

PRELIMS SPECIAL – 18 (FOR UPSC CSE 2018)

1. Consider the following statements regarding 'Homosphere':
 1. Homosphere is the layer of atmosphere in which the temperature decreases with increase in Height.
 2. Homosphere extends to the altitude 10km from the surface of the earth
 Which of the above statements are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
2. Ionosphere is the layer of ions in the atmosphere. It is helpful in communication as Radio waves are reflected back from this layer. In which of the following atmospheric layers does ionosphere lie?
 - (a) Troposphere
 - (b) Stratosphere
 - (c) Thermosphere
 - (d) None of the above
3. Which of the following statements regarding Chemosphere are correct?
 1. It is the name given to the layer in which chemical reactions take place and Ozone is formed.
 2. It is the lower most layer of the atmosphere in which pollution is maximum.
 Select the code from following:
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
4. The following electromagnetic radiations are harmful for the life forms. Which of the following radiations can penetrate deepest in the atmosphere (Closest to the earth's surface)?
 - (a) Cosmic Radiations
 - (b) X—Rays
 - (c) Gamma Rays
 - (d) Ultra Violet radiation
5. Consider the following statements regarding 'Tropopause':
 1. The height of Tropopause is higher at equator as compared to poles.
 2. The temperature of tropopause is higher at equator as compared to poles.
 Which of the above statements are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
6. The atmosphere of earth is transparent to short wave radiations while it absorbs the long wave radiations. Which of the following radiations is an example of long wave radiations?
 - (a) Direct solar radiations
 - (b) Terrestrial radiations
 - (c) Cosmic radiations
 - (d) Albedo
7. Solar Constant is the amount of average energy received by earth from sun. What is the approximate value of Solar Constant?
 - (a) 20 joules per cm² per minute
 - (b) 2 calories per cm² per hour
 - (c) 2 calories per cm² per minute
 - (d) 2 joules per m² per hour

8. The portion of electromagnetic spectrum that can pass through the atmosphere without getting substantially distorted by the earth's atmosphere is called
 - (a) Greenhouse window
 - (b) Radiation gap
 - (c) Atmospheric window
 - (d) Electromagnetic gap
9. Consider the following statements regarding the local heat budget of earth:
 1. Equatorial areas have a heat surplus i.e. outgoing heat is less than the incoming heat
 2. In polar region there is a heat deficit
 3. Heat budget is exact 0 at 40° in both the hemispheres.
 Which of the above statements are correct?
 - (a) 1 and 2
 - (b) 2 and 3
 - (c) 1 and 3
 - (d) All of the above
10. Which of the following electromagnetic radiations have the highest energy?
 - (a) Gamma radiations
 - (b) Ultra violet radiations
 - (c) Light radiations
 - (d) Infrared radiations
11. Consider the following statements regarding 'Westerlies':
 1. They blow from 30° to 60° from South — west to North — East direction in northern and Southern hemisphere.
 2. They help in heat transfer from tropical region to polar region.
 Which of the above statements is/are correct?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
12. Thermal equator is the imaginary line connecting the points of highest temperature on earth. Which of the following statements is/are correct regarding the thermal equator of earth?
 1. Thermal equator always coincides with the geographical equator of the earth.
 2. Thermal equator is traced by Inter Tropical Convergence Zone.
 3. High atmospheric pressure is recorded at Thermal equator.
 Select the code from following:
 - (a) 1 and 2
 - (b) 2 only
 - (c) 2 and 3
 - (d) All of the above
13. Consider the following statements:
 1. A high pressure zone is observed in 30° — 35° North and South Latitudes.
 2. These latitudes are known as 'Horse Latitudes' in both the hemispheres.
 3. Atmospheric stability and clear sky is observed in this zone.
 Which of the above statements are correct?
 - (a) 1 and 2
 - (b) 2 and 3
 - (c) 1 and 3
 - (d) All of the above
14. Which of the following atmospheric conditions are suitable for the formation of a thunder storm?
 1. Atmospheric instability
 2. Strong updrafts
 3. Low atmospheric pressure at the surface
 Select the code from following:
 - (a) 1 and 2
 - (b) 2 and 3

- (c) 1 and 3 (d) All of the above
15. 'Sleet' is a type of precipitation in which small ice pellets falls from the sky. Which of the following statements are correct regarding 'sleet'?
1. It falls during a thunder storm
 2. It is highly destructive in nature and destroys the standing crop.
 3. It has a concentric ice structure.
- Select the code from following:
- (a) 1 and 2 (b) 2 and 3
(c) 1 and 3 (d) None of the above
16. Which of the following pressure belts of earth are thermally formed?
1. Equatorial low pressure belt
 2. Sub-Tropical High pressure belt
 3. Sub Polar low pressure belt
 4. Polar High pressure belt
- Select the code from following:
- (a) 1, 3 and 4
(b) 1 and 4
(c) 2, 3 and 4
(d) All of the above
17. Cumulonimbus clouds are towering clouds which cause torrential rainfall. From ground they look black in colour. Which of the following reasons impart dark colour to them?
- (a) They have got a lot of dust particles which impart black colour to them
 - (b) All the light from the sun is absorbed and it is difficult for it to penetrate the clouds.
 - (c) NO_x and SO_x is dissolved in them in large quantities
 - (d) because of the presence of dissolved greenhouse gases
18. Winter rainfall in Northern States of India is caused due to western Disturbances. Western disturbances catch moisture from which of the following water bodies?
- (a) Arabian sea
 - (b) Bay of Bengal
 - (c) South China Sea
 - (d) Mediterranean Sea
19. Planetary winds in the Southern Hemisphere are more regular and continuous as compared to the winds of Northern Hemisphere. Which of the following is the main reason for this?
- (a) Southern hemisphere has stronger pressure belts
 - (b) Southern hemisphere has less land mass
 - (c) Southern hemisphere has more biodiversity
 - (d) None of the above
20. Which of the following winds are periodic in nature?
1. Land and Sea breeze
 2. Mountain and Valley Winds
 3. Chinook
 4. Monsoon
- Select the code from below:
- (a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) All of the above

ANSWER KEYS

01 d 02 c 03 a 04 d 05 a 06 b 07 c 08 c 09 d 10 a
11 b 12 b 13 c 14 d 15 d 16 b 17 b 18 d 19 b 20 c

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