

ENVIRONMENT & CLIMATE CHANGE

1. Consider the following statements:
 1. The heavier oxygen isotope is deposited in larger amounts in the polar ice caps during colder phases of climate.
 2. Oxygen 16 is the heavier isotope of oxygen found in polar ice caps.Which of the above statement/statements is/are true?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
2. Consider the following statements:
 1. Ice cores from polar areas provide an indication of past climates through oxygen isotop analysis.
 2. Coral reefs are another source of similar information.Which of the above statement/statements is/are true?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
3. Consider the following statements:
 1. World Meteorological Organisation has recommended establishment of reference meteorological stations for comparability of data over time.
 2. Such stations are recommended to be established at sea level to neutralise the effect of altitude on weather elements.Which of the above statement/statements is/are true?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
4. Consider the following statements:
 1. Amount of insolation due to sunspot cycle varies from year to year.
 2. The periodicity of sun spot cycle has been found varying from 9 to 16 years.Which of the above statement/statements is/are true?
 - (a) 1 only
 - (b) 2 only
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
5. Consider the following as possible result of reversal of the dates of aphelion and perihelion:
 1. Summer of northern hemisphere will be warmer.
 2. Winter of northern hemisphere will be cooler.
 3. Summer of southern hemisphere will get cooler.
 4. Winter of southern hemisphere will get warmer.Which of the above statement/statements is/are true?
 - (a) 1, 2 and 3
 - (b) 2, 3 and 4
 - (c) 1, 3 and 4

- (d) 1, 2, 3 and 4
6. Consider the following statements:
1. Increased amount of carbon dioxide in air is an important cause of increasing temperature of the earth.
 2. Smoke from forest fires and industries adds soot the air enhancing the warming.
- Which of the above statement/statements is/are true?
- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
7. Which of the following contributes the maximum to the greenhouse effect?
- (a) carbon dioxide
(b) water vapour
(c) methane
(d) nitrous oxide
8. Consider the following statements:
1. An increase in tropospheric ozone concentration has a warming effect on earth.
 2. A decrease in stratospheric ozone concentration has a cooling effect on earth.
- Which of the above statement/statements is/are true?
- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
9. If the temperature of the lower atmosphere rises further it is expected that
1. people living in small islands will suffer the most.
 2. coral reefs will have a higher biotic productivity and flourish.
 3. agricultural production in middle and higher latitudes will increase.
 4. incidence of floods and droughts will increase.
- Which of the above statement/statements is/are true?
- (a) 1, 2 and 3
(b) 2, 3 and 4
(c) 1, 2 and 4
(d) 1, 3 and 4
10. Consider the following statements:
1. Ozone is formed when nitrogen oxide reacts with hydro-carbons in presence of sunlight.
 2. Ozone is broken down when it reacts with nitrogen oxide in the stratosphere.
- Which of the above statement/statements is/are true?
- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
11. Consider the following statements:
1. Kyoto Protocol provided for legally binding commitments on the part of the developed countries to reduce carbon emissions.
 2. During the Cancun Conference the legally binding commitments were diluted to an agreement rather than a binding treaty.
- Which of the above statement/statements is/are true?

- (a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2
12. What can be the benefit of parks in urban areas in terms of regional climate?
(a) They keep temperature low due to shade of trees.
(b) Watering of plants in the parks adds moisture to air thus adding to warming.
(c) Parks act as carbon sinks in the otherwise concrete environment.
(d) They add to the aesthetics of the environment.
13. Which of the following phenomena is supposedly associated with global warming?
(a) Southern Oscillation
(b) El Nino
(c) La Nina
(d) El Nino Modoki
14. What would be the impact of global warming on mangrove forests?
(a) They will grow more luxurious.
(b) Large areas of mangroves will be submerged.
(c) Their role as carbon sinks will become more important.
(d) Both (a) and (c) above.
15. Which of the following is an example of autovariation in climate?
(a) Higher amount of carbon dioxide favours plant growth and higher rate of plant growth reduces carbon dioxide in the atmosphere favouring a lower temperature.
(b) Higher emissions of ozone in lower atmosphere raise the temperature and higher temperature leads to reduction of ozone in the troposphere.
(c) Higher temperature reduces the snow cover and lesser area under snow increases the albedo thereby adding to global warming.
(d) All of the above.
16. While is carbon dioxide taken as the major contributor to global warming while methane absorbs more heat per molecule?
i. Carbon dioxide forms a larger proportion of atmosphere. Hence the overall impact of carbon dioxide is stronger.
ii. Carbon dioxide has a much longer life span in atmosphere and keeps contributing for a far longer period.
iii. Methane is not generated through anthropogenic causes.
Which of the above statement/statements is/are true?
(a) i only
(b) i and ii
(c) i and iii
(d) i, ii and iii
17. Consider the following statements:
1. Particulates and soot in atmosphere contribute to global dimming.
2. Deposition of soot in high latitude areas lowers the albedo leading to atmospheric warming.
Which of the above statement/statements is/are true?
(a) 1 only
(b) 2 only
(c) Both 1 and 2
(d) Neither 1 nor 2

18. Consider the following:
- Carbon monoxide
 - Nitrogen oxides
 - Volatile organic compounds
 - Carbon dioxide
- Which of the above, contribute to the formation of tropospheric ozone?
- i and ii
 - i, ii and iii
 - ii, iii and iv
 - i, ii, iii and iv
19. Which of the following components form a larger proportion in exhaust of a petrol engine than of a diesel engine?
- Nitrogen oxides
 - Carbon monoxide
 - Particulate matter
 - Nitrogen
- i and ii
 - i, ii and iii
 - ii and iv
 - i, ii and iv
20. Which of the following is suggested as the cause of possibly increasing green cover in Sahel region of Africa recently?
- Higher temperature leading to a stronger monsoon.
 - Lower temperature leading to reduced transpiration.
 - Reduced grazing due to reduced numbers of grazing animals.
- i only
 - i and ii
 - ii and iii
 - only iii

EVALUATE YOURSELF

Total Marks :

Your Mark :

Topper's Mark :

SCORE GRADE

30-40 : Outstanding A

20-30 : Very Good B

10-20 : Good C

0-10 : Average D

ANSWER KEYS

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

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