



CHEMISTRY

BOOKS - PEARSON IIT JEE FOUNDATION

AIR AND OXYGEN

Very Short Answer Type Questions

1. What is meant by atmospheric pressure?



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2. Name the different types of instruments used to measure atmospheric pressure.



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3. Give the functions of nitrogen in the atmosphere.



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4. S. I. unit of atmospheric pressure is _____



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5. What are the products of combustion of carbon compounds?



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6. Under what conditions, oxygen and hydrogen react with each other?



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7. How does oxygen exist in the combined state in nature?



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11. what is the minimum temperature at which a substance catches fire called ?

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12. What is meant by oxy-hydrogen flame? For what purpose is it used?

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13. Give the electronic configuration of oxygen. Also mention the period and the group to which the element belongs.



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14. List the uses of neon and argon gases.



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15. A mixture of 95% oxygen and 5% CO_2 is called _____.



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16. What is the layer of atmosphere present just above the earth's surface?

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17. Why mercury is used in barometer instead of water ?

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18. What is S.I. unit for atmospheric pressure? Define it.

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19. What are the major components of air? Among these, which is the active component and which is the inactive component?

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20. How is oxygen gas collected?

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21. What happens when iron is subjected to strong heating with oxygen?



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22. Name the metals which react with oxygen at room temperature.



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23. Coating of tin over iron is called _____.

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24. Why is the atmospheric pressure measured at sea level?

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25. What is the main advantage of the manufacturing of oxygen gas by the electrolysis of water?

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26. Among all the layers of atmosphere the layer with the highest temperature is_____.



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27. Define ignition temperature.



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28. Why is the temperature high in thermosphere?



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29. Define atmosphere.



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Short Answer Type Questions

1. What is greenhouse effect? Given the names of two greenhouse gases .



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2. How can the growing of plants control pollution?



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3. Explain why the atmospheric pressure changes with altitude?

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4. Give the differences between combustion and respiration.

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5. Suggest measures to control air pollution.





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6. Why are acid rains not confined to only industrial areas?



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10. What is meant by fly ash? Give the sources of fly ash and its effect on the environment.



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11. What is the role of atmosphere in nature?



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12. How do chlorofluorocarbons cause air pollution?

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13. Mention the effects of acid rain .

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14. How can you detect oxygen gas?

 [Watch Video Solution](#)

15. What are the sources of carbon monoxide and sulphur dioxide in air?

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Essay Type Questions

1. Explain the construction and working of the

(i) Mercury barometer

(ii) Aneroid barometer

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2. Give equations for the decomposition of potassium permanganate and hydrogen peroxide. In what way do the two processes differ from each other?



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3. What is meant by rusting? What are its effects? Explain different methods adopted for the prevention of rusting?



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4. What are the effects of oxides of sulphur and nitrogen on the atmosphere?

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5. How is oxygen gas prepared from potassium chlorate? What is the role of MnO_2 in this process?

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Concept Application Level 1

1. Air is a mixture of

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2. An increase in the levels of CO_2 in the atmosphere increases the temperature of the earth.

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3. Nitrates on thermal decomposition give oxygen.

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9. The catalyst used to acceleration the rate of decomposition of hydrogen peroxide.



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10. Dust particles from air are removed by passing air through _____ or _____.



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11. When ammonia gas is burnt in excess of oxygen at high temperature, the products formed are _____.



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12. the vacuum above the mercury level in a barometer is called ____.

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13. FeS_2 on burning in oxygen gives _____.

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14. Thermosphere is associated with high temperature due to the absorption of _____.

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15.

column A

column B

- | | | | | |
|----|-------------------|-----|----|----------------------|
| A. | SO_3 | () | a. | green house effect |
| B. | O_3 | () | b. | Carbonic acid |
| C. | CO_2 | () | c. | Artificial breathing |
| D. | $N_2O + O_2$ | () | d. | Acid rain |
| E. | 95 % + 5 % CO_2 | () | e. | Anesthetic |
| F. | $O_2 + H_2$ | () | f. | stratosphere |
| G. | $H_2O + CO_2$ | () | g. | Welding |



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16. which among the following processes does not add suspended particulate matter (S.P.M) to air?

A. Usage of air conditioners.

B. Burning of fuels.

C. Paper industry.

D. Combustion of coal.

Answer: A

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17. Hydrogen sulphide from air is removed by passing air through

A. caustic potash

B. concentrated H_2SO_4

C. anhydrous $CaCl_2$

D. filters

Answer: A::C



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18. Hydrogen sulphide from air is removed by passing air through

A. Hydrocarbon

B. CFC

C. Ozone

D. Metal oxide

Answer: C



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19. Which of the following distinguishes respiration from combustion?

A. Requirement of oxygen.

B. Exothermic nature of reactions.

C. Energy can be released only in the form of heat and not light.

D. Can take place at any temperature.

Answer: C



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20. Global warming is mainly due to

A. reradiation of U.V. rays by CO_2 and H_2O .

B. reradiation of I.R. rays by CO_2 and H_2O .

C. reradiation of I.R. rays by O_2 and N_2 .

D. reradiation of U.V. rays by O_2 and N_2

Answer: B



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21. Which of the following minerals does not contain oxygen?

- A. Silicates
- B. Carbonates
- C. Pyrites
- D. None of these

Answer: C



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22. $X + O_2 \rightarrow Y, Y + H_2O \rightarrow Z, Z$ turns red litmus to blue then X may be

A. Ca

B. S

C. C

D. P

Answer: A



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23. Tropospheric atmosphere is turbulent. Which of the following reasons can be attributed to this?

- A. Convictional current of air rises up due to high temperature in lower layers of the earth.
- B. Temperature changes result in change in air pressure.
- C. More effect of centrifugal force is more in this layer.
- D. None of these

Answer: A::C





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24. The layer of atmosphere that is just above the earth's surface is called _____.

A. thermosphere

B. troposphere

C. stratosphere

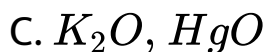
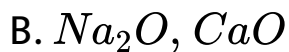
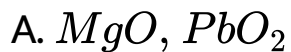
D. mesosphere

Answer: B



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25. Which of the following pairs of oxides can give out oxygen on heating?



Answer: A::D



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26. Which of the following are used in air conditioning and refrigeration systems?

A. CO

B. CO_2

C. $CFCs$

D. O_3

Answer: C



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27. If a balloon filled with air is sent to moon, what would happen?

A. The balloon expands because the atmospheric pressure of the moon is slightly lower than that of earth.

B. The balloon bursts because the atmospheric of the moon is much lower than that of earth.

C. The balloon contracts because the atmospheric pressure of the moon is much lower than that of earth.

D. No change is observed because change of atmospheric pressure has no effect on the balloon.

Answer: B

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28. A gas which is combustible and can support combustion is.

A. oxygen.

B. nitrous oxide.

C. nitric oxide.

D. carbon monoxide.

Answer: B::C



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29. Which among the following has lowest boiling point?

A. O_2

B. N_2

C. F_2

D. Ne

Answer: C::D



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30. Passengers travelling in an aeroplane are advised not to carry fountain pens because at higher altitudes,

A. ink vapourizes due to high external pressure.

B. solidification of ink takes places due to very low external pressure.

C. pressure within the tube is more than the external pressure and causes leakage of ink.

D. pressure within the tube is lesser than the external pressure and causes leakage of ink.

Answer: C



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31. With increase in altitude the temperature in stratosphere

- A. first remains almost constant and then increases
- B. decreases.
- C. remains same.
- D. first decreases and then increases.

Answer:



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32. Which of the following can be considered as spontaneous combustion?

- A. Burning of LPG
- B. Burning of magnesium ribbon
- C. Burning of camphor
- D. Burning of white phosphorus

Answer:



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33. Which of the following metals gives reddish powder on reaction with O_2 higher temperature?

A. Fe

B. Pb

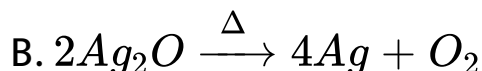
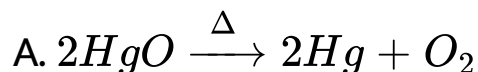
C. Zn

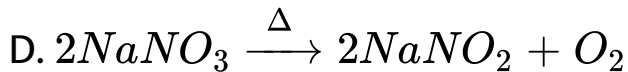
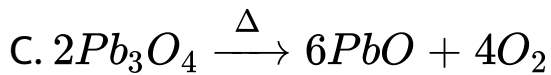
D. Sn

Answer:

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34. Which of the following reactions is associated with the formation of shining white globules?





Answer:



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35. The ratio of $KClO_3$ and MnO_2 taken for the preparation oxygen is

A. 4 : 1

B. 3 : 1

C. 2 : 1

D. 2:5

Answer:



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36. When ammonia is burnt in a limited supply of oxygen, which gas is evolved?

A. NO

B. N_2O

C. N_2

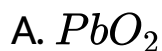
D. NO_2

Answer:



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37. Which of the following compounds produces oxide on heating?



Answer:





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38. Which of the following metals does not react with O_2 even at high temperature?

A. Magnesium

B. Iron

C. Aluminium

D. Gold

Answer:



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39. Carbon dioxide from air is removed by passing air through _____.

- A. caustic potash
- B. concentrated H_2SO_4
- C. anhydrous $CaCl_2$
- D. filters

Answer:



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40. Which of the following reactions is associated with the formation of a mirror like surface near the cooler part of the test tube?

- A. Heating of mercuric oxide
- B. Heating of silver oxide
- C. Heating of tri-lead oxide
- D. Heating of lead dioxide

Answer:



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41. You are asked to prepare oxygen from air after eliminating the impurities in the order that is at first dust particles then water vapour and CO_2 at the end. Based on the given instruction arrange the processes given below in a sequence.

(a) Passing the sample of air through concentrated NaOH

(b) Repeated compression followed by sudden expansion

(c) Fractional distillation of liquefied air

(d) Passing the air through electrostatic precipitator

(e) Passing the air through anhydrous $CaCl_2$

A. a d e b c

B. a c e b d

C. d e a b c

D. b a e d c

Answer:

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42. Arrange the following products (oxides) in the ascending order of the ratio of metal atoms to oxygen atom(s) present in one molecule of the respective oxide.

(a) Magnesium is heated in the presence of oxygen.

(b) Iron produces a reddish brown with a crackling sound when it is heated higher temperature.

(c) Sodium undergoes oxidation in moist air.

(d) Formation of a coating of aluminium oxide on aluminium at normal temperature.

A. a d c b

B. d b a c

C. a c b d

D. c a b d

Answer:



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43. The description of the different layers of the atmosphere is given below. Arrange them in increasing order of their altitude.

(a) The layer of atmosphere in which the number of molecules are less but they are sufficient to burn the meteorites.

(b) The layer in which the temperature increases with altitude.

(c) The layer with the least number of particles.

(d) The convection current of air plays a significant role in this layer.

A. b d a c

B. b c a d

C. d b c a

D. d b a c

Answer:



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44. Arrange the products of the following reactions in the increasing order of the number of oxygen atoms associated with one nonmetallic atom.

(a) Burning of phosphorus in an adequate supply of oxygen to produce an oxide of phosphorus.

(b) The complete combustion of coke with the supply of sufficient oxygen.

(c) An electric spark is provided to a 1 : 1 mixture of nitrogen and oxygen.

(d) Burning of sulphur dioxide gas in oxygen.

A. c d a b

B. c b a d

C. b c a d

D. c b d a

Answer:



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45. Arrange the following steps involved in the preparation of oxygen from $KClO_3$ in proper order.

(a) Content of the test tube is heated.

(b) A mixture of finely ground $KClO_3$ and MnO_2 is taken in a test tube.

(c) The open end of the test tube is plugged with cotton.

(d) Delivery tube is taken out.

(e) The test tube is fixed in a slanting position.

(f) Bunsen burner is put off.

(g) Oxygen is collected by downward displacement of water.

A. b c d a e f g

B. e f c b d a g

C. a b c d f g e

D. b c e a g d f

Answer:



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Level 2

1. What are the advantages of aneroid over mercury barometer? Give the applications of aneroid barometer.



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2. Why are tin coated iron cans used for cool drinks but not cans. Explain.



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3. LPG stove can be lighted by using an automatic gas lighter. Is it possible to light a kerosene stove by using the same?



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4. The combustion of sulphur and phosphorous is possible even in the presence of nitrous oxide and nitric oxide at high temperatures. Justify



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5. Is it possible to drink by using a straw on the moon? Give reasons in support of your answer.



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6. How do catalytic converters reduce air pollution?



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7. A student was asked to prepare oxygen from $KClO_3$ in the laboratory. After the experiment was over, he put the burner off immediately. What do you think happened then?

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8. Why does atmospheric pressure decrease with an increase in altitude?

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9. Water is not effective in extinguish a fire caused by petrol because



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10. Fishes and many other aquatic species live in river water. When they are kept in aquarium, we need to change water very often. Give reasons.



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11. Why don't we use soda acid fire extinguishers to extinguish metal fires?



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12. Explain the principal of the working for smoke precipitators.



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13. Explain the principal involved in the liquefaction of air.



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14. Explain the working principal of scrubber.

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15. Though the dust particles cause air pollution, the presence of dust particles help in sustenance of life. Explain.

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16. In a chemistry lab, a laboratory assistant by mistake placed one currency note with denomination of 100 on the desk and some amount

of alcohol fell on it. The currency note was completely wet with alcohol. In order to dry it he immediately brought a burning match stick and exposed the currency note to its flame. Immediately the currency note caught fire. But after a few seconds, the fire was put off by him and the note remained intact. Explain.



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17. Two students A and B were asked to carry out one experiment. The smoke released due to the burning of candle should be passed through lime water and anhydrous copper sulphate to prove the release of CO_2 and H_2O respectively due to the burning of

the candle. 'A' first passed the gases through lime water and then through copper sulphate whereas 'B' did it the other way round. The Teacher commented that the set up used by 'A' was wrong. What could be the reason for it?



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18. When lime water is exposed to air for a long time, very thin white coating is found floating on the surface. Give reasons.



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19. MnO_2 used as a catalyst in the preparation of oxygen from $KClO_3$ should be completely free of carbon. Justify.



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20. Is it possible to prepare oxygen and hydrogen by the electrolysis of pure water? Give reasons in support of your answer. How are hydrogen and oxygen prepared in industry by the electrolysis of water?



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21. Rain water is found to contain more percentage of oxygen than ordinary water. Explain.



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22. Why is the carbon monoxide of automobile exhaust converted to carbon dioxide in the catalytic converters though both carbon monoxide and carbon dioxide add to air pollution?



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23. Why is LPG a better fuel than coal?



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24. Rimijhim was dreaming in the morning that she went to a planet Pandora and in the atmosphere of Pandora there is no water vapour. Suddenly she woke up and started thinking what would happen if earth's atmosphere loses water vapour completely. Rimijhim was really worried. Can you find out the reason for Rimijhim's worry?



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25. Why is the atmospheric pressure measured at sea level? Why is the atmospheric pressure not felt by us?



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Level 3

1. 'Though oxygen is the supporter of life on earth, the presence of nitrogen in the atmosphere also contributes equally to the life processes on earth'. Justify the statement.



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2. Why the position of freezer in the refrigerator is generally at the top? Explain.



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3. How does sky appear from the moon?



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4. Two liquids A and B were taken in two different barometer, the density of A is greater than that of B.

Which liquid is preferable to be used as barometric liquid if the variation in pressure is very minute and why?

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5. What would happen if people travel in a non-pressurized aeroplane?

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6. Electric bulbs are filled with argon gas but not air. Explain.





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7. The body temperature of a healthy person is around $98.4^{\circ} F$. Justify.



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8. U.V rays find application in the purification of water, although it is harmful to human being. Explain.



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9. Deep sea divers carry oxygen diluted by helium in cylinders instead of air. Give reasons.

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10. The temperature of troposphere decrease with increase in altitude. Is this same true for stratosphere? Justify.

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Example

1. Why does atmospheric pressure decrease with an increase in altitude?

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2. Atmospheric air contains a large amount of oxygen and traces of hydrogen. Why do they not react and cause explosion?

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3. Why is the temperature high in thermosphere?

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4. CO_2 is collected by upward displacement of air and O_2 is collected by downward displacement of water. Justify



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5. State two reactions between non-metallic oxides and oxygen which take place in catalytic converter.



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6. A cotton plug is kept at the mouth of test tube during the preparation of oxygen by $KMnO_4$. Why?

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7. What is the advantage of preparation of O_2 by H_2O_2 over its preparation by $KClO_3$ and $KMnO_4$?

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8. What are the advantages of preparation of O_2 by electrolysis over fractional distillation of air?

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9. Explain the working principle of scrubber.

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10. What is meant by fly ash? Give the sources of fly ash and its effect on the environment and human beings.

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Test Your Concepts Very Short Answer Type Questions

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24. Why is the atmospheric pressure measured at sea level?



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25. Give the composition of nitrogen and oxygen by volume in air.



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26. What is the main advantage of the manufacturing of oxygen gas by the electrolysis of

water?



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27. Among all the layers of the atmosphere the layer with the highest temperature is _____.



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28. Define ignition temperature.



Watch Video Solution

29. Define atmosphere.



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Test Your Concepts Essay Type Questions

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2. What is meant by rusting? What are its effects?

Explain different methods adopted for the prevention of rusting?



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3. What are the effects of oxides of oxides of sulphur and nitrogen on the atmosphere?



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4. How is oxygen gas prepared from potassium chlorate? What is the role of MnO_2 in this process?

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Concept Application Level 1

1. The following statements are true or false.

Air is a mixture.

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2. An increase in the levels of CO_2 in the atmosphere increases the temperature of the earth.

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3. Nitrates on thermal decomposition give oxygen.

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4. The following statements are true or false.

With increase in altitude the atmospheric pressure increases.

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 [Watch Video Solution](#)

5. The following statements are true or false.

Gold and platinum do not react with oxygen even at high temperatures.

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6. The atomicity of the allotropic form of oxygen is three.

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7. Oxygen gas is collected by the downward displacement of air.

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9. The catalyst in the decomposition of hydrogen peroxide is _____.

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10. Dust particles from air are removed by passing air through _____ or _____.



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11. When ammonia gas is burnt in excess of oxygen at high temperature, the products formed are _____.



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12. the vacuum above the mercury level in a barometer is called ____.

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13. FeS_2 on burning in oxygen gives _____.

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14. Thermosphere is associated with high temperature due to the absorption of _____.

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15. Match the entries in Column A with the appropriate ones in Column B.

Column A		Column B
A. SO_3	()	a. Greenhouse effect
B. O_3	()	b. Carbonic acid
C. CO_2	()	c. Artificial breathing
D. $\text{N}_2\text{O} + \text{O}_2$	()	d. Acid rain
E. 95% + 5% CO_2	()	e. Anaesthetic
F. $\text{O}_2 + \text{H}_2$	()	f. Stratosphere
G. $\text{H}_2\text{O} + \text{CO}_2$	()	g. Welding



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16. which among the following processes does not add suspended particulate matter (S.P.M) to air?

A. usage of air conditioners

B. burning of fuels

C. paper industry

D. combustion of coal

Answer: A



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17. Hydrogen sulphide from air is removed by passing air through

A. caustic potash

B. concentrated H_2SO_4

C. anhydrous $CaCl_2$

D. filters

Answer: A



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18. Which of the following substance is used in refrigerators?

A. hydrocarbon

B. CFC

C. ozone

D. metal oxide

Answer: B



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19. Which of the following distinguishes respiration from combustion?

A. requirement of oxygen

B. exothermic nature of reactions

C. energy can be released only in the form of heat and not light

D. can take place at any temperature

Answer: C



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20. Global warming is mainly due to

A. reradiation of UV rays by CO_2 and H_2O

B. reradiation of IR rays by CO_2 and H_2O

C. reradiation of IR rays by O_2 and N_2

D. reradiation of UV rays by O_2 and N_2

Answer: B



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21. Which of the following minerals does not contain oxygen?

- A. silicates
- B. carbonates
- C. pyrites
- D. none of these

Answer: C



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22. $X + O_2 \rightarrow Y, Y + H_2O \rightarrow Z, Z$ turns red litmus to blue then X may be

A. Ca

B. S

C. C

D. P

Answer: A



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23. Tropospheric atmosphere is turbulent. Which of the following reasons can be attributed to this?

A. convectonal current of air rises up due to high temperature in lower layers of the earth

B. temperature changes result in change in air pressure

C. more effect of centrifugal force is more in this layer

D. none of these

Answer: A





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24. The layer of atmosphere that is just above the earth's surface is called _____.

A. thermosphere

B. troposphere

C. stratosphere

D. mesosphere

Answer: B



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25. Which of the following pairs of oxides can give out oxygen on heating?

A. MgO , PbO_2

B. Na_2O , CaO

C. K_2O , HgO

D. Ag_2O , Pb_3O_4

Answer: D



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26. Which of the following are used in air conditioning and refrigeration systems?

A. CO

B. CO_2

C. CFCs

D. O_3

Answer: C



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27. If a balloon filled with air is sent to moon, what would happen?

A. The balloon expands because the atmospheric pressure of the moon is slightly lower than that of the earth.

B. The balloon bursts because the atmospheric pressure of the moon is much lower than that of the earth.

C. The balloon contracts because the atmospheric pressure of the moon is much lower than that of the earth.

D. No change is observed because change of atmospheric pressure has no effect on the balloon.

Answer: B

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28. A gas which is combustible and can support combustion is.

A. oxygen

B. nitrous oxide

C. nitric oxide

D. carbon monoxide

Answer: B



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29. Which among the following has lowest boiling point?

A. O_2

B. N_2

C. F_2

D. Ne

Answer: D



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30. The passengers flying in aeroplane are advised to remove the ink from their pens while going up in the aeroplane , why?

A. ink vaporises due to high external pressure

B. solidification of ink takes places due to very

low external pressure

C. pressure within the tube is more than the external pressure and causes leakage of ink

D. pressure within the tube is lesser than the external pressure and causes leakage of ink

Answer: C



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31. With increase in altitude the temperature in stratosphere

- A. first remains almost constant and then increases
- B. decreases
- C. remains same
- D. first decreases and then increases

Answer:



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32. Which of the following can be considered as spontaneous combustion?

- A. Burning of LPG
- B. Burning of magnesium ribbon
- C. Burning of camphor
- D. Burning of white phosphorus

Answer:



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33. Which of the following metals gives reddish powder on reaction with O_2 higher temperature?

A. Fe

B. Pb

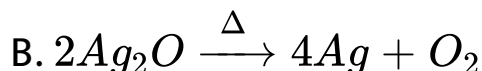
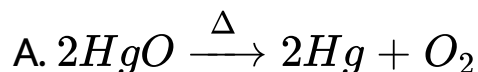
C. Zn

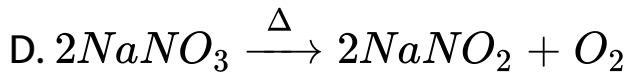
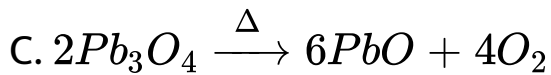
D. Sn

Answer:

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34. Which of the following reactions is associated with the formation of shining white globules?





Answer:



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35. The ratio of $KClO_3$ and MnO_2 taken for the preparation oxygen is

A. 4 : 1

B. 3 : 1

C. 2 : 1

D. 2:5

Answer:



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36. When ammonia is burnt in a limited supply of oxygen, which gas is evolved?

A. NO

B. N_2O

C. N_2

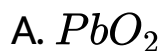
D. NO_2

Answer:



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37. Which of the following compounds produces oxide on heating?



Answer:





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38. Which of the following metals does not react with O_2 even at high temperature?

A. magnesium

B. iron

C. aluminium

D. gold

Answer:



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39. Carbon dioxide from air is removed by passing air through _____.

- A. caustic potash
- B. concentrated H_2SO_4
- C. anhydrous $CaCl_2$
- D. filters

Answer:



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40. Which of the following reactions is associated with the formation of a mirror like surface near the cooler part of the test tube?

- A. heating of mercuric oxide
- B. heating of silver oxide
- C. heating of trilead tetroxide
- D. heating of lead dioxide

Answer:



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41. You are asked to prepare oxygen from air after eliminating the impurities in the order that is at first dust particles then water vapour and CO_2 at the end. Based on the given instruction arrange the processes given below in a sequence.

(a) Passing the sample of air through concentrated NaOH

(b) Repeated compression followed by sudden expansion

(c) Fractional distillation of liquefied air

(d) Passing the air through electrostatic precipitator

(e) Passing the air through anhydrous $CaCl_2$

A. 1 4 5 2 3

B. 1 3 5 2 4

C. 4 5 1 2 3

D. 2 1 5 4 3

Answer:



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42. Arrange the following products (oxides) in the ascending order of the ratio of metal atoms to oxygen atom(s) present in one molecule of the respective oxide.

(1) magnesium is heated in the presence of oxygen

(2) iron produces a reddish brown powder with a crackling sound when it is heated at higher temperature

(3) sodium undergoes oxidation in moist air

(4) formation of a coating of aluminium oxide on aluminium at normal temperature

A. 1 4 3 2

B. 4 2 1 3

C. 1 3 2 4

D. 3 1 2 4

Answer:



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43. The description of the different layers of the atmosphere is given below. Arrange them in the increasing order of their altitude.

(1) the layer of atmosphere in which the number of molecules is less but they are sufficient to burn the meteorites

(2) the layer in which the temperature increases with altitude

(3) the layer with the least number of particles

(4) the convection current of air plays a significant role in this layer

A. 2 4 1 3

B. 2 3 1 4

C. 4 2 3 1

D. 4 2 1 3

Answer:



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44. Arrange the products of the following reactions in the increasing order of the number of oxygen atoms associated with one non-metallic atom.

(a) burning of phosphorus in an adequate supply of oxygen to produce an oxide of phosphorus

(b) the complete combustion of coke with the supply of sufficient oxygen

(c) an electric spark is provided to a 1:1 mixture of nitrogen and oxygen

(d) burning of sulphur dioxide gas in oxygen

A. 3 4 1 2

B. 3 2 1 4

C. 2 3 1 4

D. 3 2 4 1

Answer:



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45. Arrange the following steps involved in the preparation of oxygen from $KClO_3$ in a proper order.

(1) content of the test tube is heated

(2) A mixture of finely ground $KClO_3$ and MnO_2 is taken in a test tube.

(3) The open end of the test tube is plugged with cotton.

(4) delivery tube is taken out

(5) The test tube is fixed in a slanting position.

(6) Bunsen burner is put off.

(7) Oxygen is collected by downward displacement of water.

A. 2 3 4 1 5 6 7

B. 5 6 3 2 4 1 7

C. 1 2 3 4 6 7 5

D. 2 3 5 1 7 4 6

Answer:



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Concept Application Level 2

1. What are the advantages of aneroid over mercury barometer? Give the applications of aneroid

barometer.



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2. Why are tin coated iron cans used for cool drinks but not cans. Explain.



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3. LPG stove can be lighted by using an automatic gas lighter. Is it possible to light a kerosne stove by using the same?



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4. The combustion of sulphur and phosphorous is possible even in the presence of nitrous oxide and nitric oxide at high temperatures. Justify



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5. Is it possible to drink by using a straw on the moon? Give reasons in support of your answer.



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6. How do catalytic converters reduce air pollution?



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7. A student was asked to prepare oxygen from $KClO_3$ in the laboratory. After the experiment was over, he put the burner off immediately. What do you think happened then?



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8. Water is not effective in extinguish a fire caused by petrol because



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9. Fishes and many other aquatic species live in river water. When they are kept in aquarium, we need to change water very often. Give reasons.



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10. Why don't we use soda acid fire extinguishers to extinguish metal fires?



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11. Explain the principal of the working for smoke precipitators.



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12. Explain the principal involved in the liquefaction of air.



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13. Though the dust particles cause air pollution, the presence of dust particles help in sustenance of life. Explain.



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14. In a chemistry laboratory, a laboratory assistant by mistake placed one currency note with a denomination of 100 on the desk and some amount of alcohol fell on it. The currency note was completely wet with alcohol. In order to dry it he immediately brought a burning match stick and exposed the currency note to its flame. Immediately the currency caught fire. But after few seconds, fire was put off by him and the note remained intact. Explain.



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15. Two students A and B were asked to carry out one experiment. The smoke released due to the burning of a candle should be passed through lime water and anhydrous copper sulphate to prove the release of CO_2 and H_2O , respectively, due to the burning of the candle. A first passed the gases through lime water and then through copper sulphate, whereas B did it the other way round. The teacher commented that the set up used by A was wrong. What could be the reason for it?



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16. When lime water is exposed to air for a long time, very thin white coating is found floating on the surface. Give reasons.

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17. MnO_2 used as a catalyst in the preparation of oxygen from $KClO_3$ should be completely free of carbon. Justify.

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18. Is it possible to prepare oxygen and hydrogen by the electrolysis of pure water? Give reasons in support of your answer. How are hydrogen and oxygen prepared in industry by the electrolysis of water?



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19. Rain water is found to contain more percentage of oxygen than ordinary water. Explain.



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20. Why is the carbon monoxide of automobile exhaust converted to carbon dioxide in the catalytic converters though both carbon monoxide and carbon dioxide add to air pollution?



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21. Why is LPG a better fuel than coal?



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22. Rimijhim was dreaming in the morning that she went to a planet Pandora and in the atomosphere of

Pandora there is no water vapour. Suddenly she woke up and started thinking what would happen if earth's atmosphere loses water vapour completely. Rimijhim was really worried. Can you find out the reason for Rimijhim's worry?



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23. Why is the atmospheric pressure measured at sea level? Why is the atmospheric pressure not felt by us?



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Concept Application Level 3

1. 'Though oxygen is the supporter of life on earth, the presence of nitrogen in the atmosphere also contributes equally to the life processes on earth'. Justify the statement.



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2. Why the position of freezer in the refrigerator is generally at the top? Explain.



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3. How does sky appear from the moon?



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4. Two liquids A and B were taken in two different barometers, the density of A is greater than that of B. Which liquid is preferable to be used as barometric liquid if the variation in pressure is very minute and why?



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5. What would happen if people travel in a non-pressurized aeroplane?

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6. Electric bulbs are filled with argon gas but not air. Explain.

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7. The body temperature of a healthy person is around $98.4^{\circ} F$. Justify.

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8. U.V rays find application in the purification of water, although it is harmful to human being. Explain.



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9. Deep sea divers carry oxygen diluted by helium in cylinders instead of air. Give reasons.



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10. The temperature of troposphere decrease with increase in altitude. Is this same true for stratosphere? Justify.



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