, delta  
 (c) Gorge, piedmont plain, delta, flood plain  
 (d) Piedmont plain, gorge, flood plain, delta

23. **Assertion (A)** : Pediments are the bed rock portions of piedmont slopes which extend downward to neighboring basin floors.  
**Reason (R)** : It is commonly believed that the dissected pediments are formed by erosion of original flat pediments under the second cycle of erosion.

**Codes :**

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

24. **Assertion (A)** : The difference in the geomorphic features of different areas of the earth's surface are known as areal differentiation.  
**Reason (R)** : This definition of geography is based on interrelation, differential character and areal expression of different phenomena.



**Codes :**

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

**25. Assertion (A) :** The most important single agent of physical weathering is the freeze / that action of water in open spaces in rock.

**Reason (R) :** Repetition is the key to understanding the force of frost shattering.

**Codes :**

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

**26. Assertion (A) :** Fiords are features produced by glacial erosion.

**Reason (R) :** Glaciers descending from coastal mountains may reach the sea and continue their erosion on the seafloor.

**Codes :**

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

**27. Assertion (A) :** Plutonic rocks are intrusive rocks of deep-seated origin.

**Reason (R) :** Plutonic rocks get cooled slowly at great depth with large crystals.

**Codes :**

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

**28. The development of synclinal ridges and anticlinal valleys in a folded region is named as—**

- (a) Parallel belt of valleys and ridges  
 (b) Abrasion Platform  
 (c) Topography of inversion of relief  
 (d) Ridge and valley landscape

**29. Assertion (A) :** Aksai Chin is desolate and the driest part of the Ladakh region.

**Reason (R) :** The whole area bears a stamp of excessive Aeolian erosion.

**Codes :**

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

**30. Which of the following factors influence the type and rate of weathering ?**

1. Glacier 2. Climate 3. Vegetation cover  
 4. Rock structure 5. Topography

Select the correct answer using the codes given below :

**Codes :**

- (a) 1, 2, 3 and 4 (b) 2, 3, 4 and 5  
 (c) 1, 2, 3 and 5 (d) 1, 2, 4 and 5

**31. The process that results in the breakdown of rocks and minerals in situ is known as—**

- (a) Attrition (b) Erosion  
 (c) Weathering (d) corrosion

**32. Consider the following statements—**

1. Weathering encompasses a group of processes by which surface and subsurface rocks disintegrate
2. Extreme dryness reduces most weathering to a minimum
3. Physical weathering dominates in drier and cooler climates
4. In equatorial rain-forest climate, most rocks weather slowly

Which of these are correct?

- (a) 1, 2 and 3 (b) 1 and 4  
 (c) 2, 3 and 4 (d) 1, 2, 3 and 4

**33. A mountainous coast having presence of large numbers of narrow, steep-sided elongated and inundated coastal valleys is called—**

- (a) Ria coast (b) Fiord coast  
 (c) Haff coast (d) Dalmatian coast

**34. Assertion (A) :** Graben is a major relief feature resulting from the faulting activities. It is, in fact, a valley or narrow trough bounded by one more parallel faults.

**Reason (R) :** Block of the earth's crust may be relatively raised or lowered between more or less parallel faults. The lower part known as graben is formed due to the subsidence of middle part between two normal faults.

**Codes :**

- (a) Both A and R are individually true and R is the correct explanation of A  
 (b) Both A and R are individually true 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

**35. A weathering process in which layers of rocks peel off as expansion alternates with contraction, is known as—**

- (a) Shattering (b) Block separation  
 (c) Granular disintegration (d) Exfoliation

**36. The drainage pattern developed on folded sedimentary rocks is termed as—**

- (a) Rectangular (b) Radial  
 (c) Dendritic (d) Trellis

**37. Match List-I (Classification of valleys) with List-II (Characteristic of valley) and select the correct answer using the codes given below the Lists—**

**List-I****List-II**

- |                      |                                                                                |
|----------------------|--------------------------------------------------------------------------------|
| A. Consequent valley | 1. Draining in a direction opposite to that of the original Consequent valleys |
| B. Subsequent valley | 2. Showing no apparent adjustment to structural control                        |
| C. Insequent valley  | 3. Course shifted from the original consequent erodible rocks                  |



- D. Obsequent valley 4. Course determined by the initial slope of the land  
5. Valleys draining in the direction opposite to rock dip

Code :	A	B	C	D
(a)	4	3	2	1
(b)	2	1	4	3
(c)	4	3	1	2
(d)	2	4	5	3

38. Consider the following landform characteristics—  
1. Stream divides are sharp and ridge like resulting in a minimum of inter stream uplands  
2. Extensive areas are at of near the base level of erosion  
3. There are a few consequent trunk streams but few large tributaries. Numerous short tributaries and gullies are extending themselves by head ward erosion and developing valley systems.

Which one of the following is the orderly sequence of landform characteristics given above in an idealized Fluvial Cycle ?

- (a) 1, 3, 2 (b) 2, 3, 1  
(c) 3, 1, 2 (d) 2, 1, 3

39. Which of the following statements is correct ? Plateaus are product of:

- (a) Mature stage of cycle of erosion

- (b) Youth stage of cycle of erosion  
(c) Old stage of cycle of erosion  
(d) Rejuvenation of the old mountain

40. Consider the following statements—

1. Canyon is an extreme type of V-shaped valley with very steep sides and no valley floor.  
2. Grand Canyon in associated with the Colorado River.

Which of the statements given above is/are correct ?

- (a) 1 only (b) 2 only  
(c) Both 1 and 2 (d) Neither 1 nor 2

41. The rate of erosion in a stream is lowest where :

- (a) The river joins the sea  
(b) Depth is greater  
(c) Breadth is greater  
(d) Velocity is more

[SSC (LDC) 2012]

42. Erosion of soil by a river mainly depends upon—

- (a) Its depth  
(b) Its length  
(c) Its speed at which it flows  
(d) Its width

43. Which one of the following processes of weathering belongs to both mechanical and chemical weathering ?

- (a) Crystallization (b) Exfoliation  
(c) Hydration (d) Carbonation

[NDA 2011]

### Answers

1. (a) 2. (a) 3. (a) 4. (a) 5. (c) 6. (a) 7. (a) 8. (d) 9. (d) 10. (d) 11. (c) 12. (d) 13. (c)  
14. (c) 15. (b) 16. (b) 17. (c) 18. (a) 19. (c) 20. (b) 21. (b) 22. (b) 23. (c) 24. (a) 25. (d) 26. (c)  
27. (b) 28. (c) 29. (c) 30. (c) 31. (c) 32. (d) 33. (c) 34. (a) 35. (d) 36. (d) 37. (a) 38. (a) 39. (a)  
40. (c) 41. (a) 42. (c) 43. (a)

### 8. World Landforms

1. Match List-I (Term) with List-II (Process Involved) and select the correct answer using the codes given below the lists—

List-I	List-II
A. Valley-in valley profile	1. Karst topography
B. Collapsee sinks	2. Earthquake
C. Shadow zone	3. Plantation
D. Exhumed erosion surface	4. Rejuvenation

Code :	A	B	C	D
(a)	3	1	2	4
(b)	4	2	1	3
(c)	3	2	1	4
(d)	4	1	2	3

2. V-shaped valley is formed by—

- (a) Wind (b) Underground water  
(c) River (d) Glacier [MTS 2014]

3. Match List-I (Landforms) with List-II (Representative Sites) and select the correct answer using the codes given below the lists—

List-I	List-II
A. Rift valley lake	1. Himalayas
B. Basic lava sheet	2. Upland of Brittany, France
C. An active volcano	3. Deccan trap region, India
D. Batholith	4. Tanganyika
	5. Stramboli

Code :	A	B	C	D
(a)	4	2	5	3
(b)	5	3	1	2
(c)	4	3	5	2
(d)	5	2	1	3

4. Assertion (A) : Bajadas or Piedmont alluvial plains extend for several miles away from a mountain front.

Reason (R) : A series of adjacent alluvial fans sometimes coalesce to form an extensive piedmont alluvial plain which is also called Bajadas.

Codes :

- (a) Both A and R are individually true and R is the correct explanation of A  
(b) Both A and R are individually true 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

5. A plain formed by the uplift of a part of the sea floor is called a :

- (a) erosional plain (b) structural plain  
(c) depositional plain (d) alluvial plain [SSC 2014]

6. Match List-I (Cause) with List-II (Result) and select the correct answer using the codes given below the lists—

List-I	List-II
A. Normal faulting	1. Aquifer
B. Saltation	2. Kettle hole
C. Ice scouring	3. Escarpment
D. Infiltration of water	4. Transportation of stream-load



Code :	A	B	C	D
(a)	3	4	1	2
(b)	4	3	1	2
(c)	3	4	2	1
(d)	4	3	2	1

7. Match List-I (Characteristic) with List-II (Landform) and select the correct answer using the codes given below the lists—

List-I	List-II
A. A plain, largely composed of recent alluvium	1. Pediplain
B. A deep sea plain	2. Loess plain
C. A plain formed by wind action	3. Flood plain
D. A level surface lightly covered with thin layer of alluvium	4. Abssal plain

Code : A	B	C	D
(a)	3	4	2
(b)	4	3	2
(c)	3	4	1
(d)	4	3	1

8. Which one of the following is depositional landform ?

- (a) Stalagmite (b) Lapis  
(c) Sinkhole (d) Cave [CDS I 2014]

9. Which one of following represents wall like formation of solidified magma and are mostly perpendicular to the beds of the sedimentary rocks ?

- (a) Dyke (b) Sills  
(c) Lalpilli (d) Breccia

10. The main difference between paternoster lake and tarn is that paternoster lake is :

- (a) Formed by glacial action whereas tarn is not  
(b) Associated with cirque whereas tarn is associated with glacial stairways  
(c) Associated with glacial stairways whereas tarn is associated with cirque  
(d) A lake whereas tarn is not

11. Match List-I with List-II and select the correct answer using the codes given below the lists:

List-I (Agent)	List-II (Landforms)
A. River	1. Blind valley
B. Wind	2. Roche Moutonnee
C. Glacier	3. Natural levee
D. Underground water	4. Zeugen

Code : A	B	C	D
(a)	1	2	4
(b)	3	4	2
(c)	3	2	4
(d)	1	4	2

12. Alluvial cone is predominant in—

- (a) Coastal (b) Piedmont zone  
(c) Delta region (d) Pediment region

13. Playas are depressions formed due to—

- (a) Deflating action of winds  
(b) Glacial erosion  
(c) River erosion (d) Marine erosion

14. Match List-I (Plains) with List-II (Mode of occurrence) and select the correct answer using the codes given below the lists :

List-I	List-II
A. Chile valley	1. Erosion plain
B. Guinea plain	2. Glacial depositional plain
C. Russian platform	3. Piedmont plain
D. Western Europe	4. Structural plain

Code : A	B	C	D
(a)	3	1	4
(b)	3	2	1
(c)	2	3	4
(d)	4	1	3

15. Which of the following depositional landforms are produced by glaciers ?

1. Roches Mountains 2. Outwash Plains  
3. Eskers 4. U-shaped valleys

Select the correct answer using the codes given below :

- Codes : (a) 1 and 2 (b) 2 and 3 (c) 3 and 4 (d) 1 and 4

16. Match List-I (Landforms) with List-II (Associated features) and select correct answer by using the codes given below the lists :

List-I	List-II
A. Stalactite	1. Saline soil
B. Solanchak	2. Limestone
C. Shott	3. Volcanic rock
D. Sill	4. Salt lake

Code : A	B	C	D
(a)	1	4	2
(b)	2	3	4
(c)	2	1	4
(d)	4	1	2

17. Fjords are very typical of the—

- (a) Alaskan coast (b) Spanish coast  
(c) Norwegian coast (d) Peruvian coast

18. Peneplains are formed by—

- (a) Denudation by river (b) Denudation by glacier  
(c) Deposition of winds (d) Deposition of glaciers

19. Flood plains are called so, mainly because—

- (a) They are formed during floods  
(b) They are liable to submergence during floods  
(c) They prevent floods from spreading  
(d) They cause floods

20. Questa form plain is formed by—

- (a) The sand particle  
(b) The resistant strata standing as interstream ridge with broad low hands.  
(c) The wave action (d) Wind action

21. Ice cap is applied to—

- (a) It is applied to an ice plate limited to high mountains and plateaus  
(b) It is applied to an ice plate confined to hills  
(c) It is applied to an ice place to the mountain of medium height  
(d) None of these

22. Shields belong to—

- (a) Cenozoic era (b) Misozoic era  
(c) Precambrian age (d) Jurraslie age

23. What is geomorphology ?

- (a) A systematic study of land forming  
(b) A systematic study of land features  
(c) A systematic study of land forms and their origin  
(d) All of the above



24. Sequential land forms occur—  
 (a) In disorderly sequences (b) In orderly sequences  
 (c) In orderly sequences following the initial land forms made by the agents of land surface reduction  
 (d) none of these
25. Alluvium shows—  
 (a) Stream valley deposits (b) Glacial deposits.  
 (c) Erosional deposits caused by wind  
 (d) None of these.
26. What is the Exfoliation ?  
 (a) It is the formation of round rock shells  
 (b) It is the formation of curved rock shells  
 (c) It is the formation of horizontal rock shells  
 (d) It is the formation of simple rock shells
27. Boulder fields or felsenmeer are—  
 (a) Straight blocks produced by the weak joint blocks  
 (b) Curved blocks caused by strong joints blocks  
 (c) Angular blocks produced by separation and sheltering of joints blocks  
 (d) All of the above
28. Diorite is an example of—  
 (a) Chemically formed sedimentary rock  
 (b) Extrusive igneous rock  
 (c) Plutonic igneous rock  
 (d) Metamorphic
29. The plain formed due to coalescence of series of alluvial fans in the piedmont zone is known as—  
 (a) Pediment (b) Bajada  
 (c) Pediplan (d) Hamada
30. Aretes are sharp ridges which develop between the adjacent—  
 (a) Cirques (b) Roche moutonnee  
 (c) Medial moraines (d) U-shaped valley
31. Calcium carbonate deposited by precipitation from carbonate-saturated waters around hot spring is called—  
 (a) Stalactite (b) Stalagmite  
 (c) Travertine (d) Lapis
32. Caledonian orogenic movements are related to the geological history of—  
 (a) Late Jurassic and early Cretaceous period  
 (b) Late Silurian and early Devonian period  
 (c) Middle Triassic period  
 (d) Late Devonian and early Carboniferous period
33. Consider the following statements—  
 1. Kaolinite is the weathered silicate clay  
 2. Kaolinization process occurs due to hydrothermal alternation of feldspar.  
 Which of the statement (s) given above is/are correct ?  
 (a) 1 only (b) 2 only  
 (c) Both 1 and 2 (d) Neither 1 nor 2
34. Consider the following statements—  
 1. Pyramidal peak is a gentle-sided mountain summit.  
 2. Tarn is formed often in the cirques.  
 3. The long axis of drumlins are parallel to the direction of glacial movement  
 Which of the statement given above are correct ?  
 (a) 1 and 2 (b) 2 and 3  
 (c) 1 and 3 (d) 1, 2 and 3
35. A landform developed by the process of deposition occurring towards the centre of intermontane basins in arid or semi-arid regions is known as—  
 (a) Pediment (b) Bajada  
 (c) Playa (d) Peneplain
36. Eskers are of glacio-fluvial origin. Which one of the following statements characterize them ?  
 (a) They are long, narrow and sinuous ridges of sands  
 (b) They are small, irregular mounds of bedded sands  
 (c) They are small alluvial cones  
 (d) They are flat-topped terraces
37. Consider the following minerals—  
 1. Corundum 2. Quartz 3. Topaz  
 What is the correct sequence of the above in terms of descending order of their hardness ?  
 (a) 1, 2, 3 (b) 2, 3, 1  
 (c) 1, 3, 2 (d) 3, 1, 2
38. A lens-shaped igneous intrusion situated beneath an anticlinal fold or in the base of syncline is called—  
 (a) Lapolith (b) Lacolith  
 (c) Phacolith (d) Batholith
39. Consider the following statements:  
 1. Glacial valley floors are flat and their walls steep, in contrast to the V-shaped valleys of many mountain rivers.  
 2. Unlike rivers, valley glaciers at coastlines may erode their valley floors far deeper than sea level.  
 Which of the statements given above is/are correct ?  
 (a) 1 only (b) 2 only  
 (c) Both 1 and 2 (d) Neither 1 nor 2
40. Match List-I (Landform) with List-II (Process) and select the correct answer using the codes given below the lists—
- |                     |                 |
|---------------------|-----------------|
| List-I              | List-II         |
| A. Nickpoint        | 1. Karst        |
| B. Sink hole        | 2. Fluvial      |
| C. Point bar        | 3. Plantation   |
| D. Accordant summit | 4. Rejuvenation |
- Code : A B C D  
 (a) 3 2 1 4  
 (b) 4 1 2 3  
 (c) 3 1 2 4  
 (d) 4 2 1 3
41. How is the rectilinear drainage pattern formed where two sets of structural controls occur at right angles, termed ?  
 (a) Rectangular (b) Radial  
 (c) Dendritic (d) Trellis
42. How is the amount of horizontal displacement in a normal fault called ?  
 (a) Throw (b) Tear  
 (c) Heave (d) Strike
43. Which one of the following types of spurs is typically associated with valley glaciers ?  
 (a) Interlocking (b) Juxtaposed  
 (c) Overlapping (d) Truncated
44. Match List-I (Theories/Hypothesis) with List-II (Related aspects) and select the correct answer using the codes given below the lists—



## List-I

- A. Geosynclinal Theory  
 B. Tetrahedral hypothesis  
 C. Stationary Wave Theory  
 D. Subsidence Theory

## List-II

1. Origin of tides  
 2. Origin of coral reefs and atolls  
 3. Mountain building  
 4. Origin of continents and ocean basins

## Code: A

## B

## C

## D

- (a) 3 4 2 1  
 (b) 4 3 2 1  
 (c) 3 4 1 2  
 (d) 4 3 1 2

45. Consider the following statements—  
 1. When feldspar undergoes chemical weathering, kaolinite is produced.  
 2. Water is essential for chemical weathering of feldspar.  
 Which of the statements given above is/are correct?  
 (a) 1 only (b) 2 only  
 (c) Both 1 and 2 (d) Neither 1 nor 2

46. Consider the following pairs—

## Mineral

## Composition

1. Amphibole Calcium-magnesium-iron silicate  
 2. Mica Magnesium-iron aluminum silicate  
 3. Quartz Silicon dioxide

Which of the above pair/pairs is/are correctly matched?

- (a) 1 and 2 (b) 1 and 3  
 (c) 3 only (d) 1, 2 and 3
47. Which one of the following is not a landform, which results due to rejuvenation of a river?  
 (a) Incised meander (b) Knick point  
 (c) Oxbow lake (d) River terrace

48. Assertion (A): Vertisols are most extensive in Australia, India and Sudan.

Reason (R): The clay-producing materials are available in mesothermal or tropical climates with periodic dry and wet seasons.

## Codes:

- (a) Both A and R are individually true and R is a the correct explanation of A  
 (b) Both A and R are individually true 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

49. Consider the following—

1. Nebka 2. Lunette  
 3. Draa 4. Seif

Which of the above are sand-dune forms?

- (a) 1 and 2 only (b) 2 and 3 only  
 (c) 1, 3 and 4 only (d) 1, 2, 3 and 4
50. When river is overloaded with fine sediments and river water is lighter than the seawater, which type of delta is formed?

- (a) Arcuate delta (b) Bird-foot delta  
 (c) Truncated delta (d) Estuarine delta

51. Under normal conditions, which one of the following is the correct sequential developments of features made by fluvial action?

- (a) Waterfalls — meander Bars — River terraces — Oxbow lakes  
 (b) Meander bars — River terraces — Waterfalls — oxbow lakes

- (c) Waterfalls — River terraces — Meander bars — Oxbow lakes

- (d) River terraces — Meander bars — Waterfalls — Oxbow lakes

52. Which of the following district features are found over the glaciated topography?

1. Outwash deposits 2. Yardang  
 3. Striation 4. Sandbank

Select the correct answer using the code given below—

## Codes:

- (a) 2 and 3 only (b) 1, 3 and 4 only  
 (c) 1 and 3 only (d) 2 and 4 only
53. The term 'truncated spur' is associated with which one of the following?

- (a) Aeolian process (b) Fluvial process  
 (c) Glacial process (d) Weathering process

54. Which one of the following soils is characterized by a very dark surface horizon of great thickness (25 to 100 cm), with a high proportion of calcium among the exchangeable cations and forms mainly under grasslands in climates with a marked seasonal moisture deficiency?

- (a) Andosols (b) Histosols (c) Mollisols (d) Ultisols

55. Match List-I (Term) with List-II (Associated with) and select the correct answer by using the code given below the lists—

## List-I

## List-II

1. Hanging wall 1. Periglacial region  
 2. Stone polygon 2. River capture  
 3. Slump 3. Mass movement  
 4. Wind gap 4. Fault

## Code: A

## B

## C

## D

- (a) 2 3 1 4  
 (b) 4 1 3 2  
 (c) 2 1 3 4  
 (d) 4 3 1 2
56. Boulder clay is a feature associated with which one of the following?

- (a) Mechanical weathering (b) Mass movement  
 (c) River deposition (d) Glacial deposition

57. Consider the following statements—

1. Youthful topography is characterized by comparatively a few streams but usually with low gradients.  
 2. In mature topography, the main streams have their valleys cut to base level and are at grade.

Which of the statement(s) given above is/are correct?

- (a) 1 only (b) 2 only  
 (c) Both 1 and 2 (d) Neither 1 nor 2
58. Spits develop due to—  
 (a) Circular movement of water currents along the bays  
 (b) Formation of long shore drifts towards the coast  
 (c) Formation of large scale deposits of fine grained dust  
 (d) Oblique movement of water currents along the shores

59. Consider the following statements—

1. In an overturned fold, the axial plane is inclined and both limbs dip in the same direction.  
 2. A recumbent fold is one in which the axial plane is essentially horizontal.



- Which of the statement (s) given above is/are correct ?  
 (a) 1 only (b) 2 only  
 (c) Both 1 and 2 (d) Neither 1 nor 2
60. Which one of the following statements is NOT correct ?  
 (a) The largest known flood basalt region in the world is the Deccan trap area of peninsular India.  
 (b) The largest flood basalt region in the United States of America is the Columbia Plateau.  
 (c) The two shield volcanoes Mauna Loa and Mauna Kea have summit elevations of more than 6500 m above sea level.  
 (d) The island of Hawaii includes at least seven coalesced volcanic domes.

61. Match List-I (Landforms) with List-II (Processes) and select the correct answer using the codes given below the lists:

List-I		List-II	
A. Natural Levees		1. Aeolian	
B. Eskers		2. Karst	
C. Polje		3. Fluvial	
D. Barchan		4. Glacial/Glacio-fluvial	
<b>Code : A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(a) 1	3	2	1
(b) 3	2	4	1
(c) 1	2	3	4
(d) 3	4	2	1

62. What are Gosynclines ?  
 (a) Arched upfolds in the strata of the earth's crust  
 (b) Major structural down folds in the earth's crust  
 (c) Large scale rises in the earth's crust  
 (d) Sliding of plate margins inside the earth's crust
63. Which of the following statements are correct ?  
 1. Epeirogenetic movements are caused by tensional forces.  
 2. Orogenic movements are caused by compressional forces.  
 3. Orogenic movements are continent building movements.  
 (a) 1, 2 and 3 (b) 1 and 2  
 (c) 1 and 3 (d) 2 only
64. Dome mountains are results of—  
 (a) Faulting (b) Folding  
 (c) Intrusion of Magma  
 (d) Friction at the joints of the rocks
65. Define Intermontane plateau—  
 (a) They are the outcome of volcanic activity  
 (b) Outcome of diastrophic activity  
 (c) They are the remains of certain mountains  
 (d) They are elevated segment of the earth crust
66. Which of the following characteristics are typical of external processes ?  
 1. They operate on the surface of the earth  
 2. They act suddenly  
 3. They tend to reduce differences in relief  
 4. They can be observed.  
 (a) 1, 2 and 4 (b) 1, 3 and 4  
 (c) 1, 2 and 3 (d) 1 and 4
67. Which of the following is piedmont plateau?  
 (a) Tibet (b) Anatolia  
 (c) Patagonia (d) Brazil
68. State of main activity associated with the fold mountains  
 (a) Volcanoes (b) Rift Valley  
 (c) Earthquakes (d) Horst

69. Which of the following is a volcanic plateau ?  
 (a) Anatolia plateau (b) Tibetan Plateau  
 (c) Antrum plateau (d) Brazilian plateau
70. Rift Valley or grabin is the result of—  
 (a) Faulting (b) Earthquake  
 (c) Presence of lakes in the surrounding area  
 (d) None of these.
71. Drift plains are formed by the action of—  
 (a) Rivers (b) Glaciers  
 (c) Winds (d) Wave
72. Plains formed by Aeolian deposits are called—  
 (a) Loess plains (b) Till plains  
 (c) Sandy plains (d) Flood plains
73. Peneplains are formed by—  
 (a) Denudation by river (b) Denudation by glacier  
 (c) Deposition by winds (d) Deposition by glaciers
74. Pediplains occur in—  
 (a) Glaciated regions (b) Humid regions  
 (c) Semi-arid regions (d) Coastal regions
75. Thrust fault is caused by—  
 (a) Downwards movement (b) Upwards movements  
 (c) Upheaval (d) Cyclonic folding
76. Give the name of the up folded rock:  
 (a) Syncline (b) Rift valley  
 (c) Fault (d) Anticline
77. Rift Valleys are formed due to—  
 (a) Folding (b) Faulting  
 (c) Volcanic action (d) Dyke rocks
78. Sedimentary rocks are also called as—  
 (a) Intrusive (b) Extrusive  
 (c) Plutonic (d) Dyke rocks
79. Find the odd one :  
 (a) Marble (b) Chalk  
 (c) Limestone (d) Slaked lime  
*[SSC (Tier-I) 2012]*
80. Land jutting out into the sea is called :  
 (a) Isthmus (b) Island  
 (c) Strait (d) Peninsula  
*[CPO (SSC) 2012]*
81. Which of the following geomorphical pairs is not correct ?  
 (a) Cirque-Glacier (b) Tombolo-Wave  
 (c) Delta-River (d) Sinkholes-Wind  
*[SSC (LDC) 2012]*
82. When does escarpment develop ?  
 (a) When a block steps down along a fault plane  
 (b) When a block moves down vertically along a fault plane  
 (c) When a block moves horizontally along a fault plane  
 (d) When a block moves upward along a fault plane
83. Which island is a part of the Australian State ?  
 (a) Tasmania (b) Santa Cruz Island  
 (c) New Guinea (d) Loyalty Island  
*[SSC (LDC) 2012]*
84. Which of the following pairs are correctly matched ?  
 1. Karst topography : Blind Valley  
 2. Humid topography : Stone lattice  
 3. Aeolian topography : Ventifacts  
 4. Periglacial topography : Pingo



Select the correct answer using the codes given below :

- (a) 1, 2 and 3                      (b) 1, 3 and 4  
(c) 1, 2 and 4                      (d) 2, 3 and 4

85. How much of the Earth's land surface is desert ?

- (a)  $1/10^{\text{th}}$                               (b)  $1/5^{\text{th}}$   
(c)  $1/3^{\text{rd}}$                                 (d)  $1/6^{\text{th}}$  [SSC (UDC) 2011]

86. Which one among the following is the largest temperate desert of the world ?

- (a) Patagonian desert                (b) Taklamakan desert  
(c) Iranian desert                      (d) Turkmen desert

[NDA 2011]

87. Match List-I (desert) with List-II (country) and select the correct answer using the codes given below—

List-I (Desert)

List-II (Country)

- A. Kalahari  
B. Namib  
C. Nubian  
D. Atacama

1. Angola  
2. Sudan  
3. Botswana  
4. Chile

Codes : A                      B                      C                      D

- (a) 4                              2                              1                              3  
(b) 3                              2                              1                              4  
(c) 4                              1                              2                              3  
(d) 3                              1                              2                              4

[NDA 2011]

### Answers

1. (d) 2. (c) 3. (c) 4. (a) 5. (b) 6. (c) 7. (a) 8. (a) 9. (a) 10. (c) 11. (b) 12. (b) 13. (a)  
14. (a) 15. (b) 16. (c) 17. (c) 18. (a) 19. (b) 20. (b) 21. (a) 22. (c) 23. (c) 24. (c) 25. (a) 26. (b)  
27. (c) 28. (c) 29. (b) 30. (a) 31. (c) 32. (b) 33. (c) 34. (b) 35. (c) 36. (a) 37. (b) 38. (c) 39. (c)  
40. (b) 41. (d) 42. (c) 43. (d) 44. (c) 45. (c) 46. (d) 47. (c) 48. (a) 49. (d) 50. (b) 51. (c) 52. (c)  
53. (c) 54. (b) 55. (b) 56. (d) 57. (b) 58. (b) 59. (c) 60. (a) 61. (b) 62. (b) 63. (b) 64. (c) 65. (d)  
66. (b) 67. (c) 68. (c) 69. (c) 70. (a) 71. (b) 72. (a) 73. (a) 74. (c) 75. (b) 76. (a) 77. (a) 78. (b)  
79. (a) 80. (d) 81. (d) 82. (b) 83. (a) 84. (b) 85. (c) 86. (a) 87. (d)

### 9. Rivers, Lakes And Falls

1. On the planet earth, most of the freshwater exists as ice caps and glaciers. Out of the remaining freshwater, the largest proportion

- (a) is found in atmosphere as moisture and clouds  
(b) is found in freshwater lakes and rivers  
(c) exists as groundwater  
(d) exists as soil moisture

[IAS 2013]

2. Match List-I with List-II and select the correct answer using the code given below the Lists :

List-I (River)

List-II (City)

- A. Spree  
B. Rhine  
C. Seine  
D. Elbe

1. Bonn  
2. Hamburg  
3. Paris  
4. Berlin

Codes : A                      B                      C                      D

- (a) 4                              3                              1                              2  
(b) 4                              1                              3                              2  
(c) 2                              1                              3                              4  
(d) 2                              3                              1                              4 [UPSC A.C. 2013]

3. Match List-I with List-II and select the correct answer using the codes given below the lists—

List-I (River)

List-II (Countries)

- A. Niger  
B. Kasai  
C. Orange  
D. Nile

1. Egypt  
2. S. Africa  
3. Zaire  
4. Mali

Code : A                      B                      C                      D

- (a) 4                              3                              1                              2  
(b) 3                              4                              2                              1  
(c) 3                              4                              1                              2  
(d) 4                              3                              2                              1

4. The percentage of fresh water on the Earth's surface is nearly :

- (a) 4                              (b) 3                              (c) 8                              (d) 5

[SSC Steno. 2013]

5. Lake formed in a cut off river meander is called :

- (a) Ox-Bow Lake                      (b) Crater Lake  
(c) Playa Lake                        (d) Meteoric Lake

[SSC LDC 2013]

6. Match List-I with List-II and select the correct answer by using the codes given below the lists—

List-I

List-II

- A. N. Vietnam  
B. S. Vietnam  
C. China  
D. Myanmar

1. Si-Kiang  
2. Salween  
3. Red river  
4. Mekong river

Code : A                      B                      C                      D

- (a) 3                              4                              4                              2  
(b) 2                              1                              3                              4  
(c) 3                              4                              1                              2  
(d) 4                              2                              1                              3

7. Match List-I (Rivers) with List-II (Shapes of their deltas) and select the correct answer using the codes given below the lists—

List-I

List-II

- A. San Francisco  
B. Mississippi  
C. Niger  
D. Susquehanna

1. Arcuate  
2. Digitate  
3. Estuarine  
4. Cuspate

Code : A                      B                      C                      D

- (a) 4                              2                              1                              3  
(b) 4                              2                              3                              1  
(c) 2                              4                              3                              1  
(d) 2                              4                              1                              3

8. Match List-I (towns) with List-II (rivers) and select the correct answer using the codes given below—

List-I (Towns)

List-II (Rivers)

- A. Jabalpur  
B. Paris  
C. London  
D. Lahore

1. Ravi  
2. Narmada  
3. Siene  
4. Thames

Codes : A                      B                      C                      D

- (a) 2                              3                              4                              1  
(b) 3                              2                              1                              4  
(c) 1                              4                              3                              2  
(d) 4                              1                              2                              3 [SSC (LDC) 2011]

9. The "Grand Canyon" is on the river :

- (a) Ohio                                      (b) Mississippi  
(c) Colorado                              (d) Columbia

[SSC 2013]



10. Match List-I (Dams & Waterfalls) with List-II (Rivers) and select the correct answer using the codes given below the lists—

List-I		List-II	
A. Hoover Dam		1. Mississippi	
B. Grand Coulee Dam		2. St. Lawrence	
C. Niagara Falls		3. Columbia	
D. St. Anthony Falls		4. Colorado	

Code : A	B	C	D
(a) 3	4	1	2
(b) 4	3	1	2
(c) 4	3	2	1
(d) 3	4	2	1

11. The longest river of Europe is :

- (a) Rhine (b) Rhone (c) Danube (d) Volga

[SSC (LDC)-2013]

12. Assertion (A) : River system can continue to cut down its valleys at approximately the same rate as uplift and

so maintains its general pattern and direction.

**Reason (R) :** In case of an antecedent drainage system, the river is said to have originated before a period of uplift and folding of land as a result of earth movement.

**Codes :**

- (a) Both A and R are individually true and R is the correct explanation of A  
 (b) Both A and R are individually true 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

13. What percentage of world's freshwater is stored as glacial ice ?

- (a) 50% (b) 10% (c) 70% (d) 30%

[SSC (UDC) 2011]

14. Which one of the following rivers crosses the equator two times ?

- (a) Congo River (b) Amazon River  
 (c) Niger River (d) Nile River

[SSC (LDC)-2013]

### Answers

1. (c) 2. (b) 3. (d) 4. (b) 5. (a) 6. (b) 7. (a) 8. (a) 9. (c) 10. (c) 11. (d) 12. (b) 13. (c) 14. (a)

## 2. Oceanography

### 1. Reliefs Of Ocean Basins

1. Following relief zones are characteristics of ocean basins—

- (1) Continental slope (2) Continental shelf  
 (3) Deep sea plain (4) Oceanic trench

The correct sequence of their seaward appearance from the coasts is:

- (a) 2, 1, 4, 3 (b) 1, 2, 4, 3  
 (c) 2, 1, 3, 4 (d) 1, 2, 3, 4

2. The portion of the earth's surface covered with water is roughly —

- (a) One-fourth (b) One - half  
 (c) Two-third  $\frac{2}{3}$  (d) Three - fifth

3. The Challenger rise is located in—

- (a) The Pacific ocean (b) The Indian ocean  
 (c) The Atlantic ocean (d) The Arctic ocean

4. Which of the following is a continental shelf sea—

- (a) North sea (b) Arabian sea  
 (c) Red sea (d) Mediterranean sea

5. Which of the following oceans does not have a north south submarine ridge ?

- (a) Indian ocean (b) Atlantic ocean  
 (c) Arctic ocean (d) Pacific ocean

6. An Atoll is—

- (a) a ring shaped islands with a lagoon at the centre  
 (b) a lake in glaciated mountains  
 (c) a lagoon along the shores  
 (d) a lake in the craters

7. The 'Water table' refers to—

- (a) The lower limit of the zone of saturation  
 (b) The upper limit of the zone of saturation  
 (c) The contact zone of permeable and impermeable rocks  
 (d) Seepage of water into fissures lying below the earth's surface

8. Which of the following is correct sequence of increasing depth —

- (a) Continental shelf, Continental slope, Deep sea plains, Ocean depths  
 (b) Continental slope, Continental shelf, Deep sea plains, Ocean depths.  
 (c) Continental shelf, Continental slope, Ocean depths, Deep sea plains  
 (d) Continental slope, Continental shelf, Ocean depths, Deep sea plains

9. Which is the smallest among the following water bodies?

- (a) Arctic Sea (b) Hudson sea  
 (c) Japan Sea (d) Okhotsk Sea

10. The largest reserves of fresh water on the Earth's surface in—

- (a) North America (b) South America  
 (c) Russia (d) Africa

11. Assertion (A) : A composite profile includes only the lowest parts of a series of parallel profiles.

**Reason (R) :** A composite profile is constructed to represent the overall relief of an area as viewed from a distance.

**Codes :**

- (a) Both A and R are individually true and R is the correct explanation of A  
 (b) Both A and R are individually true but R is not a correct explanation of A  
 (c) A is true but R is false  
 (d) A is false but R is true

12. Which one of the following sequences correctly indicates the increasing order of the distance from the coast?

- (a) Abyssal plain—Continental shelf—continental slope—continental rise



- (b) Continental shelf—continental slope—continental rise—abyssal plain  
 (c) Continental slope—continental shelf—abyssal plain—continental rise.  
 (d) Continental shelf—continental slope—abyssal plain—continental rise

13. Which one of the following sequences correctly represents the percentage of given salts in sea water in decreasing order ?

- (a) Magnesium chloride—Sodium chloride—Magnesium sulphate—Calcium Sulphate  
 (b) Magnesium sulphate—Magnesium chloride—Calcium sulphate—Sodium chloride  
 (c) Sodium chloride—Magnesium chloride—Magnesium sulphate—Calcium sulphate  
 (d) Sodium chloride—Magnesium sulphate—Magnesium chloride—Calcium sulphate

14. Assertion (A) : In the deep ocean, primary production occurs near hydrothermal vents.

Reason (R) : Over there, microbes produce food through chemosynthesis which forms the basis for a food-chain.

Codes :

- (a) Both A and R are individually true and R is the correct explanation of A  
 (b) Both A and R are individually true 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

15. Consider the following statements—

- Where fold mountain run parallel and close to the coast, continental shelf is narrow or absent.
- The average depth for continental shelf is 100 meters.
- Submarine canyons are mostly found in continental slope.
- The submarine flat topped mountains are called guyots.

Which of the statements given above are correct ?

- (a) 1, 2, 3 and 4 (b) 1, 2 and 4  
 (c) 1, 3 and 4 (d) 2 and 3
16. Match List-I (Ridges) with List-II (Oceans) and select the codes given below the lists—

List-I

- A. Mendeleev  
 B. Kerguelen  
 C. San Felix-Juan  
 D. Walvis

List-II

- North Atlantic Ocean
- South Atlantic Ocean
- Arctic Ocean
- Indian Ocean
- South Pacific Ocean

Code : A

B

C

D

- (a) 5 4 1 2  
 (b) 3 2 5 4  
 (c) 5 2 1 4  
 (d) 3 4 5 2

17. The coastline formed by the submergence of mountain ridges running parallel to the coast is known as—

- (a) Dalmation coast (b) Ria coast  
 (c) Fiord coast (d) Haff coast

18. Match List-I (Landform types) with List-II (Location) and select the correct answer using the codes given below the lists—

List-I

- A. Mariana trench  
 B. Sunda trench  
 C. Puerto Rico trench  
 D. Carlsberg ridge

List-II

- Indian Ocean
- West-Pacific Ocean
- Arabian Sea
- Atlantic Ocean

Code : A

B

C

D

- (a) 2 1 4 3  
 (b) 2 3 1 4  
 (c) 4 1 2 3  
 (d) 3 1 4 2

19. Which one of the following combination is responsible for higher salinity in ocean water ?

- (a) High evaporation, high temperature and high rainfall.  
 (b) High evaporation, high temperature and low rainfall.  
 (c) Low evaporation, low temperature and high rainfall.  
 (d) Low evaporations, low temperature and low rainfall

20. Consider the following statements—

The horizontal distribution of temperature of ocean water is largely affected by—

- Depth of water in the ocean
- Ocean currents
- Prevailing winds
- Latitude

Which of these are correct ?

- (a) 1, 2 and 3 (b) 2, 3 and 4  
 (c) 1, 2 and 4 (d) 1, 2 and 4

21. Oceanic waves caused by an earthquake are known as—

- (a) S-waves (b) L-waves  
 (c) P-waves (d) Tsunamis

22. A submarine mountain rising more than 1000 meters above the ocean floor is known as—

- (a) sea mount (b) abyssal hill  
 (c) guyots (d) submarine ridge

23. The ocean relief is generally—

- (a) more diverse than that of the continents  
 (b) more uniform than that of the continents  
 (c) showing minor variations only  
 (d) not much of a significance

24. Consider the following statements—

- Continental shelves are wider where high mountains are very close and parallel to the coast.
- Continental shelves are formed by prolonged deposition of detritus under sea water in those areas where sea conditions are calm.
- Extensive continental shelves are formed by marine erosion of the continental margins during the time of negative change of the sea level.
- Continental shelves are formed by the submergence of continental margins due to tilting of land towards sea.

Which of the above statements are correct?

- (a) 1, 2 and 3 (b) 2, 3 and 4  
 (c) 1, 3 and 4 (d) 1, 2 and 4



25. Water bodies which have low concentration of nutrients are in—

- (a) littoral zones (b) oligotrophic areas  
(c) neritic province (d) benthos zone

26. Assertion (A): Tropical seas in India are rich in fish species but there are few important fishing grounds around the country.

Reason (R): The quantity of fish of a particular species is lacking and hence not commercially exploitable.

Codes :

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

27. Match List-I (Theories/Hypotheses) with List-II (Related aspects) and select the correct answer using the codes given below the lists—

- | List-I                    |  | List-II                                  |  |
|---------------------------|--|------------------------------------------|--|
| A. Geosynclinal Theory    |  | 1. Origin of tides                       |  |
| B. Tetrahedral hypothesis |  | 2. Origin of coral reefs and atolls      |  |
| C. Stationary Wave Theory |  | 3. Mountain building                     |  |
| D. Subsidence Theory      |  | 4. Origin of continents and ocean basins |  |

- |          |   |   |   |
|----------|---|---|---|
| Code : A | B | C | D |
| (a) 3    | 4 | 2 | 1 |
| (b) 4    | 3 | 2 | 1 |
| (c) 3    | 4 | 1 | 2 |
| (d) 4    | 3 | 1 | 2 |

28. Match List-I (Ocean Trench) with List-II (Region) and select the correct answer using the codes given below the lists—

- | List-I         |  | List-II                |  |
|----------------|--|------------------------|--|
| A. Aleutian    |  | 1. East of Philippines |  |
| B. Puerto Rico |  | 2. Fiji Islands        |  |
| C. Ryukya      |  | 3. S.W. Alaska         |  |
| D. Tonga       |  | 4. West Indies         |  |

- |          |   |   |   |
|----------|---|---|---|
| Code : A | B | C | D |
| (a) 4    | 3 | 1 | 2 |
| (b) 3    | 4 | 2 | 1 |
| (c) 3    | 4 | 1 | 2 |
| (d) 4    | 3 | 2 | 1 |

29. Following relief zones are the characteristics of ocean basins—

1. Continental slopes 2. Continental shelf  
3. Deep sea plain 4. Oceanic trench

The correct sequence of their seaward appearance from the coast is:

- (a) 2, 1, 4, 3 (b) 1, 2, 4, 3  
(c) 2, 1, 3, 4 (d) 1, 2, 3, 4

30. Which of the following factors support the hypothesis of the permanency of ocean basins and continents ?

- The cross-section of the ocean basin, comprising the broad abyssal through flanked by rim like continental shelves.
- Occurrence of shallow-water sands and muds limited to the continental shelf and slope, while that of pelagic oozes being limited to the abyssal plain.
- Absence of normal sedimentary rocks on the oceanic islands.

Select the correct answer using the codes given below:

Codes :

- (a) 2 and 3 (b) 1 and 3  
(c) 1 and 2 (d) 1, 2 and 3

31. The coastline formed by the submergence of mountain ridges running parallel to the coast is known as—

- (a) Dalmation Coast (b) Ria Cost  
(c) Flord Coast (d) Haff Coast

32. The deepest oceanic trench Mariana is located in—

- (a) Atlantic Ocean (b) Arctic Ocean  
(c) Pacific Ocean (d) Indian Ocean

33. Which one of the following sequences of ocean trenches is correct in terms of the ascending order of their depths ?

- (a) Aleutian Trench—Mindanao Trench—New Herbides Trench  
(b) New Herbides Trench—Mindanao Trench—Aleutian Trench  
(c) Aleutian Trench—New Herbides Trench—Mindanao Trench  
(d) New Herbides Trench—Aleutian Trench—Mindanao Trench

34. Sargasso Sea is Characterized by :

- (a) Very cold water  
(b) Very warm water  
(c) Highly saline water  
(d) Typical marine vegetation [CDS (II) 2012]

35. 'Water table' refers to—

- (a) The lower limit of the zone of saturation  
(b) The upper limit of the zone of saturation  
(c) Seepage of water into fissures lying underground  
(d) The contact zone of the permeable and impermeable rocks

36. A nautical mile is equal to—

- (a) 5060 feet (b) 5280 feet  
(c) 6060 feet (d) 6080 feet [CDS 2011]

### Answers

1. (c) 2. (c) 3. (c) 4. (c) 5. (d) 6. (a) 7. (b) 8. (c) 9. (c) 10. (a) 11. (d) 12. (b) 13. (c)  
14. (b) 15. (c) 16. (d) 17. (a) 18. (a) 19. (b) 20. (b) 21. (d) 22. (a) 23. (b) 24. (b) 25. (b) 26. (c)  
27. (c) 28. (c) 29. (c) 30. (d) 31. (a) 32. (c) 33. (c) 34. (d) 35. (b) 36. (b)

### 2. Ocean Current

1. The most important fishing grounds of the world are found in the regions where

- (a) warm and cold atmospheric currents meet  
(b) rivers drain out large amounts of freshwater into the sea  
(c) warm and cold oceanic currents meet

(d) continental shelf is undulating [IAS 2013]

2. Which one of the following is a warm ocean current ?

- (a) Labrador (b) Gulf Stream  
(c) Kurile (d) Canary [SSC LDC 2013]

3. Which one among the following ocean currents mixes with Labrador current ?



- (a) Canaries current (b) Benguela current  
(c) Florida current (d) California current  
[UPSC A.C. 2013]
4. The eastward continuation of the Brazil current is called :  
(a) North Atlantic drift (b) South Atlantic drift  
(c) Counter Equatorial drift (d) West Atlantic drift  
[SSC (CGL)-2013]
5. Which if the following is a cool current—  
(a) North equatorial current (b) Brazilian current  
(c) Kuroshio current (d) Humboldt current
6. Periodic movement of the sea water is known as—  
(a) Tides (b) Waves  
(c) Current (d) Tsunami
7. The tides are primarily caused by—  
(a) gravitational forces of the moon  
(b) gravitational force of the sun  
(c) gravitational forces of the earth  
(d) none of these.
8. Tidal range is quite high—  
(a) in equatorial regions of ocean  
(b) in shallow continental shelves  
(c) in narrow estuaries (d) around island
9. Which of the following current is produced by upwelling of cold water ?  
(a) Labrador current (b) Kurasiwo current  
(c) Brazilian current (d) Benzuela current
10. Currents which flow from lower latitudes to higher latitudes are—  
(a) Cool current (b) Upwelling current  
(c) Tidal current (d) Warm current
11. Which one of the following statements is not true ?  
(a) Gulf with narrow fronts and wider rears experience high tides.  
(b) Tidal currents take place when a gulf is connected with the open sea by a narrow channel.  
(c) Tidal bore occurs when a tide enters the narrow and shallow estuary of a river.  
(d) The tidal nature of the mouth of the river Hooghly is of crucial importance to Kolkata as port.
12. The oceanic current named as 'Kuroshio, Kurile and Alaskan' are located in—  
(a) North Atlantic Ocean (b) South Atlantic Ocean  
(c) North Atlantic Ocean (d) North Indian Ocean
13. Which one of the following is correctly matched ?  
(a) Canary current — Mediterranean Sea  
(b) Falkland current — Arabian Sea  
(c) Gulf Stream — Pacific Ocean  
(d) Labrador Current — North Atlantic Ocean
14. The ocean currents transfer heat from—  
(a) one sea or ocean to another  
(b) one cost to another  
(c) the surface of the sea to greater depths  
(d) lower to higher latitudes
15. Which of the following is a warm ocean current ?  
(a) Kuroshio (b) Peruvian  
(c) Labrador (d) None of these
16. Which of the following is a current ?  
(a) Kuroshio (b) Benguela  
(c) Brazil (d) Gulf stream
17. Which one of the following is not the part of North Atlantic ocean current system ?  
(a) Irminger current (b) Labrador current  
(c) Brazilian current (d) Canarie current
18. Which among the following currents is produced by upwelling of water off the coast of Chile and Peru ?  
(a) Canarie Current (b) Humboldt Current  
(c) Benguela Current (d) Kuroshio Current
19. Cold currents have cooling effect on the shore of—  
(a) Peru (b) Japan  
(c) Western Europe (d) Alaska
20. Which of the following is wrongly matched ?  
(a) Benguela Current — Cold  
(b) Humboldt Current — Cold  
(c) Kamchatka Current — Warm (Cold)  
(d) Kuroshio — Warm
21. Which is the correct order of ocean currents in the northern part of Pacific ocean in clockwise direction ?  
(a) North equatorial — California Kuroshio — North equatorial  
(b) North equatorial California Kuroshio — Pacific drift — North equatorial  
(c) North equatorial — Pacific drift — North equatorial  
(d) North equatorial — Pacific drift — Kuroshio California North
22. The cold Labrador current brings nine months winter to—  
(a) USA  
(b) Eastern Newfoundland  
(c) Western Norway (d) North Sweden
23. The ocean surface currents follow clockwise circulatory paths in the northern parts of the Pacific and Atlantic oceans due to the—  
(a) Convergence and divergence movements  
(b) Corioli's force  
(c) density differences in sea water  
(d) impact of prevailing winds
24. Which one of the following pairs of oceans currents meet each other near Newfound land ?  
(a) Canaries and Labrador  
(b) Gulf stream and Labrador  
(c) Gulf stream and Canaries  
(d) Kuroshio and Kurile
25. Which of the following factors are responsible for the change in the regular direction of the ocean currents in the Indian Ocean ?  
(a) Indian Ocean is only 'half an ocean'.  
(b) Indian ocean has monsoon drift.  
(c) Indian ocean is a landlocked ocean  
(d) Indian ocean has greater variations in salinity.
26. Match List-I (Ocean Current) with List-II (Name of Ocean) and select the correct answer using the code given below the lists—
- | List-I              | List-II           |
|---------------------|-------------------|
| A. Agulhas current  | 1. North Atlantic |
| B. El Nino current  | 2. South Atlantic |
| C. Kuroshio current | 3. North Pacific  |
| D. Benguela current | 4. South Pacific  |
|                     | 5. Indian Ocean   |



<b>Code: A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(a) 2	3	1	5
(b) 5	4	3	2
(c) 2	4	3	5
(d) 5	3	1	2

27. Kuroshio is a warm ocean current which runs from—  
 (a) Philippines to Japan (b) Indonesia to Philippines  
 (c) Japan to China (d) Sri Lanka to Indonesia

28. Match List-I with List-II and select the correct answer using the codes given below the lists—

<b>List-I</b>	<b>List-II</b>
A. Gulf Stream	1. Pacific Ocean
B. West wind drift	2. Asloweastward movement of water over the zone of Westerly winds
C. Peru current	3. Indian Ocean
D. West Australian current	4. Warm current

<b>Code: A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(a) 4	2	1	3
(b) 1	3	4	2
(c) 4	3	1	2
(d) 3	4	5	2

29. Match List-I (current) with List-II (feature) and select the correct answer using the codes given below—

<b>List-I (Current)</b>	<b>List-II (Feature)</b>
A. Kuroshio current	1. Warm current in the Atlantic Ocean
B. Peru current	2. Cold current in the Atlantic Ocean
C. Labrador current	3. Warm current in the Pacific Ocean
D. Florida current	4. Cold current in the Pacific Ocean

<b>Codes: A</b>	<b>B</b>	<b>C</b>	<b>D</b>
(a) 3	4	2	1
(b) 3	2	4	1
(c) 1	4	2	3
(d) 1	2	4	3

[NDA 2011]

30. Consider the following statements—  
 1. Among the major oceans, Indian Ocean is warmer than the Atlantic and Pacific Oceans in both hemispheres.  
 2. The average surface temperature of Pacific Ocean is higher than that of the Atlantic Ocean in the southern hemisphere.  
 3. Among the major oceans, the Atlantic Ocean is the coldest in the equatorial region.  
 Which of these statements are correct?  
 (a) 1 and 2 (b) 2 and 3 (c) 1 and 3 (d) 1, 2 and 3

31. Which one of the following is not a factor modifying ocean currents?

- (a) Direction and shape of the coast-line  
 (b) Tidal wave in the ocean  
 (c) Seasonal variations in winds  
 (d) Bottom topography

32. Which one of the following is the correct system in the South Atlantic Ocean?

- (a) Southequatorial current—Brazil current—Antarctic drift—Benguela current  
 (b) Benguela current—Brazil current—Southequatorial current—Antarctic drift  
 (c) Antarctic drift—Brazil, current—Benguela current—South equatorial current  
 (d) South equatorial current—Benguela current—Brazil current—Antarctic drift

33. Consider the following factors—

1. Rotation of the earth 2. Air pressure and wind  
 3. Ocean water density 4. Revolution of earth

Which of these factors modify ocean currents?

- (a) 1 and 2 (b) 1, 2 and 3 (c) 1 and 4 (d) 2, 3 and 4

34. The current produced by upwelling of cold water off the coast of Chile and Peru is known as—

- (a) Canary current (b) Humboldt current  
 (c) Agulhas current (d) El Nino [NDA 2011]

35. Assertion (A) : The circumpolar current encircles Antarctica from west to east.

Reason (R) : The westerly winds in southern hemisphere blow constantly from west to east and do to encounter any major landmasses.

Codes :

- (a) Both A and R are individually true and R is the correct explanation of A  
 (b) Both A and R are individually true, 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

36. Consider the following statements—

1. The Benguela current had its influence in the formation of Kalahari Desert.  
 2. The Agulhas current had its influence in the formation of Thar Desert.  
 3. The currents of northern Indian Ocean change their course of flow twice a year.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 and 3 only  
 (c) 1 and 3 only (d) 1, 2 and 3

37. Consider the following statements—

1. Equatorial countercurrent is more strongly developed in Pacific Ocean than in Atlantic Ocean.  
 2. Equatorial counter flows in westward direction.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only  
 (c) Both 1 and 2 (d) Neither 1 nor 2

38. Statement I :

Tsunami is small in open ocean yet may be over 30 m high when it reaches a coastline.

Statement II :

Tsunamis have long wavelength and they travel across, the open ocean at high speed. As they approach shore, the wavelength decreases and the wave height increases.

- (a) Both the statements are individually true and statement II is the correct explanation of statement I  
 (b) Both the statements are individually true but statement II is not the correct explanation of statement I  
 (c) Statement I is true but statement II is false  
 (d) Statement I is false but statement II is true

[CDS (II) 2012]

39. Which of the following are cold ocean currents?

1. Humbolt current 2. Brazil current  
 3. Oyashio current 4. Canary current

Select the correct answer from the codes given below—

Codes :

- (a) 1 and 2 (b) 2 and 3  
 (c) 1, 3 and 4 (d) 2, 3 and 4 [UPPCS 2009]

40. Which one of the following is a warm ocean current?

- (a) East Australian current (b) West Australian current  
 (c) Benguela current (d) Peru current

[UPPCS 2009]



### Answers

1. (c) 2. (b) 3. (c) 4. (b) 5. (d) 6. (a) 7. (a) 8. (c) 9. (d) 10. (d) 11. (a) 12. (c) 13. (d)  
 14. (d) 15. (a) 16. (b) 17. (c) 18. (b) 19. (a) 20. (c) 21. (c) 22. (b) 23. (b) 24. (b) 25. (b) 26. (b)  
 27. (a) 28. (a) 29. (a) 30. (a) 31. (b) 32. (d) 33. (b) 34. (b) 35. (d) 36. (c) 37. (a) 38. (d) 39. (c)  
 40. (a)

### 3. Salinity

1. Which of the following Seas has highest salinity in the world?

- (a) Mediterranean Sea (b) Black Sea  
 (c) Dead Sea (d) Red Sea

[A. C. I. O.G II (Exe) 2013] (Dec)

2. The relief of the ocean floor is generally—

- (a) more uniform than that of the continents.  
 (b) not of much significance  
 (c) more diverse than that of the continents.  
 (d) show minor variation only

3. **Assertion (A)** : The amount of salinity in the tropical coasts of continents.

**Reason (R)** : The trade wind causes upwelling of water in the western coasts and the water is piled up in the eastern coasts of continents.

**Codes :**

- (a) Both A and R are individually true and R is the correct explanation of A  
 (b) Both A and R are individually true 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

4. **Assertion (A)** : Oceanic salinity is higher along Tropics of Cancer and Capricorn.

**Reason (R)** : Increased evaporation coupled with relatively more insolation along these latitudes causes higher oceanic salinity.

**Codes :**

- (a) Both A and R are individually true and R is the correct explanation of A  
 (b) Both A and R are individually true but R is not a correct explanation of A  
 (c) A is true but R is false (d) A is false but R is true

5. The favourable percentage of sea water salinity from the point of view of fish production is—

- (a) 2.0 to 2.5 (b) 2.5 to 3.0  
 (c) 3.0 to 3.5 (d) 3.5 to 4.0

6. Salinity in ocean water decreases when:

- (a) evaporation is more (b) wind velocity is high  
 (c) rainfall is heavy (d) humidity is high

7. Consider the following statements—

Salinity of water in the equatorial oceans decrease because :

1. large rivers like Amazon and Congo enter into the sea  
 2. evaporation is less  
 3. waters from Arctic and Antarctic mix with the waters of Equator  
 4. of heavy rainfall

Which of these statements are correct ?

- (a) 1 and 2 (b) 3 and 4 (c) 1 and 3 (d) 1 and 4

8. Which one of the following sequence in the increasing order of salinity concentration in their waters is correct?

- (a) Gulf of California—Baltic Sea—Red Sea—Arctic Ocean  
 (b) Baltic Sea—Arctic Ocean—Gulf of California—Red Sea  
 (c) Red Sea—Gulf of California—Arctic Ocean—Baltic sea  
 (d) Arctic Ocean—Gulf of California—Baltic Sea—Red Sea

9. Consider the following conditions—

1. Anticyclone conditions with static air and high temperature  
 2. Cyclonic conditions with unstable air  
 3. High precipitation with low evaporation  
 4. Low precipitation with high evaporation

High salinity of ocean waters is associated with:

- (a) 1 and 4 (b) 2 and 3  
 (c) 1 and 3 (d) 2 and 4

10. Which one among the following sequences of water bodies, from lower to higher salinity concentration, is correct?

- (a) Gulf of California-Baltic Sea-Red Sea-Arctic Sea  
 (b) Baltic Sea-Arctic Sea—Gulf of California-Red Sea  
 (c) Red Sea-Gulf of California-Arctic Sea-Baltic Sea  
 (d) Arctic Sea—Gulf of California-Baltic Sea-Red Sea

[CDS (II) 2012]

11. When water freeze in the polar seas the salts—

- (a) form a layer on top  
 (b) remain in the substance water that does not freeze  
 (c) sink to the bottom  
 (d) partly freeze and partly sink to the bottom

12. What is the average salt content in a liter of sea water ?

- (a) 39 gm (b) 37 gm (c) 35 gm (d) 32 gm

13. Sea water is saltier than rain water because—

- (a) Sea animals are salt producing  
 (b) the air around the sea is saltish  
 (c) river wash away salts from earth and pour them into the sea  
 (d) Sea beds have salt producing mines.

14. **Assertion (A)** : Despite low evaporation and stable stratification of the atmosphere, salinity is high in polar regions.

**Reason (R)** : Sea water freezes leaving the remaining water saline than before.

**Codes :**

- (a) Both A and R are individually true and R is the correct explanation of A  
 (b) Both A and R are individually true 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

[CDS 2009]



15. Average salinity of water of Arabian Sea is  
 (a) 25 ppt (b) 35 ppt  
 (c) 45 ppt (d) 55 ppt [BPSC 2011]

16. Major source of oceanic salinity is  
 (a) Rivers (b) Land  
 (c) Wind (d) Ash from volcanoes [BPSC 2011]

**Answers**

1. (a) 2. (c) 3. (a) 4. (a) 5. (c) 6. (c) 7. (d) 8. (c) 9. (a) 10. (b) 11. (b) 12. (c) 13. (d)  
 14. (d) 15. (b) 16. (d)

**4. Ocean Tides**

1. Neap tides occur during which of the following phases of the moon?  
 (a) First quarter only (b) First and third quarter  
 (c) Second and third quarter (d) Fourth quarter only
2. Salinity of sea water refers to the salt content expressed in terms of gram per kilograms. The average salt content is—  
 (a) 30% (b) 35% (c) 40% (d) 45%

3. Tides in the sea are caused by :  
 (a) Effect of Sun (b) Effect of Moon  
 (c) Combined effect of Moon and Sun  
 (d) Gravitational force of Earth and Sun [SSC General Duty 2012]

4. Spring tide means—  
 (a) higher high tide, higher low tide  
 (b) higher high tide, lower low tide  
 (c) lower high tide, lower low tide  
 (d) lower high tide, higher low tide

5. Match List-I (Genetic Phase) with List-II (Resultant Tide) and select the correct answer using the code given below the lists—

List-I		List-II	
A. The Sun and the Moon		1. Spring tide angles with are at right the Earth	
B. The sun, the Moon and the Earth are		2. Neap tide In a straight line	
C. The Moon is nearest from the Earth		3. Apogean tide	
D. The Moon is farthest from the Earth		4. Perigean tide	

Code : A	B	C	D
(a) 2	1	4	3

- (b) 2 4 1 3  
 (c) 3 4 1 2  
 (d) 3 1 4 2

6. Tides in the sea have stored in them :  
 (a) Gravitational potential energy  
 (b) A combination of all the three forms of energy  
 (c) Hydraulic energy  
 (d) Kinetic energy [SSC (LDC) 2012]

7. Consider the following statements—  
 1. Neap tides occur when the moon, earth and sun are collinear.  
 2. When an intense storm passes near the shore during a spring tide, the waves at high tide may cause tidal waves.

- Which of the statements given above is/ are correct ?  
 (a) 1 only (b) 2 only  
 (c) Both 1 and 2 (d) Neither 1 nor 2

8. Which one of the following is the tide produced as a consequence of moon and sun pulling the earth in the same direction ?  
 (a) Spring tide (b) Neap tide  
 (c) High tide (d) Low tide [CDS, 2009]

9. Tidal range denotes the—  
 (a) rise of sea water and its movement toward the coast  
 (b) fall of sea water and its movement toward the sea  
 (c) rise and fall of sea water due to gravitational forces  
 (d) difference between high and low tide [UPSC CPF Assistant Commandants 2009]

10. Tides are caused by the gravitational pull of the—  
 (a) Earth on the Moon  
 (b) Earth on the Sun  
 (c) Sun and Moon on the Earth  
 (d) Moon on the Earth [SSC (LDC) 2011]

**Answers**

1. (c) 2. (b) 3. (c) 4. (a) 5. (a) 6. (d) 7. (b) 8. (c) 9. (d) 10. (c)

**5. Ocean Deposits**

1. Pelagic deposits are in the form of liquid mud known as ooze. They occur—  
 (a) on the deep ocean floor  
 (b) on the floor of enclosed sea  
 (c) off large river mouths  
 (d) none of the above

2. Benthos is the name given to a those organisms which live—  
 (a) at the bottom of the ocean  
 (b) in enclosed sea  
 (c) in the upper layers of ocean  
 (d) along the shore.

3. Abundant organic life is present in—  
 (a) Shallow seas adjoining the shore

- (b) on the deep ocean floor  
 (c) zone of upwelling of cold water.  
 (d) tropical parts of ocean

4. Oozes are associated with—  
 (a) volcanic deposits  
 (b) terrigenous deposits  
 (c) pelagic deposits (d) coral reefs

5. Match List-I (Deposits) with List-II (Locations) and select the correct answer using the codes given below the lists—

List-I	List-II
A. Silt	1. Continental shelves
B. Red clay	2. Oceanic plains
C. Ooze	3. Continental slopes
D. Gravel	4. Oceanic deeps



Code: A	B	C	D
(a) 2	1	3	4
(b) 3	4	2	1
(c) 2	4	3	1
(d) 3	1	2	4

6. Consider the following statements—

- Hydrogenous deposits are formed very slowly
- Phosphorites are found either in the form of nodules or in the form of thin crust
- Glauconite is a biogenous sediment

Which of these are correct

- (a) 1 and 2                      (b) 2 and 3  
(c) 1 and 3                      (d) 1, 2 and 3

7. Match List-I (Ocean Deposit of Organic Remain) with List-II (Origin of Organic Remain) and select the correct answer using the code given below the Lists—

List-I

List-II

- |                    |                                                |
|--------------------|------------------------------------------------|
| A. Neritic remains | 1. Shells of Planktonic mollusks               |
| B. Pelagic remains | 2. Microscopic plant shells                    |
| C. Pteropod ooze   | 3. Dead skeletons of marine animals and plants |
| D. Diatom ooze     | 4. A type of algae                             |
|                    | 5. Shells of various                           |

Code: A	B	C	D
(a) 1	4	5	2
(b) 3	2	1	4
(c) 1	2	5	4
(d) 3	4	1	2

8. An algae type ocean deposit is :

- (a) Neritic remains                      (b) Diatom Ooze  
(c) Pteropod Ooze                      (d) Pelagic deposits

[SSC (Tier-I) 2012]

9. Radiolarian oozes occur in the depths of:

- (a) 600 to 1200 fathoms                      (b) 1500 to 2000 fathoms  
(c) 2000 to 5000 fathoms                      (d) 5000 to 6000 fathoms

10. Match List-I (Sediment Type) with List-II (Example) and select the correct answer using the code given below the lists—

List-I

List-II

- |                |                      |
|----------------|----------------------|
| A. Terrigenous | 1. Calcareous oozes  |
| B. Biogenous   | 2. Quartz and clay   |
| C. Hydrogenous | 3. Tektite spheres   |
| D. Comogenous  | 4. Manganese nodules |

Code: A	B	C	D
(a) 2	4	1	3
(b) 2	1	4	3
(c) 3	1	4	2
(d) 3	4	1	2

11. In vertical distribution of ocean deposits, which is the correct sequence (from oceanic sea towards bottom) of the following deposits—

1. Calcareous oozes                      2. Siliceous oozes  
3. Terrigenous deposits                      4. Red clay

Select the correct answer using the code given below

- (a) 1-2-3-4                      (b) 3-1-2-4  
(c) 3-2-1-4                      (d) 4-3-2-1

12. Consider the following statements—

- Globigerina ooze is a calcareous pelagic deposit.
- Globigerina ooze is found mostly in the tropical and temperate zones of the Atlantic Ocean.

Which of the statement(s) given above is/are correct?

- (a) 1 only                      (b) 2 only  
(c) Both 1 and 2                      (d) Neither 1 nor 2

13. Which of the following kinds of organisms are the diatoms?

- (a) Unicellular algae                      (b) Protozoans  
(c) Free floating bryophytes                      (d) Detritivores

14. Pelagic deposits consist of—

- (a) Terrigenous materials  
(b) Cosmic materials  
(c) Inorganic materials  
(d) Organic ooze materials

15. The deepest ocean in the world is—

- (a) The Indian ocean                      (b) The Atlantic ocean  
(c) The Pacific ocean                      (d) None of these

[Central Bank of India Clerical 2010]

## Answers

1. (a) 2. (a) 3. (c) 4. (c) 5. (b) 6. (b) 7. (b) 8. (d) 9. (c) 10. (b) 11. (b) 12. (c) 13. (a)  
14. (d) 15. (c)

## 6. Continent And Continental Shelf

1. The continent having the largest area in the equatorial belt is—

- (a) Asia                      (b) South America  
(c) Africa                      (d) North America

[UPSC A.C. 2013]

2. Fiord originate as a result of—

- (a) Glacial erosion                      (b) Soil erosion  
(c) Land slide                      (d) Rock formation

3. Groin is—

- (a) It is simply a wall built at right angles to the shorelines made of huge rocks.  
(b) It is wall built at right angles to the shorelines made of small rocks.  
(c) It is a wall built at right angles to the shorelines made of igneous rocks.  
(d) none of these.

4. Delta shore line is—

- (a) Built of material brought out of stream system.  
(b) Built material brought out of glacial system.  
(c) Built of a material brought out of river system.  
(d) Built of a material out of ocean system.

5. What is a coastal plains?

- (a) It is created by a continental shelf exposed by submergence.  
(b) It is created by continental shelf exposed by emergence.  
(c) It is created by a continental shelf exposed by tidal waves.  
(d) none of these.

6. Which one of the following groups of terms is applicable to some parts of the ocean floor?

- (a) Basin, deep, cirque, plateau



- (b) Trench, ridge, drumlin, plateau  
 (c) Plateau, basin, dune, ridge  
 (d) Ridge, deep, basin, waterfall.
7. **Assertion (A)** : The continents are considered as floating on the denser layers of rocks.  
**Reason (R)** : The continents are made up of lighter rocks.
- (a) Both (A) and (R) are true and R is the correct explanation of A.  
 (b) Both (A) and (R) are true and R is not the correct explanation of A.  
 (c) (A) is true but (R) is false.  
 (d) (A) is false but (R) is true.
8. Abysal plains are—  
 (a) Small and unproductive plains caused by the turbidity currents.  
 (b) Vast and flat plains caused by the turbidity currents.  
 (c) Vast but unusually rough terrained plains caused by the turbidity currents.  
 (d) All of the above.
9. Seamounts may be—  
 (a) Mountain abruptly rising from the ocean floor.  
 (b) Mountains resulting out of diastrophic activity from the ocean floor.  
 (c) Mountains resulting from the changes inside the ocean floor.  
 (d) none of these.
10. The bottoms of trenches lie—  
 (a) Deep upto 3500 to 5000 miles.  
 (b) Deep upto 2000 to 3500 miles.  
 (c) Deep upto 7500 to 10000 miles or more.  
 (d) Deep upto 500 to 8000 miles.
11. Consider the following by statement—  
 1. The Rhine rift valley stretches for more than 800 km.  
 2. The floor of Dead Sea is more than 1100m below sea level.  
 Which of the statement (s) given above is/are correct?  
 (a) 1 only (b) 2 only  
 (c) Both 1 and 2 (d) Neither 1 nor 2
12. Which one of the following plate movements is responsible for the formation of mid-ocean ridge ?  
 (a) Divergent movement (b) Convergent movement  
 (c) Transform fault movement (d) Parallel movement
13. **Assertion (A)** : Explosive type of volcanic eruptions are associated with the destructive or convergent plate boundaries in which the heavier plate is subducted beneath the lighter pate.  
**Reason (R)** : Materials of the upper mantle lying below the mid-oceanic ridges are melted and move upward in the form of lava during volcanic eruptions.  
**Codes :**  
 (a) Both A and R are true and R is the correct explanation of A  
 (b) Both A and R are true but R is not a correct explanation of A  
 (c) A is true but R is false (d) A is false but R is true
14. Name the Continents that form a mirror image of each other—  
 (a) North America and South America  
 (b) Asia and Africa  
 (c) Africa and South America  
 (d) Europe and Asia

[CDS 2011]

**Answers**

1. (c) 2. (a) 3. (a) 4. (a) 5. (b) 6. (b) 7. (a) 8. (b) 9. (a) 10. (c) 11. (d) 12. (a) 13. (b) 14. (c)

**7. Seas And Ocean**

1. Which one among the following is a sea without having a coastline ?  
 (a) North sea (b) Sargasso sea  
 (c) Baltic sea (d) Bering sea [CDS II 2013]
2. Which one of the following countries does not border Mediterranean Sea ?  
 (a) Malta (b) Libya (c) Italy (d) Bulgaria
3. A ship met with an accident at 30° N. The ship was sailing in the—  
 (a) Baltic Sea (b) Black Sea  
 (c) Mediterranean Sea (d) Red Sea
4. Surgasso sea is located in—  
 (a) North Pacific Ocean (b) North Atlantic Ocean  
 (c) North Sea (d) South Atlantic Ocean
5. The greatest known ocean depth (which lies in the Pacific Ocean) is—  
 (a) 8,890 m (b) 9,653m  
 (c) 10,589 m (d) 11,033 m
6. The Caspian Sea, the largest inland sea or lake in the world, is located—  
 (a) wholly in the Continent of Europe  
 (b) wholly in the Continent of Asia  
 (c) partly in Europe and partly in Asia  
 (d) partly in Africa and partly in Asia
7. Which is the largest sea in the world ?  
 (a) Caspian Sea (b) South China Sea  
 (c) Mediterranean Sea (d) North Sea
8. Which is the largest Gulf in the World ?  
 (a) The Gulf of Cambay (b) The Gulf of Mexico  
 (c) The Persian Gulf (d) The Strait of Hormuz
9. A ridge, 64000 km long and 1000 to 4000 km wide, runs down the middle of the North and the South Atlantic Ocean basins, into the Indian ocean basins, then passes between Australia and Antarctica to enter the south Pacific basin. What is this ridge ?  
 (a) Socotra-Lakshadweep-Chagos ridge  
 (b) Pacific-Antarctica ridge  
 (c) Dolphin-Challenger ridge  
 (d) Mid-oceanic ridge
10. There is a submarine ridge in the Bay of Bengal. What is it called ?  
 (a) Ninety east ridge (b) Mozambique ridge  
 (c) Chagod-laccadive ridge (d) Carlsberg ridge
11. Consider the following—  
 1. Gulf of California 2. Mediterranean sea  
 3. Baltic sea



- In terms of decreasing salinity, which one of the following is the correct sequence?
- (a) 1-2-3 (b) 2-1-3  
(c) 3-1-2 (d) 2-3-1
12. Consider the following statements —
- The Mid-Atlantic Ridge surfaces above the sea level in Iceland.
  - The San Andreas fault is a transform fault.
- Which of the statements given above is/are correct?
- (a) 1 only (b) 2 only  
(c) Both 1 and 2 (d) Neither 1 nor 2
13. What is the proportion of landmass of the ocean floor plotted against the given datum line called?
- (a) Altimetric curve (b) Hypsographic curve  
(c) Hygrometric curve (d) Hydrometric curve
14. Where is the Dogger bank, which is a major fishing area, located?
- (a) North Pacific Ocean (b) South Pacific Ocean  
(c) North sea (d) South Atlantic Ocean
15. **Assertion (A)** : Seas near the equator receive rainfall throughout the year.  
**Reason (R)** : High temperature and high humidity near the equator causes convectional rain in most afternoons.  
**Codes :**
- (a) Both A and R are true and R is the correct explanation of A  
(b) Both A and R are true but R is not a correct explanation of A  
(c) A is true but R is false  
(d) A is false but R is true
16. **Assertion (A)** : Baltic Sea, remains open for international trade throughout the year.  
**Reason (R)** : Baltic Sea lies in the warm temperature zone.  
**Codes :**
- (a) Both A and R are true and R is the correct explanation of A  
(b) Both A and R are but R is not a correct explanation of A  
(c) A is true but R is false  
(d) A is false but R is true
17. The canal joining Baltic Sea to North Sea is—  
(a) Kiel Canal (b) Suez Canal  
(c) Panama Canal (d) Bass Strait
18. Dead sea is situated in which one of the following—  
(a) A Rift Valley  
(b) An Intermontane Plateau  
(c) Intermontane Plains (d) Canyons
19. Match List-I with List-II and select the correct answer using the codes given below the lists—
- | List-I                   | List-II (Areas Joining)               |
|--------------------------|---------------------------------------|
| A. Suez canal            | 1. Great Lakes and St. Lawrence       |
| B. Panama Canal          | 2. Mediterranean and Red Sea          |
| C. Soo and Welland Canal | 3. Pacific and Atlantic               |
| D. Mittelland Canal      | 4. North Sea and North European Plain |
- | Code : | A | B | C | D |
|--------|---|---|---|---|
| (a)    | 1 | 2 | 3 | 4 |
| (b)    | 1 | 3 | 2 | 4 |
| (c)    | 2 | 3 | 1 | 4 |
| (d)    | 2 | 1 | 4 | 3 |
20. The largest ocean is—  
(a) Atlantic Ocean (b) Indian Ocean  
(c) Arctic Ocean (d) Pacific Ocean  
[SSC Tax Assistant 2007]
21. The busiest and the most important sea route of the world is—  
(a) North Pacific Sea Route (b) North Atlantic Sea Route  
(c) South Atlantic Sea Route (d) Indian Ocean Route  
[SSC Tax Assistant 2007]
22. Which one among the following best explains the reason for the eastern and western boundaries of the Pacific Ocean experiencing frequent earthquake?  
(a) There are deep ocean trenches along these margins  
(b) High mountain stretch along the continental margins adjacent to this ocean  
(c) These margins coincide with the plate margins  
(d) The currents of the vast Pacific Ocean continue to dash against the continental margins [CDS, 2011]
23. Which from the following is a land-locked sea?  
(a) Red Sea (b) Timor Sea (c) North Sea (d) Aral Sea  
[SSC (UDC) 2011]

### Answers

1. (b) 2. (d) 3. (c) 4. (b) 5. (d) 6. (c) 7. (b) 8. (b) 9. (d) 10. (a) 11. (b) 12. (c) 13. (b)  
14. (c) 15. (a) 16. (c) 17. (a) 18. (a) 19. (c) 20. (d) 21. (b) 22. (c) 23. (d)

## 8. Ocean Temperature

1. The layer of water in the oceans and lakes that separates the warmer surface layer from the deeper colder layer is called—  
(a) Epilimnion (b) Hypolimnion  
(c) Thermocline (d) Hypothermia
2. **Assertion (A)** : The temperature in the southern hemisphere is considerable lower than that in the northern hemisphere.  
**Reason (R)** : The large mass of ice-covered Antarctic continent is an important source of cold in the south.  
**Codes :**
- (a) Both A and R are true and R is the correct explanation of A  
(b) Both A and R are true but R is not a correct explanation of A  
(c) A is true, but R is false  
(d) A is false, but R is true
3. **Assertion (A)** : The temperature recorded at the surface of enclosed seas of high latitudes is lower than the temperature recorded at relatively greater depth.  
**Reason (R)** : The surface of ocean directly receives insolation and heat is transmitted to the lower part of the ocean through the process of conduction.  
**Codes :**
- (a) Both A and R are true and R is the correct explanation of A



- (b) Both A and R are true but R is a not correct explanation of A  
 (c) A is true but R is false  
 (d) A is false but R is true
4. The winter temperatures of north – western Europe are higher than those of eastern Europe in the same latitudinal zone because—  
 (a) It is on the western side of the continent  
 (b) It is near the sea  
 (c) It receives only light falls of snow  
 (d) It lies under westerly winds which blow over the Gulf Stream Drift.
5. Consider the following statements—  
 1. Temperature of surface water is comparatively higher in the northern hemisphere  
 2. The isotherms in the southern hemisphere are not regular and do not follow the latitudes while they (isotherms) are regular and follow the latitudes in the northern hemisphere.

- Which of the statement (s) given above is/ are correct ?  
 (a) 1 only (b) 2 only  
 (c) Both 1 and 2 (d) Neither 1 nor 2
6. Consider the following statements—  
 1. The temperature and salinity differences, that trigger thermohaline circulation of deep-sea, are generated at the ocean surface in the low-latitude wind belts.  
 2. The deep-sea currents of Indian Ocean are generated in the water girdling Antarctica.  
 Which of the statements given above is/ are correct ?  
 (a) 1 only (b) 2 only  
 (c) Both 1 and 2 (d) Neither 1 nor 2
7. Consider the following statements—  
 1. The sea water temperature of Red Sea is higher than that of Persian Gulf.  
 2. The Baltic Sea water is more saline than that of Black Sea.  
 Which of the statements given above is/ are correct ?  
 (a) 1 only (b) 2 only  
 (c) Both 1 and 2 (d) Neither 1 nor 2

**Answers**

1. (c) 2. (b) 3. (a) 4. (d) 5. (a) 6. (c) 7. (d)

**9. Coral Reefs**

1. Coral reefs are formed by—  
 (a) volcanic rocks (b) marine sediments  
 (c) chlorine material precipitated from sea water  
 (d) Tiny colonial marine animals which construct limestone skeleton material
2. Consider the following statement:  
 1. Nearly 30% of the petroleum production in the world is from the offshore areas.  
 2. The exclusive economic zone in the oceans extends up to 100 nautical miles from the coast.  
 3. Only less than 1% of marine area is declared as protected area.  
 4. The largest marine protected area is the Great Barrier Reef.

Which of these statements are correct ?  
 (a) 1 and 2 (b) 1, 3 and 4 (c) 1 and 4 (d) 2 and 3

3. Which of the following is not an important condition for growth of coral ?  
 (a) Wave - free salt water (b) Clean salt water  
 (c) Warm seas (d) Plenty of sunlight
4. **Assertion (A) :** Corals are not found near the shores where rivers meet the sea.

**Reason (R) :** Corals do not thrive in regions where waters contain a lot of silt.

**Codes :**

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

5. **Assertion (A) :** The great Barrier Reef is located near Australia.

**Reason (R) :** The coral ployps grow in shallow, saline and warm waters.

**Codes :**

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

6. The coral reefs are the marine counterparts of—  
 (a) Temperate forests (b) Tropical rain forests  
 (c) Savannahs (d) Scrubland

[SSC (UDC) 2011]

7. Coral reefs are formed by—  
 (a) volcanic rocks (b) marine sediments  
 (c) Chlorine material precipitated from sea water  
 (d) tiny colonial marine animals which construct limestone skeleton material

8. The Great Barrier reef is—  
 (a) Conglomeration of corals in Australian waters  
 (b) Mountains range in Utah, USA  
 (c) Salt hills of Afghanistan  
 (d) Sub – oceanic mountain in South China sea

9. The acidification of oceans is increasing. Why is this phenomenon a cause of concern?

1. The growth and survival of calcareous phytoplankton will be adversely affected.  
 2. The growth and survival of coral reefs will be adversely affected.  
 3. The survival of some animals that have phytoplanktonic larvae will be adversely affected.  
 4. The cloud seeding and formation of clouds will be adversely affected.

Which of the statements given above is/ are correct?  
 (a) 1, 2 and 3 only (b) 2 only  
 (c) 1 and 3 only (d) 1, 2, 3 and 4 [IAS 2012]

**Answers**

1. (d) 2. (b) 3. (a) 4. (a) 5. (b) 6. (b) 7. (d) 8. (a) 9. (d)



### 10. Islands And Lakes

- Which one of the following is not a permanent lake ?  
(a) Ox-bow lake (b) Playa lake  
(c) Caldera lake (d) Cirque lake  
*[SSC CGL 2014]*
- The island of Seychelles are located in the—  
(a) Arctic Ocean (b) Atlantic Ocean  
(c) India Ocean (d) Pacific Ocean
- Diego Garcia is in—  
(a) Arabian Sea (b) Bay of Bengal  
(c) Indian Ocean (d) Gulf of Aden
- Which one of the following countries does not border the Caspian sea ?  
(a) Armenia (b) Azerbaijan  
(c) Kazakhstan (d) Turkmenistan
- The highest lake above the sea level in the world is :  
(a) lake Avernus (b) lake Tanzania  
(c) lake Toba (d) lake Titicaca
- The world's largest lake is—  
(a) Lake Victoria (b) Lake Superior  
(c) Caspian Sea (d) Black Sea
- An ox-bow lake is a—  
(a) lake formed behind an off-shore bar  
(b) lake occupying a volcanic crater  
(c) lake formed due to cut off meander  
(d) lake occupying a hollow scooped by a glacier
- The largest lake in Africa is—  
(a) Lake Victoria (b) Lake Malawi  
(c) Lake Tanganyika (d) Lake Chad
- Which is the largest fresh water lake in the world ?  
(a) Lake Tanganyika (b) Lake Superior  
(c) Lake Baikal (d) Lake Michigan
- Which of the following is a deepest lake ?  
(a) Lake Victoria (b) Caspian sea  
(c) Lake Superior (d) Lake Baikal
- Which of the following is the largest irrigation canal of the world ?  
(a) Panama Canal (b) Sirhind Canal  
(c) Suez Canal (d) Indira Gandhi Canal
- Amongst the following which is the largest island ?  
(a) England (b) Japan  
(c) Borneo (d) New Guinea
- The largest island in the Indian Ocean is—  
(a) Madagascar (b) Tasmania  
(c) Sri Lanka (d) Sumatra
- The equator cuts through which of the following island  
(a) Madagascar (b) Tasmania  
(c) Java (d) Borneo
- Which of the following is not an island ?  
(a) Cuba (b) Green land  
(c) Ireland (d) Sweden
- The Australian state which is an island is—  
(a) Queensland (b) Java  
(c) Tasmania (d) New Guinea
- Which of the following is the largest island—  
(a) Cuba (b) Great Britain  
(c) Kalatdeitnunat (d) Sri Lanka
- Where are the Balearic Islands located ?  
(a) Mediterranean Sea (b) Black Sea  
(c) Baltic Sea (d) North Sea
- Lesotho is—  
(a) an island in Mediterranean sea  
(b) an important seaport in Tanzania  
(c) a country completely surrounded by South Africa  
(d) a mountain peak in Zambia
- Which of the following is the largest island—  
(a) Cuba (b) Great Britain  
(c) Kalatdeitnunat (d) Sri Lanka
- Which is the greatest archipelago on the globe ?  
(a) Japan (b) West Indies  
(c) Indonesia (d) Philippines
- Where are the Balearic Islands located ?  
(a) Mediterranean Sea (b) Black Sea  
(c) Baltic Sea (d) North Sea
- The Australian state which is an island is—  
(a) Queensland (b) Java  
(c) Tasmania (d) New Guinea

### Answers

1. (b) 2. (c) 3. (c) 4. (a) 5. (d) 6. (c) 7. (c) 8. (a) 9. (b) 10. (d) 11. (d) 12. (d) 13. (b)  
14. (d) 15. (d) 16. (c) 17. (c) 18. (a) 19. (c) 20. (c) 21. (c) 22. (a) 23. (c)

### 11. River And Water Falls

- Which one of the following cities is associated with the river Mekong ?  
(a) Hong Kong (b) Phnom- Penh  
(c) Shanghai (d) Yangon
- The world's longest river is—  
(a) Nile (b) Ganges  
(c) Amazon (d) Mississippi - Missouri
- Which of the following is the largest river in the world ?  
(a) Nile (b) Congo  
(c) Gages (d) Amazon
- Which river crosses the Equator twice ?  
(a) Amazon (b) Congo  
(c) Nile (d) Orinoco
- Which of the following pairs is not correctly matched—  
(a) Algeria — Niger (b) Brazil — Amazon  
(c) Iraq — Tigris (d) Myanmar — Irrawady
- Which of the following rivers flowing through Pakistan has its source of origin in that country itself ?  
(a) Ravi (b) Jhelum  
(c) Chenab (d) None of these
- Which river has the largest drainage basin ?  
(a) Nile (b) Mississippi  
(c) Congo (d) Amazon
- Which set of two rivers from the world's largest delta before their waters flow into the respective sea ?  
(a) Rhine — Seine (b) Nile — Euphrates  
(c) Ganges — Brahmaputra (d) Danube — Thames



9. Which of the following cities is incorrectly matched to the river on which it is situated ?  
 (a) Budapest – River Danube  
 (b) Baghdad – River Tigris  
 (c) Amsterdam – River Amsel  
 (d) Alexandria – River Niger

10. On the bank of which river is New York situated :  
 (a) River Colorado (b) River Hudson  
 (c) River Mississippi (d) River Amazon

11. Match the following—

River	Ocean/Sea
A. Murray river	1. Arabian sea
B. Congo River	2. Indian Ocean
C. Nile	3. Mediterranean sea
D. India	4. Atlantic Ocean

Code : A	B	C	D
(a) 4	2	1	3
(b) 2	4	3	1
(c) 2	4	1	3
(d) 2	3	4	1

12. Match the following—

Rivers	Towns
A. Amazon	1. Naimey
B. Nile	2. Kinshasa
C. Niger	3. Manaus
D. Congo	4. Rio de Janeiro
	5. Khartoum

Code : A	B	C	D
(a) 3	5	1	2
(b) 3	1	5	2
(c) 4	2	3	5
(d) 4	5	1	3

13. Of the following which capital city is not situated on the banks of the river Danube ?

- (a) Vienna (b) Rome  
 (c) Budapest (d) Belgrade

14. The great Asian river Mekong does not run through—

- (a) China (b) Malaysia  
 (c) Cambodia (d) Laos

15. Victoria Falls in Africa are located on—

- (a) River Niger (b) River Congo  
 (c) River Zambezi (d) River Nile

16. The highest waterfall of the world is—

- (a) Niagara Falls (b) Boyoma Falls  
 (c) Salto Angles Falls (d) Khone Falls

17. The world's highest waterfall is in—

- (a) Brazil (b) U.S.A.  
 (c) Venezuela (d) Zambia

18. Niagara Falls are in—

- (a) Australia (b) U.K.  
 (c) South Africa (d) U.S.A.

19. Which of the following is the longest river in the world ?

- (a) Amazon (b) Nile  
 (c) Mississippi (d) Danube

[RRB Bhopal, TC 2008]

20. The great Asian river Mekong does not run through

- (a) China (b) Malaysia  
 (c) Cambodia (d) Laos

[Jpsc 2011]

21. Asia has large areas of inland drainage. Why is it so?

- (a) Rainfall is seasonal and scanty  
 (b) There is a number of inter-montane plateaus  
 (c) River channels are obstructed by lava flows  
 (d) It is a very large continent

[CDS, 2011]

Answers

1. (b) 2. (a) 3. (d) 4. (b) 5. (a) 6. (d) 7. (b) 8. (c) 9. (d) 10. (b) 11. (b) 12. (a) 13. (b)  
 14. (b) 15. (c) 16. (c) 17. (c) 18. (d) 19. (b) 20. (b) 21. (a)

12. Straits, Canals and Passes

1. Which strait separates Australia and Tasmania ?  
 (a) Bering Strait (b) Bass Strait  
 (c) Palk Strait (d) Dover Strait  
 [SSC CGL 2014]
2. The canal which links Atlantic ocean with Pacific ocean is:  
 (a) Suez (b) Malacca  
 (c) Panama (d) Gibraltar [SSC 2012]
3. Which one of the following is not a line of demarcation between two countries ?  
 (a) Radcliffe Line (b) MacMahon Line  
 (c) International Date line (d) Durand Line [SSC 2013]
4. Asia and North America are separated by :  
 (a) Bering Strait (b) Strait of Dover  
 (c) Bass Strait (d) Cook Strait [SSC 2013]
5. The Panama Canal links—  
 (a) Mediterranean Sea with Red Sea  
 (b) Atlantic Ocean with Indian Ocean  
 (c) Indian Ocean with Mediterranean  
 (d) Atlantic Ocean with Pacific Ocean
6. The Strait which separates Africa from Europe is :  
 (a) Hook Strait (b) Strait of Gibraltar  
 (c) Palk Strait (d) Bering Strait

7. Suez canal joins  
 (a) Persian Gulf and Arabian Sea  
 (b) Red Sea and Mediterranean Sea  
 (c) Mediterranean Sea and Black Sea  
 (d) Red Sea and Arabian Sea [SSC (Tier-I) 2012]
8. The Suez Canal connects the Mediterranean Sea with the :  
 (a) Caspian Sea (b) Persian Gulf  
 (c) Red Sea (d) Black Sea [Delhi S.I. 2012]
9. Which of the following pairs of straits and the countries they separate is wrongly matched ?  
 (a) Gibraltar Strait — Spain and Morocco  
 (b) Bering Strait — Sumatra and Malaysia  
 (c) Magellan Strait — Chile and Tiera del Fuego  
 (d) Bass Strait — Australia and Tasmania
10. The boundary line between India and China is called :  
 (a) McMahan Line (b) Red Line  
 (c) Radcliffe Line (d) Durand Line [Delhi S.I. 2012]
11. Adam's bridge connects—  
 (a) Amman and Damascus  
 (b) Dhanushkodi (Rameshvaram) and Talaimannar  
 (c) Israel and Jerusalem  
 (d) Persian Gulf and Gulf of Oman



12. The 38<sup>th</sup> parallel separates—  
 (a) North Korea and South Korea  
 (b) East Germany and West Germany  
 (c) China and Tibet  
 (d) Asia and Europe
13. Durand line is the border common to which two countries—  
 (a) India and China  
 (b) China and Afghanistan  
 (c) India and Tibet  
 (d) Pakistan and Afghanistan
14. 17<sup>th</sup> Parallel separates—  
 (a) North and South America  
 (b) North and South Korea  
 (c) North and South Vietnam  
 (d) North and South Yemen
15. Which strait connects Red Sea and Indian Ocean?  
 (a) Bab-el-Mandeb (b) Hormuz  
 (c) Bosphorus (d) Malacca [BPSC 2011]
16. What is the similarity between Milwaukee Deep, Java Trench and Challenger Deep?  
 (a) They all are trenches in the Pacific Ocean  
 (b) They are the deepest points of the Atlantic, Indian and Pacific Oceans, respectively  
 (c) They all are trenches in the Indian Ocean  
 (d) They all are deeps of the Atlantic Ocean [CDS, 2011]

### Answers

1. (b) 2. (c) 3. (c) 4. (a) 5. (d) 6. (b) 7. (b) 8. (c) 9. (b) 10. (a) 11. (b) 12. (a) 13. (d)  
 14. (c) 15. (a) 16. (b)

## 3. World Climate

### 1. Atmospheric Composition

1. **Assertion (A)** : Nitrogen and Oxygen are the main components of the atmosphere by volume. Together these two gases make up approximately 99% of the dry atmosphere.

**Reason (R)** : Both of these gases have very important associations with life.

- (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true

2. Cold polar areas and subtropical continental deserts are locations where the volume of water vapour can approach

- (a) zero percent (b) 10 percent  
 (c) 15 percent (d) 20 percent

3. **Assertion (A)** : Carbon dioxide is an important greenhouse gas.

**Reason (R)** : The human-caused increase in its concentration in the atmosphere has strengthened the greenhouse effect and has definitely contributed to global warming over the last 100 years.

- (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true

4. Which of the following statement is/are correct about Troposphere

- (a) The depth of this layer varies from about 8 to 16 kilometers  
 (b) Greatest depths occur at the tropics where warm temperatures causes vertical expansion of the lower atmosphere  
 (c) From the tropics to the Earth's polar regions the troposphere becomes gradually thinner  
 (d) All the above

5. Which of the following statement is/are correct about Troposphere

- (a) Average depth of the troposphere is approximately 11 kilometers  
 (b) About 80% of the total mass of the atmosphere is contained in troposphere  
 (c) It is also the layer where the majority of our weather exist  
 (d) All the above

6. Which type of layer extends from an average altitude of 11 to 50 kilometers above the Earth's surface

- (a) Stratosphere (b) Troposphere  
 (c) Mesosphere (d) Inosphere

7. Which of the following statement is/are correct about Stratosphere

- (a) This layer extends from an average altitude of 11 to 50 kilometers above the Earth's surface  
 (b) This stratosphere contains about 19.9% of the total mass found in the atmosphere  
 (c) Very little weather occurs in the stratosphere  
 (d) All the above

8. Which of the following statement is/are correct

- (a) The lower portion of the stratosphere is also influenced by the polar jet stream and subtropical jet stream  
 (b) In the first 9 kilometers of the stratosphere, temperature remains constant with height  
 (c) The higher temperatures found in this region of the stratosphere occurs because of a localized concentration of ozone gas molecules  
 (d) All the above

9. Separating the mesosphere from the stratosphere is transition zone called

- (a) Mesopause (b) Stratopause  
 (c) Isothermal layer (d) None of these

10. In the mesosphere, the atmosphere reaches its coldest temperatures (about -90° Celsius) at a height of approximately

- (a) 80 kilometers (b) 50 kilometers  
 (c) 60 kilometers (d) 100 kilometers



11. At the top of the mesosphere is another transition zone known as
- (a) Mesopause (b) Stratopause  
(c) Isothermal layer (d) None of these
12. The last atmospheric layer has an altitude greater than 80 kilometers and is called
- (a) Mesopause (b) Stratopause  
(c) Isothermal layer (d) Thermosphere
13. Which of the following layer of the atmosphere has electricity conducting layers which make short wave radio transmission possible long distances?
- (a) Mesopause (b) Stratopause  
(c) Isothermal layer (d) Ionosphere
14. The layer of the Earth's atmosphere that is directly above the stratosphere and directly below the thermosphere is called
- (a) Mesopause (b) Stratopause  
(c) Isothermal layer (d) Mesosphere
15. Which of the following statement is/are correct
- (a) The mesosphere is located about 50 to 85 kilometers (30 to 50 miles) above the Earth's surface  
(b) The stratosphere and mesosphere are referred to as the middle atmosphere  
(c) The mesopause, at an altitude of 80-90 km, separates the mesosphere from the thermosphere *80-10 85*  
(d) All the above
16. **Assertion (A)** : Within the mesosphere, temperature decreases with increasing altitude.  
**Reason (R)** : This is due to decreasing solar heating and increasing cooling by CO<sub>2</sub> radiative emission
- (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
(b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
(c) If (A) is true but (R) is false  
(d) If (A) is false but (R) is true
17. **Assertion (A)** : The top of the mesosphere, called the mesopause, is the coldest place on Earth.  
**Reason (R)** : Temperatures in the upper mesosphere fall as low as -100 °C varying according to latitude and season.
- (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
(b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
(c) If (A) is true but (R) is false  
(d) If (A) is false but (R) is true
18. Which of the following statement is/are correct
- (a) The mesosphere lies above the maximum altitude for aircraft and below the minimum altitude for orbital spacecraft.  
(b) It has only been accessed through the use of sounding rockets.  
(c) It is the most poorly understood part of the atmosphere.  
(d) All the above
19. **Assertion (A)** : Noctilucent clouds are located in the mesosphere.  
**Reason (R)** : The mesosphere is also the region of the ionosphere known as the D layer.
- (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
(b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
(c) If (A) is true but (R) is false  
(d) If (A) is false but (R) is true
20. **Assertion (A)** : Because of the Sun's UV radiation, Earth's upper atmosphere is partly (0.1% or less) ionized plasma at altitudes of 70-1500 km.  
**Reason (R)** : This region, ionosphere, is coupled to both the magnetosphere and the neutral atmosphere.
- (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
(b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
(c) If (A) is true but (R) is false  
(d) If (A) is false but (R) is true
21. Which of the following statement is/are correct
- (a) The main gases within the Earth's exosphere are the lightest gases, mainly hydrogen, with some helium, carbon dioxide, and atomic oxygen near the exobase.  
(b) The exosphere is the last layer before space.  
(c) Since there is no clear boundary with space and the exosphere, the exosphere is sometimes used synonymously with outer space.  
(d) All the above
22. Which of the following is a measure of solar radiation energy received on a given surface area in a given time
- (a) Radiation (b) Reflection  
(c) Insolation (d) Refraction
23. Which of the following is quantified as the proportion, or percentage of solar radiation of all wavelengths reflected by a body or surface to the amount incident upon it.
- (a) Radiation (b) Reflection  
(c) Insolation (d) Albedo
24. The average amount of energy received on a surface perpendicular to incoming radiation at the top of the atmosphere is called
- (a) Solar radiation  
(b) Electromagnetic spectrum  
(c) Solar constant  
(d) Electromagnetic constant
25. Match the List
- | List-I (Surface)                 |  | List-II (Albedo) |  |
|----------------------------------|--|------------------|--|
| A. Dry sand                      |  | 1. 15 to 25%     |  |
| B. Broad leaf deciduous forest   |  | 2. 10 to 20%     |  |
| C. Needle leaf coniferous forest |  | 3. 5 to 10%      |  |
| D. Grass type vegetation         |  | 4. 35 to 45%     |  |
- | Code : | A | B | C | D |
|--------|---|---|---|---|
| (a)    | 2 | 4 | 3 | 1 |
| (b)    | 3 | 2 | 1 | 4 |
| (c)    | 1 | 3 | 4 | 2 |
| (d)    | 4 | 3 | 2 | 1 |
26. **Assertion (A)** : The ozone layer is a region of concentration of the ozone molecule (O<sub>3</sub>) in the Earth's atmosphere. The layer sits at an altitude of about 10-50 kilometers, with a maximum concentration in the stratosphere at an altitude of approximately 25 kilometers.



- Reason (R) :** In recent years, scientists have measured a seasonal thinning of the ozone layer primarily at the South Pole. This phenomenon is being called the ozone hole.
- (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
~~(b) If (A) and (R) are correct but (R) is not the correct explanation of (A)~~  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
27. A severe decrease in the concentration of ozone in the ozone layer could lead to the following harmful effects:  
~~(a) A large increase in cataracts and Sun burning.~~  
~~(b) Adverse impact on crops and animals.~~  
~~(c) Cooling of the Earth's stratosphere and possibly some surface climatic effect.~~  
 (d) All the above
28. Greenhouse gases are gases (water vapour, carbon dioxide, methane, nitrous oxide, and others) that can absorb the thermal energy emitted by the earth, creating the greenhouse effect, which  
 (a) warms the earth  
 (b) warms the universe  
 (c) changes water circulation  
 (d) changes thermodynamic process
29. Liquid water can store more heat energy than an equal amount of any other naturally occurring substance because liquid water  
 (a) covers 71% of Earth's surface  
 (b) has its greatest density at 4°C  
~~(c) has the higher specific heat~~  
 (d) can be changed into a solid or a gas
30. A map view of surface air movement in a low pressure system is shown below. The air near the center of this low-pressure system usually will  
 (a) evaporate into a liquid  
 (b) reverse direction  
~~(c) rise and form clouds~~  
 (d) together to form a high-pressure system
31. Which one of these lists of climatic zones is in the correct order of latitude (starting with the one nearest the equator)?  
 (a) Tundra, Deserts, Mediterranean, Equatorial  
 (b) Deserts, Tundra, Mediterranean, Equatorial  
~~(c) Equatorial, Deserts, Mediterranean, Tundra~~  
 (d) Equatorial, Mediterranean, Deserts, Tundra
32. Which of the following is not used to measure the weather?  
~~(a) Thermometer~~ (b) Barometer  
 (c) Altimeter (d) Anemometer
33. The following statements are associated with precipitation - which is incorrect?  
 (a) Air is saturated at dew point  
 (b) Precipitation is any moisture that falls from clouds  
 (c) Relief rainfall only occurs in the summer  
~~(d) Convictional rainfall only occurs in the summer months in the UK~~
34. Which one of the following is NOT included in Earth's climate system?  
 (a) atmosphere (b) solarsphere  
 (c) hydrosphere (d) solid Earth
35. Which one of the following is NOT a significant natural cause of climate change?  
~~(a) erosion of the land~~ (b) plate tectonics  
 (c) volcanic activity (d) solar variability
36. The chemically inactive gas present in atmosphere is :  
 (a) Nitrogen ~~(b) Argon~~  
 (c) Water vapour (d) Oxygen
37. Along with carbon dioxide, ..... is largely responsible for the greenhouse effect of the atmosphere.  
 (a) hydrogen (b) nitrogen  
 (c) sulfur dioxide ~~(d) water vapour~~
38. When determining climate change, oxygen isotope measurements are made from an analysis of .....  
 (a) ocean water (b) cores from old trees  
~~(c) glacial ice~~ (d) lava
39. The primary effect on climate of a volcanic eruption depends on .....  
 (a) the quantity of lava produced  
 (b) how hot the eruptive products are  
 (c) the amount of water vapour produced  
~~(d) none of the above~~
40. Which of the following is a possible consequence of a greenhouse warming?  
~~(a) alteration of the world's water resources~~  
~~(b) new weather patterns~~  
~~(c) a rise in sea level~~ (d) all of the above
41. The slow wobbling of Earth as it spins on its axis is called .....  
~~(a) precession~~ (b) aphelion  
 (c) extension (d) eccentricity
42. Which one of the following is a significant contributor to increased levels of atmospheric carbon dioxide?  
 (a) refrigerant leakage (b) large rice paddies  
 (c) aerosol spray can gases ~~(d) deforestation~~
43. Which of the following is associated with the astronomical theory of climate change?  
~~(a) obliquity of Earth's axis~~  
~~(b) precession of Earth's axis~~  
~~(c) eccentricity of Earth's orbit~~  
~~(d) all of the above~~
44. The combustion of coal and oil is a major source of which greenhouse gas?  
 (a) nitrous oxide (b) methane  
 (c) CFCs ~~(d) none of the above~~
45. The climate in the northeastern part of Eastern Europe is generally  
 (a) warmer than the climate of Western Europe  
~~(b) colder than the climate of the land to the north~~  
 (c) wetter than the climate of the lands bordering the Mediterranean Sea  
 (d) cooler and drier than the climate of most countries on the Balkan Peninsula
46. **Assertion (A) :** Out in space, the sky looks dark and black, instead of blue.  
**Reason (R) :** There is no atmosphere.  
~~(a) If (A) and (R) are correct and (R) is the correct explanation of (A)~~  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true



47. **Assertion (A)** : The blue colour of the sky is due to Ray light scattering.  
**Reason (R)** : As light moves through the atmosphere, most of the longer wavelengths pass straight through.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
48. Which of the following statement about Troposphere is/ are true-  
 (a) It extends from ground level up to about 16 km (10 miles) at the equator, and to 9 km (5 miles) at the North and South Poles  
 (b) Changing conditions in the Troposphere result in our weather  
 (c) Temperature decreases with increasing altitude and contains more air molecules than all the other layers combined  
 (d) All the above
49. Which of the following statement about Stratosphere is/ are true-  
 (a) Extends out to about 50 km (30 miles)  
 (b) The bottom of this layer is calm. Jet planes often fly in the lower Stratosphere to avoid bad weather in the Troposphere.  
 (c) The upper part of the Stratosphere holds the high winds known as the jet streams. These blow horizontally at speeds up to 480 km/hour (300 miles/hour)  
 (d) All the above
50. **Assertion (A)** : Although the concentration of ozone is at most 12 parts per million (ppm), it is very effective at absorbing the harmful ultraviolet (UV) rays of the sun and protecting life on Earth.  
**Reason (R)** : Ozone is a molecule made of three oxygen atoms. The oxygen molecule we need to breathe contains two oxygen atoms.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
51. **Assertion (A)** : In Stratosphere the temperature increase with altitude results in a layering effect.  
**Reason (R)** : It creates a global "inversion layer", and reduces vertical convection.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
52. Which of the following pair is wrongly matched  
 (a) Mesosphere - Extends out to about 100 km  
 (b) Thermosphere - Extends out to about 400 km  
 (c) Exosphere -Extends beyond the Thermosphere hundreds of kilometers  
 (d) Stratosphere- Extends out to about 500 km
53. Which of the following statement about Thermosphere is/are true-  
 (a) Extends out to about 400 km ( 250 miles)  
 (b) Temperature increases rapidly with increasing altitude, due to absorption of extremely short wavelength UV radiation.  
 (c) Meteors, or "shooting stars," start to burn up around 110-130 km (70-80 miles) above the earth.  
 (d) All the above
54. **Assertion (A)** : Exosphere Extends beyond the Thermosphere hundreds of kilometers, gradually fading into interstellar space.  
**Reason (R)** : Molecules often escape into space after colliding with one another.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
55. The difference in temperature between the warm, black side and the cooler white side causes gasses to creep along the surface of the vanes. This effect is known as  
 (a) Radiation creep (b) Nuclear creep  
 (c) Thermal creep (d) Conduction creep
56. The transfer of energy through matter from particle to particle is known as  
 (a) Convection (b) Conduction  
 (c) Radiation (d) Thermal anomaly
57. **Assertion (A)** : The warmer portions of the water are less dense and therefore, they rise.  
**Reason (R)** : The cooler portions of the water fall because they are denser.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
58. Which of the following can be defined as vertical circulation that results from differences in density ultimately brought about by differences in temperature, and it involves the transfer of heat through the motion of hot fluid from one place to another  
 (a) Convection (b) Conduction  
 (c) Radiation (d) Transmission
59. **Assertion (A)** : The proximity to the equator affects the climate of a place.  
**Reason (R)** : The equator receives the more sunlight than anywhere else on earth.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
60. The most important factors that affect climate around the world are  
 (a) Distance From The Sea  
 (b) Direction of Prevailing Winds  
 (c) Proximity To The Equator  
 (d) All the above



61. The altitude of a place affects its climate. The higher a place is above sea level?  
 (a) the cooler is its temperature  
 (b) the warmer is its temperature  
 (c) the more unstable is its climate  
 (d) the more often it is visited by typhoon
62. **Assertion (A)** : The elevation increases, the amount of space between air particles increases causing less ability to transfer heat to the ground.  
**Reason (R)** : The higher the elevation, the cooler the climate.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
63. The long-term state of the atmosphere is a function of a variety of interacting elements. They are:  
 (a) Solar radiation  
 (b) Pressure systems (and cyclone belts)  
 (c) Topography  
 (d) All the above
64. Which of the following is probably the most important element of climate.  
 (a) Solar radiation  
 (b) Pressure systems (and cyclone belts)  
 (c) Ocean Currents  
 (d) Topography
65. Unequal heating of the Earth's surface creates pressure gradients that result in  
 (a) Anti Cyclone  
 (b) Pressure systems  
 (c) Cyclone  
 (d) Wind
66. **Assertion (A)** : Solar radiation first and foremost heats the Earth's surface which in turn determines the temperature of the air above.  
**Reason (R)** : Heating of the air determines its stability, which affects cloud development and precipitation.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
67. Air masses as an element of climate subsumes the characteristics of  
 (a) Temperature  
 (b) Humidity  
 (c) Stability  
 (d) All the above
68. The stormy climate of the mid latitudes is a product of lying in the boundary zone of greatly contrasting air masses called the  
 (a) Polar front  
 (b) Tropical front  
 (c) Sub tropical front  
 (d) None
69. **Assertion (A)** : The climate of Asia is impacted by the annual fluctuation of wind direction due to the monsoon.  
**Reason (R)** : Pressure dominance also affects the receipt of solar radiation.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
70. Those climates bordering cold currents tend to be drier as the cold ocean water helps stabilize the air and inhibit  
 (a) Cloud formation  
 (b) Precipitation  
 (c) Both of these  
 (d) None of these
71. The orientation of mountains to the prevailing wind affects  
 (a) Precipitation  
 (b) Evaporation  
 (c) Ocean currents  
 (d) Movements of wind
72. **Assertion (A)** : Windward slopes, those facing into the wind, experience more precipitation due to orographic uplift of the air.  
**Reason (R)** : Leeward sides of mountains are in the rain shadow and thus receive less precipitation.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
73. The gas having the highest proportion in air is :  
 (a) Oxygen  
 (b) Nitrogen  
 (c) Carbon dioxide  
 (d) Hydrogen
74. The sky appears blue because :  
 (a) There is more blue colour in sunlight than any other colour  
 (b) Short waves are scattered more than long waves by the atmosphere  
 (c) The eye is more sensitive to blue color  
 (d) The atmosphere absorbs long wave lengths more than short wave lengths
75. Which of the following is not a green-house gas?  
 (a) Carbon dioxide  
 (b) Methane  
 (c) Nitrous oxide  
 (d) Argon
76. The blueness of the sky is mainly due to  
 (a) Absorption of blue light by the atmosphere  
 (b) Scattering of sunlight by air molecules  
 (c) Emission of blue light by air  
 (d) Presence of water vapour
77. Warming in the Earth's stratosphere is mainly caused by:  
 (a) Release of latent heat energy during condensation  
 (b) Frictional heating caused by meteorites  
 (c) Chemical reaction between ozone and chlorofluorocarbon  
 (d) Absorption of solar radiation by ozone
78. Water vapour is turned into water droplets by the process of :  
 (a) Evaporation  
 (b) Liquification  
 (c) Convection  
 (d) Condensation
79. Perpendicular rays are usually more heating than oblique rays. It can, therefore, be said that :  
 (a) A south-facing is warmer than a north facing slope in the summer in the Northern Hemisphere  
 (b) A north-facing slope is warmer than a south facing slope in the summer in the Northern Hemisphere  
 (c) The seasons in the tropics are shorts  
 (d) Winter in latitude 35° S is colder than winter in latitude 35° N



80. The portion of the atmosphere which extends from the earth's surface up to 6–8 miles and experiences decrease in temperature at constant rate is :
- (a) Stratosphere (b) Tropopause  
(c) Troposphere (d) Inosphere

81. Which is the chief characteristics of wet and dry tropics:

- (a) Constant heating (b) Constant cooling  
(c) Constant humidity (d) Constant precipitation

82. Consider the following statements regarding lapse rate:
1. An unsaturated air mass cools at dry adiabatic lapse rate when it rise in the atmosphere
  2. The dry adiabatic lapse rate amounts to 1°C per 100 meters
  3. The wet adiabatic lapse rate may vary between 0.4°C and 0.9°C per 100 meters
  4. Dry adiabatic lapse rate is higher because of the release of latent heat of condensation

Which of the above statements are correct?

- (a) 1, 2 and 4 (b) 1, 3 and 4  
(c) 2, 3 and 4 (d) 1, 2 and 3

83. Consider the following statements:

1. In the high latitudes, east-coast regions are warmer than west-coasts.
2. Precipitation is abundant on the windward slopes but sparse on the leeward slopes.
3. In the subtropics, west-coasts are wetter than the east-coasts.
4. Precipitation is abundant in the middle latitudes.

Which of the above statements is/are correct?

- (a) 1, 2 and 3 (b) 2 only  
(c) 2 and 4 (d) 3 and 4

84. Identify the correct sequence of the given processes regarding rainfall:

- (a) Unsaturated air, condensation, dew point, precipitation  
(b) Dew point, condensation, unsaturated air, precipitation  
(c) Unsaturated air, dew point, condensation, precipitation  
(d) Dew point, precipitation, condensation unsaturated air

85. **Assertion (A)** : In Western Europe, rainfall decreases from the coastal areas towards the interior.

**Reason (R)** : Most of western Europe lies in the westerlies belt.

**Codes :**

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

86. Consider the following statements:

1. Ozone is found mostly in the Stratosphere
2. Ozone layer lies 55–75 km above the surface of the earth
3. Ozone absorbs ultraviolet radiation from the Sun
4. Ozone layer has no significance for life on the earth

Which of the above statements are correct?

- (a) 1 and 3 (b) 2 and 4 (c) 2 and 3 (d) 1 and 4

87. Consider the following statements :

1. Nearly 99 per cent of the total mass of the atmosphere lies within 30 km of the earth's surface.
2. The proportion of ozone in the atmosphere increases to a maximum at about 60 km from earth's surface.

Which of the statements given above is/are correct?

- (a) 1 only (b) 2 only  
(c) Both 1 and 2 (d) neither 1 nor 2

88. In the absence of ozone layer, which rays will enter into atmosphere ?

- (a) Infrared (b) Visible  
(c) Ultraviolet (d) X-rays [FCI 2012]

89. The ozone layer in the upper part of the atmosphere protects us from :

- (a) Cosmic rays (b) Ultrasonic waves  
(c) Infra-red rays (d) Ultraviolet rays

90. Land masses get heated more quickly than the oceans, mainly because :

- (a) Specific heat of land is much less than that of water  
(b) Specific heat of water is much less than that of land  
(c) Evaporation of water bodies cools the air  
(d) Vegetation land protects the land from direct sunlight

91. In which atmospheric layer is the ozone layer situated ?

- (a) Troposphere (b) Stratosphere  
(c) Mesosphere (d) Ionosphere [MPSI 2012]

92. When is fog formed ?

- (a) It is formed when the condensation occurs below the freezing point.  
(b) It is formed when the air mass is condensed on a solid surface of the earth.  
(c) It is formed when various water droplets remains suspended in the air.  
(d) none of the above

93. Match List-I with List-II and select the correct answer using the codes given below the lists:

List-I	List-II
A. Ozone Hole	1. Difference in the outgoing and incoming long wave
B. Greenhouse	2. Acceleration of ozone destruction
C. Global warming	3. Increase in the carbon dioxide level
D. Albedo	4. Ratio of reflected radiation to radiation received

**Codes : A B C D**

- (a) 2 1 3 4  
(b) 4 1 3 4  
(c) 3 2 1 4  
(d) 2 3 4 1

94. In the case of saturated air, the column of air tends to be in stable equilibrium when the prevailing lapse rate:

- (a) Is equal to the wet-adiabatic lapse rate  
(b) Is more than the wet-adiabatic lapse rate  
(c) Is less than the wet-adiabatic lapse rate  
(d) Does not vary with the wet-adiabatic lapse rate



- 95. Assertion (A) :** The moist adiabatic lapse rate is lower than the dry adiabatic lapse rate.  
**Reason (R) :** When condensation begins, the latent heat of condensation is released in the parcel of air.  
**Codes :**  
 (a) Both A and R are true and R is the correct explanation of A  
 (b) Both A and R are true but R is not a correct explanation of A  
 (c) A is true but R is false  
 (d) A is false but R is true
- 96.** Most of the weather phenomena take place troposphere only because:  
 (a) Temperature remains almost constant troposphere  
 (b) It contains electrically charged particles  
 (c) It absorbs harmful ultraviolet radiation from the sun  
 (d) It contains almost all the water vapour and most dust particles
- 97.** The atmospheric layer which reflects radio waves is called :  
 (a) Exosphere (b) Stratosphere  
 (c) Ionosphere (d) Thermosphere
- 98.** Atmosphere gets heated up :  
 (a) In the early morning (b) At mid day  
 (c) After mid day (d) In the last evening
- 99.** The most important component of the atmosphere which cause many weather phenomena is :  
 (a) Oxygen (b) Carbon dioxide  
 (c) Nitrogen (d) Water vapour
- 100.** Evaporation is the result of :  
 (a) Gain of heat (b) Loss of heat  
 (c) generation of heat (d) none of these
- 101.** The composition of the atmosphere :  
 (a) Varies from place to place  
 (b) Remains relatively constant in the lower layers  
 (c) Varies with seasons  
 (d) Varies with latitudes
- 102.** What is convection?  
 (a) It is process non-existent in any region of temperature  
 (b) It is a subtle process of transferring solar energy  
 (c) It is a process that involves the transfer of energy through the movement of air and water masses  
 (d) It is a process that put hazard in the transfer of energy
- 103.** What is kinetic energy?  
 (a) It is the energy of motion  
 (b) It is the stored form of energy  
 (c) It is thermal energy (d) It is latent energy
- 104.** What is the latent energy ?  
 (a) It is a hidden energy or invisible energy  
 (b) It is found in the form of stored energy  
 (c) It is thermal energy (d) It is latent energy
- 105.** Summer season occurs on account of :  
 (a) Low angle of the sun  
 (b) Horizontal rays of the sun  
 (c) Vertical rays of the sun (d) none of the above
- 106.** Generally the atmosphere gets saturated owing to :  
 (a) Cooling of air (b) Heating of air  
 (c) Mixing with hot air (d) none of the above
- 107.** What is radiation?  
 (a) It is process transferring all solar energy to the earth and space.  
 (b) It is a process transferring all lunar energy to the earth surface.  
 (c) It is a process that generates heat in the atmosphere.  
 (d) none of the above.
- 108.** Conduction is a process  
 (a) That conducts heat from warmer to the cooler region until the two objects coming into contact get the same temperature  
 (b) The conducts heat from cooler to the warmer region.  
 (c) That does not conduct heat to any of the two objects coming into contact  
 (d) none of the above
- 109.** **Assertion (A) :** Only a minute portion of solar radiation is intercepted by the earth.  
**Reason (R) :** Other planets are obstructing the path of sun ray's.  
 (a) Both (A) and (R) are correct and (R) explains (A)  
 (b) Both (A) and (R) are correct but (R) does not explain (A)  
 (c) (A) is true but (R) is false  
 (d) (A) is false but (R) is true
- 110.** Weather is :  
 (a) Static (b) Fluctuating  
 (c) Mobile (d) none of these
- 111.** Atmosphere is one of the following :  
 (a) It is the result of climate  
 (b) It is the wind above the earth's surface  
 (c) It is liquid  
 (d) It is the mixture of gases.
- 112.** **Assertion (A) :** The composition of the lowest layer of the atmosphere remains relatively constant.  
**Reason (R) :** There is intensive mixing and circulation in the lower layers of the atmosphere.  
 (a) Both (A) and (R) are true and (R) is the correct explanation of (A)  
 (b) Both (A) and (R) are true 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
- 113.** Rotation of the earth causes deflection of wind by :  
 (a) Coriolis force (b) Dynamic force  
 (c) Gradient force (d) Gravity force
- 114.** Generally over most parts of the earth, rain fall occurs commonly during :  
 (a) Summer (b) Spring (c) Autumn (d) Winter
- 115.** The tropopause occurs at the equator at a height of :  
 (a) 5 km. (b) 20 km. (c) 17 km. (d) 25 km.
- 116.** 97% of the atmosphere lies with in ----- km of the surface of the earth.  
 (a) 50 km. (b) 29 km. (c) 5 km. (d) 15 km.
- 117.** The lower layer Ionosphere is known as :  
 (a) Troposphere (b) Stratosphere  
 (c) Ozonosphere (d) Thermosphere
- 118.** The windward slopes of coastal mountains which are at right angles to wind blowing from the sea are wetter than the leeward slopes. This is because :



- (a) They are nearer the sea.  
 (b) The winds have to rise to cross them.  
 (c) Descending winds are warm.  
 (d) The sea is warmer than the land.
119. Which one of the following statements related to both land and sea breezes are true ?  
 (a) Air blows from the sea to the land during the day  
 (b) Air blows from the land to the sea during the night  
 (c) Air generally moves from a cool region to a warmer region  
 (d) The lands cool more quickly than the sea during the night
120. All of these statements are true about anti-cyclones in general but only one is true of anti-cyclone in the Southern Hemisphere. Which is that statement?  
 (a) The air moves in a circular manner.  
 (b) Pressure increases from the outside to the centre.  
 (c) Anti-cyclones often form over the  
 (d) The air moves in an anti-clockwise direction.
121. The land on the leeward sides of mountain ranges which are at right angles to on-shore winds is often dry. This is because:  
 (a) The winds are descending on the leeward side  
 (b) Pressure is high to the leeward side  
 (c) The air on the leeward side is cool and is therefore relatively dry  
 (d) The leeward side lies under dry land winds
122. The seasonal rainfall pattern of India is caused by :  
 (a) the large annual range of temperature.  
 (b) the tropical location of India.  
 (c) the monsoon winds operating over Southern Asia.  
 (d) the Himalayas blocking winds from interior Asia.
123. Equatorial lowland usually experience :  
 (a) A large diurnal temperature range.  
 (b) heavy thunder rain in the afternoon.  
 (c) strong winds (d) cold nights
124. A line on a map which joins places having the same rainfall is called an :  
 (a) Isohyet (b) Isobar (c) Isotherm (d) Isohel
125. Weather elements can be measured by instruments. Which one of the following pairs is incorrect?  
 (a) Maximum and minimum temperature — six's thermometer  
 (b) Atmospheric pressure — Barometer  
 (c) Wind direction — wind vane  
 (d) Wind speed — Anemometer
126. A Stevenson screen is usually used in all of the following except  
 (a) Maximum thermometer  
 (b) Wet and dry bulb thermometer  
 (c) Minimum thermometer  
 (d) Rain gauge
127. In what order do the processes of saturation, evaporation and condensation take place during formation of clouds.  
 (a) Evaporation, condensation, saturation [ECS]  
 (b) Condensation, saturation, evaporation  
 (c) Saturation, condensation, evaporation  
 (d) Evaporation, saturation, condensation

128. There are three distinct characters of temperature stratification of atmosphere around the Earth. Which one among the following is the correct arrangement of the layers (from the Earth's surface upwards)?  
 (a) Thermosphere—Stratosphere—Troposphere  
 (b) Troposphere—Thermosphere—Stratosphere  
 (c) Troposphere—Stratosphere—Thermosphere  
 (d) Thermosphere—Troposphere—Stratosphere

[CDS (II) 2012]

129. The velocity of wind is recorded by :  
 (a) Altimeter (b) Barometer  
 (c) Anemometer (d) Aneroid barometer
130. Horse latitudes lie :  
 (a) In the vicinity of 30° latitude both north and south of the equator  
 (b) In the vicinity of 50° latitude both north and south of the equator  
 (c) Between 50° and 60° latitude both north and south of the equator  
 (d) none of these

131. Which one of the following is not an element of weather?  
 (a) Sunshine (b) Cloud cover  
 (c) Height above sea level (d) Fog

132. The Kyoto convention identified 6 green house gases. A part from carbondioxide, Methane and Nitrous oxide, which of the following does not constitute the other three?  
 (a) Hexa chloride (b) Hexa flora carbon  
 (c) Per flova carbon (d) Hydro flove carbon

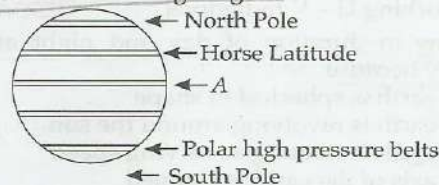
133. Cop-4 denotes the fourth conference on climate change which was held in :  
 (a) Kyoto (b) Johannesburg  
 (c) Buenos (d) Rome

134. What is the name of scale meant for recording weather condition :  
 (a) Fahrenheit (b) Barometer  
 (c) hydrometer (d) Opisometer

135. Scale used for recording weather condition is known as :  
 (a) Hydrometer (b) Hygrometer  
 (c) Opisometer (d) Centigrade

136. Which of the following components of the atmosphere has increased during the last 200 years?  
 (a) Oxygen (b) Water vapour  
 (c) Carbon dioxide (d) Nitrogen

137. Consider the following diagram :



In the diagram given above, what does A denote ?

- (a) Doldrums (b) Trade winds  
 (c) Westerlies (d) Easterlies

[CDS (II) 2012]

138. Ozone holes are more pronounced at the :  
 (a) Equator (b) Tropic of Cancer  
 (c) Tropic of Capricorn (d) Poles [CDS (II) 2012]



139. Arrange the constituent gases of the atmosphere in descending order of their percentage to the total composition of the atmosphere.
- |             |                   |
|-------------|-------------------|
| 1. Nitrogen | 2. Oxygen         |
| 3. Argon    | 4. Carbon dioxide |
- Code: A      B      C      D
- |       |   |   |   |
|-------|---|---|---|
| (a) 1 | 2 | 4 | 3 |
| (b) 1 | 4 | 2 | 3 |
| (c) 1 | 2 | 3 | 4 |
| (d) 1 | 4 | 3 | 2 |
140. Which one of the following provides the force needed to drive the atmospheric circulation?
- Higher biotic content of the tropical latitudes and lower biotic content of the polar latitudes
  - The energy contrasts between high insolation tropical latitudes and the low insolation polar latitudes
  - Higher rotational speed of lower latitudes and lower rotational speed of higher latitudes
  - Equatorial radius of the earth is longer than the polar radius
141. The atmospheric layer closest to the earth is—
- Mesosphere
  - Hydrosphere
  - Troposphere
  - Ionosphere [SSC 2011]
142. The majority of the ozone (about 97%) found in the atmosphere is concentrated in the stratosphere at an altitude of
- 15 to 55 kilometers above the Earth's surface
  - 15 to 30 kilometers above the Earth's surface
  - 20 to 30 kilometers above the Earth's surface
  - 20 to 30 kilometers above the Earth's surface
  - None of these
143. Although fog consists of fine drops of water, we cannot see clearly through it because
- The light rays undergo total internal reflection in the drops
  - Fine drops of water in fog polarize the light
  - The fine drops are opaque to the light
  - The drops scatter most of the light
144. Which one of the four regions above earth has smallest height (km)?
- Stratosphere
  - Mesosphere
  - Thermosphere
  - Troposphere [SSC 2011]
145. Ozone layer in the outer atmosphere helps us in
- Reflecting radiowaves and makes radio communication possible
  - Regulating the temperature of atmosphere
  - Absorbing cosmic ray particles
  - Absorbing U - V radiations [SSC (LDC) 2011]
146. Variations in duration of day and night are caused primarily because
- The earth is spherical in shape
  - The earth is revolving around the sun
  - The earth is rotating at varying speed
  - The axis of the earth is inclined
147. Troposphere is the hottest part of the atmosphere because
- It is closest to the Sun
  - Heat is generated in it
  - It is heated by the Earth's surface
  - There are charged particles in it [SSC (UDC) 2011]
148. We receive sunlight on earth surface. What type of light beams are these?
- Random
  - Parallel
  - Converging
  - Diverging [SSC (Tier-I) 2012]
149. Atmosphere gets heated up:
- In the early morning
  - At mid day
  - After mid day
  - In the late evening
150. The lowest layer of the atmosphere is—
- Stratosphere
  - Thermosphere
  - Troposphere
  - Mesosphere [SSC (UDC) 2011]
151. Which of the following statements regarding ozone layer within the atmosphere is/are correct?
- It absorbs most of the ultraviolet radiation found in the Sun's rays.
  - Chlorofluorocarbons are serious threat to the ozone layer.
- Select the correct answer using the code given below:
- 1 only
  - 2 only
  - Both 1 and 2
  - Neither 1 nor 2 [CDS 2011]
152. The lower layer Ionosphere is known as:
- Troposphere
  - Stratosphere
  - Ozonosphere
  - Thermosphere
153. The 'Ocean of Storms' is the name given to—
- Atlantic Ocean
  - Pacific Ocean
  - A waterless area on moon surface
  - None of these [RRB, Bhubaneswar ASM, 2009]
154. Which one of the following zones of the atmosphere is rich in ozone gas?
- Mesosphere
  - Troposphere
  - Stratosphere
  - Ionosphere [CDS, 2009]
155. Television signal cannot be received generally beyond a particular distance due to—
- curvature of the earth
  - weakness of antenna
  - weakness of signal
  - absorption of signal in air [CDS, 2009]
156. Most of the phenomena related to weather take place in
- stratosphere
  - ionosphere
  - mesosphere
  - troposphere [Central Bank of India Clerical 2010]
157. Nights are cooler in the deserts than in the plains because
- sand radiates more quickly than the earth
  - the sky remains clear most of the time
  - sand absorbs heat more quickly than the earth
  - None of these [RRB, Bhopal, TC 2008]
158. The ozone layer in the upper part of the atmosphere protects us from:
- Cosmic rays
  - Ultrasonic waves
  - Infra-red rays
  - Ultraviolet rays [RRB, Bhopal, TC 2008]
159. A layer in the Earth's atmosphere called Ionosphere facilitates radio communication. Why?
- The presence of ozone causes the reflection of radio waves to Earth.
  - Radio waves have a very long wavelength
- Which of the statements given above is/are correct.
- 1 Only
  - 2 only
  - Both 1 and 2
  - Neither 1 nor 2 [I.A.S (Pre), 2011]
160. The jet aircrafts fly very easily and smoothly in the lower stratosphere. What could be the appropriate explanation?
- There are no clouds or water vapour in the lower stratosphere.
  - There are no vertical winds in the lower stratosphere.
- Which of the statements given above is/are correct in this context?



- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

[I.A.S (Pre), 2011]

161. The stratosphere is said to be ideal for flying jet aircraft. This is because  
 (a) This layer is rich in ozone which reduces fuel consumption

- (b) The temperature is constant and ideal for aircraft engine efficiency
- (c) This layer is out of the firing range of anti-aircraft guns
- (d) Of the absence of the clouds and other weather phenomena

[J.P.S.C 2011]

**Answers**

- |          |          |          |          |          |          |          |          |          |          |          |          |          |
|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| 1. (a)   | 2. (a)   | 3. (b)   | 4. (d)   | 5. (d)   | 6. (a)   | 7. (d)   | 8. (d)   | 9. (b)   | 10. (a)  | 11. (a)  | 12. (d)  | 13. (d)  |
| 14. (d)  | 15. (d)  | 16. (a)  | 17. (a)  | 18. (d)  | 19. (b)  | 20. (b)  | 21. (d)  | 22. (c)  | 23. (d)  | 24. (a)  | 25. (d)  | 26. (b)  |
| 27. (d)  | 28. (a)  | 29. (c)  | 30. (c)  | 31. (c)  | 32. (a)  | 33. (d)  | 34. (b)  | 35. (a)  | 36. (b)  | 37. (d)  | 38. (c)  | 39. (d)  |
| 40. (d)  | 41. (a)  | 42. (d)  | 43. (d)  | 44. (d)  | 45. (b)  | 46. (a)  | 47. (b)  | 48. (d)  | 49. (d)  | 50. (b)  | 51. (b)  | 52. (d)  |
| 53. (d)  | 54. (b)  | 55. (c)  | 56. (b)  | 57. (b)  | 58. (a)  | 59. (a)  | 60. (d)  | 61. (a)  | 62. (a)  | 63. (d)  | 64. (a)  | 65. (d)  |
| 66. (b)  | 67. (d)  | 68. (a)  | 69. (b)  | 70. (c)  | 71. (a)  | 72. (b)  | 73. (b)  | 74. (b)  | 75. (d)  | 76. (b)  | 77. (d)  | 78. (d)  |
| 79. (d)  | 80. (c)  | 81. (a)  | 82. (d)  | 83. (b)  | 84. (c)  | 85. (a)  | 86. (a)  | 87. (a)  | 88. (c)  | 89. (d)  | 90. (a)  | 91. (b)  |
| 92. (c)  | 93. (a)  | 94. (b)  | 95. (a)  | 96. (d)  | 97. (c)  | 98. (b)  | 99. (d)  | 100. (a) | 101. (b) | 102. (c) | 103. (a) | 104. (a) |
| 105. (b) | 106. (a) | 107. (d) | 108. (a) | 109. (c) | 110. (c) | 111. (d) | 112. (a) | 113. (a) | 114. (a) | 115. (c) | 116. (c) | 117. (d) |
| 118. (b) | 119. (c) | 120. (d) | 121. (c) | 122. (b) | 123. (b) | 124. (a) | 125. (d) | 126. (d) | 127. (a) | 128. (c) | 129. (c) | 130. (a) |
| 131. (c) | 132. (a) | 133. (c) | 134. (a) | 135. (d) | 136. (c) | 137. (a) | 138. (d) | 139. (a) | 140. (b) | 141. (c) | 142. (a) | 143. (d) |
| 144. (d) | 145. (d) | 146. (d) | 147. (c) | 148. (d) | 149. (b) | 150. (c) | 151. (c) | 152. (d) | 153. (c) | 154. (c) | 155. (a) | 156. (d) |
| 157. (a) | 158. (d) | 159. (d) | 160. (c) | 161. (d) |          |          |          |          |          |          |          |          |

**2. Temperature**

1. **Assertion (A)** : Generally, temperature decreases from the equator towards poles which is temperature gradient. But the highest temperature is never recorded at the equator, instead it is recorded near both the tropics.

**Reason (R)** : A sizeable portion of the incoming solar radiation is reflected by clouds and a large part of heat is spent in the process of evaporation.

**Codes :**

- (a) Both A and R are individually true and R is the correct explanation of A
- (b) Both A and R are individually true but R is not a correct explanation of A
- (c) A is true but R is false
- (d) A is false but R is true

2. Temperature generally decreases towards the poles because :

- (a) Air movement is generally towards the equator
- (b) Cold polar air masses prevent surface heating of the land
- (c) Cold surfaces do not absorb solar energy as readily as warm surfaces
- (d) Progressively lesser solar energy per unit area falls on the earth's surface as we move to polar regions

3. A temperature inversion is most likely to occur under which of the following conditions?

- (a) Mountain top in late evening
- (b) Windy but cloudy night
- (c) Calm, cloudy and humid night
- (d) Calm, clear and cool winter night

4. The normal lapse rate of the temperature in the troposphere is 1° C for every :

- (a) 146 m
- (b) 156 m
- (c) 166 m
- (d) 176 m

5. Match List-I with List-II and select the correct answer the codes given below the list :

**List-I**

**List-II**

- |                              |                            |
|------------------------------|----------------------------|
| A. Evaporation               | 1. Release of moisture     |
| B. Condensation              | 2. Cold move into warm air |
| C. Precipitation vapour into | 3. Transformation of water |
| D. Insolation                | 4. Gain of heat            |

**Code : A B C D**

- |     |   |   |   |   |
|-----|---|---|---|---|
| (a) | 4 | 3 | 1 | 2 |
| (b) | 4 | 1 | 3 | 2 |
| (c) | 2 | 4 | 3 | 1 |
| (d) | 4 | 3 | 1 | 2 |

6. Match List-I with List-II and select the correct answer—the codes given below the list :

**List-I**

**List-II**

- |                   |                                                                        |
|-------------------|------------------------------------------------------------------------|
| A. Ozone hole     | 1. Difference in the outgoing and incoming radiation of the atmosphere |
| B. Green house    | 2. Acceleration effect of ozone destruction                            |
| C. Global warming | 3. Increase in the CO <sub>2</sub> level                               |
| D. Albedo         | 4. Ratio of reflected radiation to radiation received                  |

**Code : A B C D**

- |     |   |   |   |   |
|-----|---|---|---|---|
| (a) | 2 | 1 | 3 | 4 |
| (b) | 4 | 1 | 3 | 2 |
| (c) | 5 | 2 | 1 | 4 |
| (d) | 2 | 3 | 4 | 1 |

7. The daily and annual range of temperature is maximum in the:

- (a) Savana grass land
- (b) Temperate grass land
- (c) Hot desert
- (d) Equatorial region

8. On the clear winter night earth is cooled by :

- (a) Conduction
- (b) Convection
- (c) Radiation
- (d) Condensation

9. When temperature is reduced to dew point condensation occur in the form of :

- 1. Fog
- 2. Dew
- 3. Frost

**Codes :**

- (a) 1 only
- (b) 2 only
- (c) 1 and 2
- (d) 1, 2 and 3

10. Pyrometer is used to measure :

- (a) Air pressure
- (b) Humidity
- (c) High temperature
- (d) Intensity of earth quake



11. As a means of heat transfer in the atmosphere which of the following is least significance ?  
 (a) Conduction (b) Convection  
 (c) Radiation (d) none of these
12. With increasing height, air temperature drops uniformly with altitude at a rate of approximately 6.5° Celsius per 1000 meters. This phenomenon is commonly called  
 (a) Environmental Lapse Rate  
 (b) Isothermal layer  
 (c) Tropopause  
 (d) Stratosphere
13. **Assertion (A) :** When temperature is held constant, the density of a gas is proportional to pressure, and volume is inversely proportional to pressure.  
**Reason (R) :** An increase in pressure will cause an increase in density of the gas and a decrease in its volume.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
14. **Assertion (A) :** In middle and high latitudes, insolation values over the ocean, as compared to those at the same latitude over the land, are generally higher.  
**Reason (R) :** Greater cloudiness over land surfaces accounts for this variation.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
15. **Assertion (A) :** Outside the tropics, annual receipts of solar radiation generally decrease with increasing latitude. Minimum values occur at the poles.  
**Reason (R) :** This pattern is primarily the result of Earth-Sun geometric relationships and its effect on the duration and intensity of solar radiation received.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
16. Short wave radiation from the Sun enters the surface-atmosphere system of the Earth and is ultimately returned to space as long wave radiation  
 (a) because the Earth is cooler than the Sun  
 (b) because the Earth is hotter than the Sun  
 (c) because the Sun is cooler than the Earth  
 (d) None of these
17. Which word fits this description—'places near or on the coast have a smaller temperature range than those inland'  
 (a) Latitude (b) Altitude  
 (c) Continentality (d) Prevailing wind
18. Which one of the following factor can have the greatest ?  
 (a) Aspect (b) Distance from the sea  
 (c) Altitudes (d) Ocean current
19. Consider the following statements:  
 1. The decrease of temperature with increasing latitude is more pronounced in North Atlantic Ocean than the South Atlantic Ocean.  
 2. The vertical distribution of temperature in enclosed seas of higher latitudes registers inversion of temperature.  
 Which of the statement(s) given above is/are correct?  
 (a) 1 only (b) 2 only  
 (c) Both 1 and 2 (d) Neither 1 nor 2
20. When a descending air contracts and its volume decreases, what happens to its temperature?  
 (a) Its temperature decreases  
 (b) Its temperature increases  
 (c) Its temperature remains constant  
 (d) Its temperature first increases, then decreases
21. The difference between the maximum and minimum temperatures recorded for a place during a period of one day is called :  
 (a) Daily mean temperature  
 (b) Diurnal temperature range  
 (c) Daily average temperature  
 (d) Mean monthly temperature
22. Minimum and maximum temperature are obtained from an instrument called :  
 (a) A barometer (b) A six's thermometer  
 (c) An anemometer (d) Clinical thermometer
23. The lowest temperature is recorded by :  
 (a) Maximum thermometer  
 (b) Mercurial thermometer  
 (c) Alcohol thermometer (d) none of these.
24. Which of these statements about climate makes the most sense?  
 (a) Temperatures increase as you go further from the equator, temperatures increase with altitude  
 (b) Temperatures decrease as you go further from the equator, temperatures increase with altitude  
 (c) Temperatures increase as you go further from the equator, temperatures decrease with altitude  
 (d) Temperatures decrease as you go further from the equator, temperatures decrease with altitude
25. The Gulf of Mexico has higher air temperatures than Britain because  
 (a) it's closer to the pole  
 (b) it's closer to the tropic  
 (c) it's closer to the equator  
 (d) it's closer to the tropic of cancer
26. Which of the following statement is true  
 (a) Mountains receive more rainfall than low lying areas  
 (b) The temperature on top of mountains is lower than the temperature at sea level  
 (c) The higher the place is above sea level the colder it will be  
 (d) All the above
27. Air temperatures are affected by slope and orientation as slopes facing into the Sun will be  
 (a) Warmer than those facing away  
 (b) Colder than those facing away  
 (c) Neither warmer nor colder than those facing away  
 (d) None of these



28. On tall mountains a zonation of climate occurs as you move towards  
 (a) Lower elevation (b) Higher elevation  
 (c) Lower to higher elevation  
 (d) None of these
29. Which of the following statement is/are correct ?  
 (a) Temperature decreases with altitude, so mountainous regions, plateaus etc can have cooler than expected temperatures  
 (b) The orientation of a slope in higher latitudes can affect the local climate; south facing slopes in northern extra-tropical regions (say Canada) will be warmer and get more hours of sunlight than north facing slopes  
 (c) Mountain ranges can act as barriers to wind and rainfall, with much of the rain falling on the windward side and top of the mountain and the lee of the mountain in 'rain shadow', ie with little rain  
 (d) All the above
30. Under which of the following conditions would the influence of aspect on temperature be most noticeable?  
 (a) A flat sandy surface in the Sahara desert during July.  
 (b) Hilly country in the Amazon basin in December.  
 (c) The south-facing side of a hill in central France in April.  
 (d) The north-facing side of a hill on the equator in June.
31. Four towns, all at about the same altitude and on the same line of latitude, have mean January temperatures as given below, which town is farthest from the sea?  
 (a) 7° (b) -18° C (c) -10°C (d) 3°C
32. Seasonal temperature variations are caused by :  
 (a) Low angle of the sun  
 (b) Horizontal rays of the sun  
 (c) Vertical rays of the sun (d) none of the above
33. Normally, the temperature decreases with the increase in height from the Earth's surface, because  
 1. the atmosphere can be heated upwards only from the Earth's surface  
 2. there is more moisture in the upper atmosphere  
 3. the air is less dense in the upper atmosphere  
 Select the correct answer using the codes given below :  
 (a) 1 only (b) 2 and 3 only  
 (c) 1 and 3 only (d) 1, 2 and 3
34. The normal lapse rate of temperature in the troposphere is 1°C for every :  
 (a) 146 m (b) 156 m (c) 166 m (d) 176 m
35. Assertion (A) : The temperature in the southern hemisphere is considerable lower than that in the northern hemisphere.  
 Reason (R) : The large mass of ice-covered Antarctic continent is an important source of cold in the south.  
 Codes :  
 (a) Both A and R are true and R is the correct explanation of A  
 (b) Both A and R are true but R is not a correct explanation of A  
 (c) A is true, but R is false  
 (d) A is false, but R is true
36. Temperature inversion is :  
 (a) Positive lapse rate (b) Negative lapse rate  
 (c) Neutral condition (d) None of the above  
 [SSC (LDC) 2012]
37. Which of the following pairs of months is used in Isothermal maps to examine extremes of temperature.  
 (a) December and June (b) November and July  
 (c) November and June (d) January and July
38. Temperature inversion shows :  
 (a) Warmer air overlying colder air  
 (b) Colder air overlying warmer air  
 (c) Humid air overlying colder air  
 (d) None of these
39. The thermal equator is found—  
 (a) At the equator  
 (b) South of the geographical equator  
 (c) North of the geographical equator  
 (d) At the tropic of cancer  
 [CDS 2011]
40. Horse latitudes lie within the atmospheric pressure belts of—  
 (a) Polar high (b) Equatorial low  
 (c) Sub-tropical high (d) Sub-polar low  
 [CDS 2011]
41. The intensity of insolation depends on—  
 (a) Altitude (b) Nature of terrain  
 (c) Wind (d) Latitude  
 [NDA 2011]
42. What does happens when water is condensed into ice ?  
 (a) Heat is absorbed (b) Heat is released  
 (c) Quantity of heat remains unchanged  
 (d) None of these  
 [RRB Bhubaneswar, (ASM) 2009]

**Answers**

1. (a) 2. (d) 3. (d) 4. (c) 5. (a) 6. (a) 7. (c) 8. (c) 9. (d) 10. (c) 11. (a) 12. (a) 13. (b)  
 14. (a) 15. (b) 16. (a) 17. (a) 18. (b) 19. (b) 20. (c) 21. (b) 22. (b) 23. (c) 24. (d) 25. (c) 26. (d)  
 27. (a) 28. (b) 29. (d) 30. (a) 31. (b) 32. (c) 33. (c) 34. (c) 35. (c) 36. (b) 37. (d) 38. (a) 39. (a)  
 40. (b) 41. (b) 42. (a)

**3 Humidity**

1. The humidity of air measured in percentage is called :  
 (a) absolute humidity (b) specific humidity  
 (c) relative humidity (d) all of the above  
 [CDS II 2013]
2. Which of the following does not affect visibility on the ground?  
 (a) Mist (b) Fog  
 (c) haze (d) dew
3. Which of the following statements regarding relative humidity is/are correct ?  
 1. It is an index of the amount of water vapour present in the atmosphere.  
 2. It measures the readiness with which vapour will condense from the air.  
 3. The value of the relative humidity varies inversely with temperature and rises during nights.



4. It is the ratio of the mass or weight of water vapour per unit volume of air measured in grams per cubic meter.
- Select the correct answer using the code given below :
- (a) 1 and 4 only (b) 2 and 3 only  
(c) 4 only (d) 1, 2 and 3 [SCRA 2014]
4. "Climate is extreme, rainfall is scanty and the people used to be nomadic herders"
- The above statement best describes which of the following regions ?
- (a) African Savannah  
(b) Central Asian Steppe  
(c) North American Prairie  
(d) Siberian Tundra [IAS 2013]
5. Water vapour has several very important functional roles on our planet. These are
- (a) It redistributes heat energy on the Earth through latent heat energy exchange.  
(b) The condensation of water vapour creates precipitation that falls to the Earth's surface providing needed fresh water for plants and animals.  
(c) It helps warm the Earth's atmosphere through the greenhouse effect.  
(d) All the above
6. Which term is used to describe the amount of water vapour that exists in a gaseous mixture of air and water vapour.
- (a) Absolute Humidity  
(b) Specific Humidity  
(c) Dynamic Humidity  
(d) Relative Humidity
7. **Assertion (A)** : The term relative humidity is reserved for systems of water vapour in air.  
**Reason (R)** : The term relative saturation is used to describe the analogous property for systems consisting of a condensable phase other than water in a non-condensable phase other than air.
- (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
(b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
(c) If (A) is true but (R) is false  
(d) If (A) is false but (R) is true
8. **Assertion (A)** : For a given dew point and its corresponding absolute humidity, the relative humidity will change inversely, albeit nonlinearly, with the temperature.  
**Reason (R)** : The partial pressure of water increases with temperature.
- (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
(b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
(c) If (A) is true but (R) is false  
(d) If (A) is false but (R) is true
9. Which of the following is defined as the ratio of the partial pressure of water vapour in a parcel of air to the saturated vapour pressure of water vapour at a prescribed temperature ?
- (a) Absolute humidity (b) Specific humidity  
(c) Relative humidity (d) Humidity during rain
10. The quantity of water in a particular volume of air is called
- (a) Absolute humidity (b) Specific humidity  
(c) Relative humidity (d) Humidity during rain
11. **Assertion (A)** : Humidity is a measure of the amount of water vapour dissolved in the air, not including any liquid water or ice falling through the air.  
**Reason (R)** : For clouds to form, and rain to start, the air doesn't have to reach 100% relative humidity at the Earth's surface, but only where the clouds and rain drops form.
- (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
(b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
(c) If (A) is true but (R) is false  
(d) If (A) is false but (R) is true
12. Which of the following is the temperature at which water vapour saturates from an air mass into liquid or solid usually forming rain, snow, frost, or dew ?
- (a) Dew point (b) Specific humidity  
(c) Frost point (d) Humidity during rain
13. If the dew point is below freezing, it is referred to as
- (a) Dew point (b) Specific humidity  
(c) Frost point (d) Humidity during rain
14. Dew point normally occurs when a mass of air has a relative humidity of
- (a) 50% (b) 75% (c) 80% (d) 100%
15. A device used to measure humidity is called a
- (a) Psychrometer (b) Hygrometer  
(c) Both (d) None
16. The mass of water vapour divided by the mass of dry air in a volume of air at a given temperature is called
- (a) Absolute humidity (b) Specific humidity  
(c) Relative humidity (d) Humidity during rain
17. **Assertion (A)** : Relative humidity is the ratio of the current absolute humidity to the highest possible absolute humidity  
**Reason (R)** : Reading of 100 percent relative humidity means that the air is totally saturated with water vapour and cannot hold any more, creating the possibility of rain.
- (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
(b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
(c) If (A) is true but (R) is false  
(d) If (A) is false but (R) is true
18. **Assertion (A)** : The amount of water vapour in the air at any given time is usually less than that required to saturate the air.  
**Reason (R)** : The relative humidity is the percent of saturation humidity, generally calculated in relation to saturated vapour density.
- (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
(b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
(c) If (A) is true but (R) is false  
(d) If (A) is false but (R) is true



19. Which of the following statement is true  
 (a) Saturated air has a relative humidity of 100%  
 (b) Air with a relative humidity in excess of 100% is said to be supersaturated  
 (c) Relative humidity is measured with a hygrometer  
 (d) All the above
20. **Assertion (A)** : Water vapour is a lighter gas than air at the same temperature, so humid air will tend to rise by natural convection.  
**Reason (R)** : This is a mechanism behind thunderstorms and other weather phenomena.  
 (a) If (A) and (R) are correct and (R) is the correct explanation of (A)  
 (b) If (A) and (R) are correct but (R) is not the correct explanation of (A)  
 (c) If (A) is true but (R) is false  
 (d) If (A) is false but (R) is true
21. Which of the following statements is/are correct about convection ?  
 (a) The act or process of conveying; transmission  
 (b) Heat transfer in a gas or liquid by the circulation of currents from one region to another  
 (c) The transfer of heat or other atmospheric properties by massive motion within the atmosphere, especially by such motion directed upward  
 (d) All the above
22. Condensation is a process which occurs when  
 (a) temperature falls below 0°C  
 (b) absolute humidity becomes equal to relative humidity  
 (c) temperature in the air parcel remains static  
 (d) relative humidity becomes 100% and more
23. All of the following statements are true except :  
 (a) Relative humidity of a mass of air falls if the temperature of the air rises  
 (b) Air is saturated when its relative humidity is 100%  
 (c) When air subsides its relative humidity decreases  
 (d) The relative humidity of a mass of air remains constant when the air crosses over a cold land surface from a warm water surface
24. Humidity is the result of :  
 (a) Evaporation  
 (b) Transpiration  
 (c) Presence of heat  
 (d) Presence of moisture content in the air
25. Specific humidity is :  
 (a) The indicator of density of water vapour.  
 (b) The maximum water content existing in the atmosphere.  
 (c) It is the ratio of the mass of water vapour present to the total mass of air.  
 (d) none of the above
26. What is relative humidity?  
 (a) It is the ratio of specific humidity
- (b) It is the indicator of moisture content in the atmosphere.  
 (c) It implies maximum vapour pressure in the atmosphere.  
 (d) It is present everywhere
27. The relative humidity of a region is low when :  
 (a) The wet and dry bulb thermometers read the same.  
 (b) The difference between the readings of the wet and dry bulb thermometers is large  
 (c) The temperatures are high  
 (d) The temperatures are low
28. Humidity refers to :  
 (a) Brackishness of water (b) Latent heat  
 (c) Water vapour in the atmosphere  
 (d) None of these
29. Relative humidity refers to :  
 (a) Absolute amount of water vapour in the atmosphere  
 (b) The amount of hygroscopic nuclei in the atmosphere  
 (c) Saturated vapour pressure  
 (d) Ratio of actual amount of water vapour in the air to the amount it could hold at the temperature
30. Match List-I with List-II and select the correct answer using the codes given below the lists:
- |                  |                                              |
|------------------|----------------------------------------------|
| List-I           | List-II                                      |
| A. Evaporation   | 1. Release of moisture                       |
| B. Condensation  | 2. Cold air moves into warm air              |
| C. Precipitation | 3. Transformation of water vapour into water |
| D. Insolation    | 4. Gain of heat                              |
|                  | 5. Incoming solar radiation                  |
- |          |   |   |   |
|----------|---|---|---|
| Code : A | B | C | D |
| (a) 5    | 3 | 1 | 2 |
| (b) 4    | 1 | 5 | 3 |
| (c) 2    | 4 | 3 | 5 |
| (d) 4    | 3 | 1 | 5 |
31. The actual moisture content of a sample of air as a percentage of that contained in the same volume of saturated air at the same temperature is called:  
 (a) absolute humidity  
 (b) relative humidity  
 (c) specific humidity  
 (d) vapour pressure
32. Because of which one of the following factors, clouds do not precipitate in deserts ?  
 (a) Low pressure (b) Low humidity  
 (c) High wind velocity (d) High temperature  
 [CDS, 2009]
33. Which of the following instruments is used to measure humidity?  
 (a) Kata Thermometer  
 (b) Anemometer  
 (c) Sling Psychrometer  
 (d) Clinical Thermometer  
 [SSC Sub Inspector 2009]

**Answers**

1. (c) 2. (d) 3. (d) 4. (d) 5. (d) 6. (d) 7. (b) 8. (a) 9. (c) 10. (a) 11. (b) 12. (a) 13. (c)  
 14. (d) 15. (c) 16. (a) 17. (b) 18. (b) 19. (d) 20. (b) 21. (d) 22. (d) 23. (d) 24. (d) 25. (c) 26. (a)  
 27. (b) 28. (d) 29. (d) 30. (d) 31. (b) 32. (b) 33. (c)