

Matter in Our Surroundings

1M

1. Which state of matter is characterized by the following properties :
(0 A substance with a fixed arrangement of particles.
(1'0 A substance that has large distances between the particles.

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2. Why the states of matter differ?

1M

3. Define melting point.

1M

4. Inspite of being solid a sponge is compressible. Comment.

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5. What produces more severe burns, boiling water or steam?

1M

6. Arrange the following substances in increasing order of force of attraction between the particles - water, sugar, and oxygen.

1M

7. Suggest a method to liquify atmospheric gases.

1M

8. Arrange the particles of the three states of matter in order of increasing randomness.

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9. What is the name of the process due to which dry ice changes into carbon dioxide gas ?

1M

10. Name the process which describes the mixing of copper sulphate crystals and water kept in a beaker on its own ?

1M

11. Even two-three crystals of potassium permanganate can impart colour to a large volume of water. Which characteristic property of particles of matter is illustrated by this observation ? 1

1M

12. Why do we call sponge a solid when it is easily compressible ?

1M

13. Define latent heat of vaporization ?

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14. On blowing air into a balloon, it inflates. Explain why ?

1M

15. Define evaporation.

1M

16. Give one example of diffusion of gases in a liquid

1M

17. Match the following and choose the correct answer:

	Column - I		Column - II
A.	Evaporation	i.	Liquid to gas at a fixed temperature
B.	Vaporisation	ii.	Solid to gas
C.	Sublimation	iii.	Gas to solid
D.	Hoar frost	iv.	Liquid into gas at any temperature

(A) A - iv, B - i, C - ii, D - iii

(B) A - i, B - ii, C - iii, D - iv

(C) A - ii, B - iii, C - iv, D - i

(D) A - iv, B - i, C - iii, D - ii

1M

18. Match the following and choose the correct answer:

	Column-I		Column-II
A.	Solid	i	Super energetic particles.
B.	Liquid	ii	Neither shape nor fixed volume at a given pressure.
C.	Gas	iii	Has definite shape.
D.	Plasma	iv	No definite shape with less molecular forces than that in solids.

(A) A - i, B - ii, C - iii, D - iv

(B) A - iii, B - iv, C - ii, D - i

(C) A - iii, B - iv, C - i, D - ii

(D) A - i, B - iv, C - ii, D - iii

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19. Choose the false statement:

(A) Liquids have definite volume but no definite shape

(B) Gases are more compressible than liquids

(C) Rate of diffusion is highest in liquids

(D) Increase in pressure changes liquids to solids

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20. Name the chemical present in nail polish remover that evaporates quickly to give cooling effect.

1M

21. Which of the following does not affect evaporation?

(A) Surface area

(B) Humidity

(C) Pressure

(D) Temperature

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22. What is dry ice ? How is it prepared ?

1M

23. Name two gases which are supplied in compressed form in names and hospitals

1M

24. Why does our palm feel cold when some ice is put on it ?

1M

25. Name the process by which a drop of ink spreads in a beaker of water?

1M

26. What happens to kinetic energy of molecules on heating?

1M

27. A diver is able to cut through water in a swimming pool. Which property of matter does this observation show?

1M

28. The mass per unit volume of substance is called density. Arrange in order of increasing density.

exhaust from chimneys, Air, cotton, Iron, water, honey, chalk.

1M

29. What is the physical state of water at?

(a) 25°C

(b) 100°C

1M

30. Write the full form of L.P.G. & C.N.G.

1M

31. When sugar is dissolved in water, there is no increase in the volume. Which characteristic of matter is illustrated by this observation

1M

32. Which of following statement is true?

(A) Energy of particles in steam at 373 K > Energy of particles in water at 373 K

(B) Energy of particles in steam at 373 K < Energy of particles in water at 373 K

(C) Energy of particles in steam at 373 K = Energy of particles in water at 373 K

(D) None of these

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33. Define humidity.

1M

34. A liquid is different from a solid in that it has

(A) A definite shape.

(B) A definite volume.

(C) No definite shape.

(D) No definite volume.

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35. Define matter.

1M

36. Rate of evaporation is highest in

- (A) An open vessel of diameter 25 cm.
- (B) An open vessel of diameter 30 cm.
- (C) An open vessel of diameter 27.5 cm.
- (D) An open vessel of radius 25 cm.

1M

37. Write the value of normal atmospheric pressure?

1M

38. Which of the following statements is false?

- (A) The states of matter are inter-convertible.
- (B) Evaporation is a surface phenomenon.
- (C) Kinetic energy of the particles is minimum in case of solids.
- (D) The arrangement of particles is most ordered in the case of liquids.

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39. Which of the following sublimates on heating?

- (A) Ice
- (B) Dry ice
- (C) Both (1) and (2)
- (D) None of these

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40. State of matter consists of super energetic and super excited particles in the form of ionized gases?

- (A) Solid
- (B) Liquid
- (C) Plasma
- (D) Bose Einstein Condensate

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41. On heating temperature of the system does not change

- (A) After the melting point is reached, till the entire solid melts.

(B) Before the melting point is reached, till all of the solid melts.

(C) Till solid completely changes into vapour.

(D) When thermometer is faulty.

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42. Anne filled 1L of air in jar of capacity 750 ml. What is the Volume of air in jar ?

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43. Which of the following will diffuse faster?

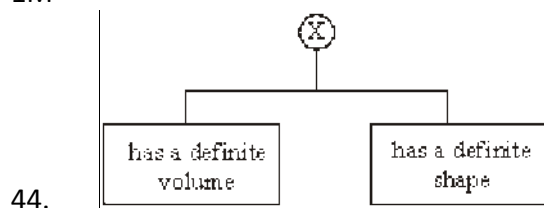
(A) A drop of ink in water.

(B) Oxygen in nitrogen.

(C) Milk in water.

(D) Sugar in salt.

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What can X represent?

(A) Water

(B) Ice

(C) Oxygen

(D) Steam

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45. What type of clothes are comfortable for us in summer?

1M

46. Which is more effective in cooling?

(A) Water at 0°C

(B) Water at 100°C

(C) Ice at 0°C

(D) All of these

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47. Melting points of four solids A, B, C & D are 773°C, 826°C, 932K and 1238°C respectively. Which of these has strongest force of attraction between its particles?

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48. A rubber band changes its shape when stretched. Can it be regarded as solid?

1M

49. What are the factors on which evaporation depends?

1M

50. Define diffusion.

1M

51. Evaporation

(A) Makes the surrounding cold.

(B) Makes the surrounding hot.

(C) Does not affect the surroundings.

(D) Makes the surrounding sometimes cold and sometimes hot.

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52. What are volatile liquids?

1M

53. Arrange the particles of the three states of matter in order of increasing randomness.

1M

54. A certain substance 'A' cannot be compressed but takes up the shape of any container in which it is placed. What is the physical state of "A"?

1M

55. Which state of matter is characterized by the following properties :

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56. Why does our palm feel cold when some ice is put on it ?

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57. What is dry ice ? How is it prepared ?

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58. Define latent heat of vaporization ?

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59. Why do we call sponge a solid when it is easily compressible ?

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60. Even two-three crystals of potassium permanganate can impart colour to a large volume of water. Which characteristic property of particles of matter is illustrated by this observation ? 1

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61. Name the process which describes the mixing of copper sulphate crystals and water kept in a beaker on its own ?

1M

62. What is the name of the process due to which dry ice changes into carbon dioxide gas ?

2M

63. For any substance, why does the temperature remain constant during, the change of state?

2M

64. What are the factors, that determine the state of a substance?

2M

65. Why does our palm feel cold when we put some acetone, petrol or perfume on it?

2M

66. How does evaporation cause cooling?

2M

67. What is the cause of evaporation?

2M

68. Liquids generally have lower density as compared to solids. But ice floats on water. Why?

2M

69. Why do solids generally lack the property of diffusion?

2M

70. How will you demonstrate that air contains water vapours?

2M

71. How are freeze-dried foods prepared ? How do they remain preserved for long periods ?

2M

72. Explain why steam at 100°C is more effective for heating purposes than boiling water at 100°C .

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73. How are freeze-dried foods prepared ? How do they remain preserved for long periods ?

2M

74. Why does ice not deposit in the ice chamber of a refrigerator equipped with defrost-technique ? Explain.

2M

75. How will you demonstrate that water vapours are present in air ?

2M

76. Explain why does not the temperature change during change of state from solid to liquid ?

2M

77. Set up a relation between absolute temperature scale and Fahrenheit temperature scale.

2M

78. Why are we able to sip hot tea or milk faster from a saucer rather than a cup?

2M

79. Explain why steam at 100°C is more effective for heating purposes than boiling water at 100°C .

2M

80. Can matter change its state? State the conditions under which it changes.

2M

81. Why does ice not deposit in the ice chamber of a refrigerator equipped with defrost-technique ? Explain.

2M

82. How will you demonstrate that water vapours are present in air ?

2M

83. Explain why does not the temperature change during change of state from solid to liquid ?

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84. Set up a relation between absolute temperature scale and Fahrenheit temperature scale.

2M

85. Give reasons for -

The smell of hot sizzling food reaches you several meters away, but to get the smell from cold food you have to go close.

2M

86. Convert the following temperatures into the Kelvin scale.

(a) 25°C

(b) 373°C

2M

87. What is the physical state of water at?

a) 25°C

b) 0°C

c) 100°C

2M

88. What type of clothes should we wear in summer? Why?

2M

89. How does the water kept in an earthen pot (matka) become cool during summer?

2M

90. Why does a desert cooler cool better on a hot dry day?

2M

91. Convert the following temperature to Celsius scale:

(a) 300 K

(b) 573 K.

2M

92. Why is ice at 273K more effective in cooling than water at same temperature?

2M

93. What is dry ice? Why is it known so?

2M

94. Why do we see water droplets on the outer surface of a glass containing ice-cold water?

2M

95. Give reasons.

- a. Naphthalene balls disappear with time without leaving any residue.
- b. We can get the smell of perfume sitting several metres away.

3M

96. How is ammonia gas used for making ice in ice factories? Explain.

3M

97. Explain the following:

- (i) Ice has lower density than water,
- (ii) We should not wear terylene clothes in summer.
- (iii) How does perspiration during heavy exercise cool the body?

3M

98. Explain the following:

- (i) Ice has lower density than water,
- (ii) We should not wear terylene clothes in summer.
- (iii) How does perspiration during heavy exercise cool the body?

3M

99. Identify each of the following changes of state as evaporation, boiling or condensation. Give reason for your answer,

- (i) Wet clothes dry when spread on a wire.
- (ii) After a hot shower, your bathroom mirror is covered with water.
- (iii) Lava flows into the ocean and steam forms.

3M

100. What is diffusion? Discuss two applications of diffusion of gases.

3M

101. Give reasons for the following:

- (i) Naphthalene balls kept in stored warm clothes disappear over a period of time.
- (a) A gas fills the entire space available.
- (iii) It is easier to remove fresh stains of ink from a cloth than stains caused a few days ago.

3M

102. Give two reasons to justify.

a) Water at room temperature is a liquid.

b) An iron almirah is a solid at room temperature.

3M

103. Discuss briefly three properties of particles of matter.

3M

104. What is diffusion ? Discuss two applications of diffusion of gases.

3M

105. Give reasons for the following ?

(i) Naphthalene balls kept in stored warm clothes disappear over a period of time.

(a) A fluorescent tube glows when electricity is passed through it.

(Hi) It is easier to remove fresh stains of ink from a cloth than stains caused a few days ago.

3M

106. Identify each of the following changes of state as evaporation, boiling or evaporation.

Give reason for your answer,

(i) Wet clothes dry when spread on a wire.

(if) After a hot shower, your bath room mirror is covered with water.

(Hi) Lava flows into the ocean and steam forms.

3M

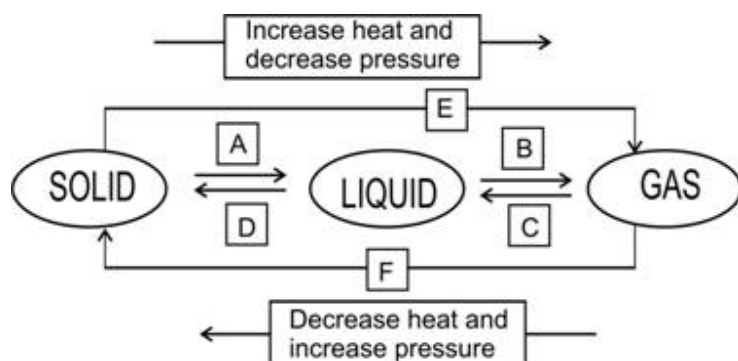
107. Differentiate between evaporation & boiling.

3M

108. What are the characteristics of the particles of matter?

3M

109. Name A, B, C, D, and E & F in the following diagram.



3M

110. Give reason-

- (A) A gas fills completely the vessel in which it is kept.
- (B) A gas exerts pressure on the walls of the container.
- (C) A wooden table should be called a solid.

3M

111. Discuss briefly three properties of particles of matter. >

5M

112. (a) Define evaporation. How does it differ from boiling ? How does evaporation cause cooling ?

(b) Discuss the various factors which increase the rate of evaporation.

5M

113. a) What is evaporation. Explain the factors with which the rate of evaporation.

5M

114. (a) Write any three differences between evaporation and boiling.

(b) Give reason for the following

- (i) clothes dry faster on a windy day.
- (ii) it is easy to sip hot cup of tea from a saucer than from a cup

5M

115. (a) Define the following

(i) Latent heat of vaporization

(ii) boiling point

(b) Give reason for the following

- (i) Steam produces more saviour burns than water which are at 100°C .
- (ii) Temperature remains constant during the change of state of any substance

5M

116. (a) What do you mean by liquefaction ?

Discuss different ways by which liquefaction be achieved ?

(b) How will you demonstrate that particles of matter are constantly moving ? Give two examples. <

5M

117. (a) Define evaporation. How does it differ from boiling ? How does evaporation cause cooling ?

(b) Discuss the various factors which increase the rate of evaporation. >

5M

118. (a) What is humidity? Describe an activity to show the presence of humidity in the atmosphere

(b) Ice at 273 K is more effective in cooling than water at the same temperature. Explain

5M

119. Define the following terms.

Fusion, latent heat of fusion, boiling point, latent heat of vaporization, sublimation.

5M

120. Explain how the general property/characteristics of the matter changes in accordance with its different states. (Write any 5 properties).

5M

121. (a) What do you mean by liquefaction ?

Discuss different ways by which liquefaction be achieved ?

(b) How will you demonstrate that particles of matter are constantly moving ? Give two examples. <