



# PHYSICS

## BOOKS - JNAN PUBLICATION

### PHYSICAL ENVIRONMENT (HEAT)

#### Example

1. On What factors the quantity of heat gained by a body depends?

A. mass of th substance

B. nature fo the substance

C. rise in temperature of the substance

D. on al the above three factors

**Answer:**



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**2. Fill in the blanks:-**

SI unit of heat\_\_\_\_\_.

A. Calorie

B. Joule

C. Kelvin

D. Caloric/joule

**Answer:**



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**3.** The form of energy that produces feeling of hotness is called as \_\_\_\_\_

A. work

B. energy

C. heat

D. none of the above

**Answer:**



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4. Heat necessary to increase  $1^{\circ}C$  temperature of 10gm water \_\_\_\_\_

A. 1 Calorie

B. 1 Joule

C. 10 Calorie

D. 10 Joule

**Answer:**



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5. Which of the following has least specific heat capacity\_\_\_\_\_

A. water

B. iron

C. milk

D. copper

**Answer:**



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**6. Which of the following relations is correct?**

$$Q = \frac{r}{mt} \quad \square$$

$$c = \frac{Q}{mt} \quad \square$$

$$t = \frac{mQ}{r} \quad \square$$

$$m = \frac{mQ}{r} ? \quad \square$$



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7. Two objects of iron and copper of same mass and same amount is given same heat, which object will became heated up quickly.

- A. both at same time
- B. iron will heat up quickly
- C. copper-will heat up quickly

D. we cannot tell definitely

**Answer:**



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**8.** In which season evaporation rate is high?

A. rainy season

B. summer season

C. winter season

D. in all seasons



**Answer:**



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9. If impurities are mixed with pure substance then \_\_\_\_

its boiling point would remain same

its boiling point will decrease

its boiling point will increase

its boiling point may some time increase or decrease



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10. If area of upper surface of any liquid increase\_\_\_

evaporation increase

evaporation decrease

boiling point increase

boiling point decrease.



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11. Which of the following is fastest?

A. evaporation

B. boiling

C. none of the above

D. both are same

**Answer:**



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**12. Boiling occurs \_\_\_**

A. at any temperature and any pressure

B. at fixed pressure specific temperature

C. at any pressure fixed temperature

D. none of the above

**Answer:**



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**13.** If at  $0^{\circ}C$  temperature, 80 calorie heat is given to 1g ice then temperature would be

-----

A.  $0^{\circ}C$

B. more than  $0^{\circ}C$

C. Less than  $0^{\circ}C$

D.  $10^{\circ}C$

**Answer:**



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**14.** Transformation of liquid from solid is called \_\_\_\_\_

melting

boiling condensation

freezing



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**15.** Which of the following has highest heat capacity\_\_\_\_\_

A. soil

B. air

C. water

D. none of the above

**Answer:**



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**16.** \_\_\_\_\_ is neither created nor destroyed, it can only be changed from one form to another.

mass of body

heat

work

energy



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**17.** State whether True or False:

Glass, fat, wax have fixed melting or freezing points.



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**18.** State whether True or False:

Melting and freezing point of ice is  $0^{\circ}C$ .



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**19.** State whether True or False:

Melting point of mercury is  $0^{\circ}C$



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**20.** State whether True or False:

If ice melts into water its volume increase



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**21. State whether True or False:**

A liquid gives up heat when it freezes into a solid.



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**22. State whether True or False:**

If pressure increase melting point of a substance increase.



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**23.** State whether True or False:

Transformation of liquid from vapour is called condensation.



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**24.** State whether True or False:

Boiling point of a liquid does not depend on the area of upper surface.



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**25.** State whether True or False:

Graphite is bad conductor of heat.



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**26.** State whether True or False:

Density of hot air is less.



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**27.** State whether True or False:

Melting point of wax is fixed.



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**28.** State whether True or False:

Pressure of vapour in a closed container increases with the increase in the amount of vapour inside.



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**29.** State whether True or False:

Condensation of water vapour in air produces

cloud.



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**30.** State whether True or False:

Building materials should be good conductor of heat.



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**31.** State whether True or False:

Glass is a bad conductor of heat.



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**32. Fill in the blanks:-**

Heat is measured with \_\_\_\_\_.



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**33. Fill in the blanks:-**

SI unit of heat \_\_\_\_\_.



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**34. Fill in the blanks:-**

Heat is a kind of \_\_\_\_\_.



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**35. Fill in the blanks:-**

In solid heat is transferred by \_\_\_\_\_ process.



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**36.** Fill in the blanks:-

\_\_\_\_\_ has highest specific heat capacity.



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**37.** Fill in the blanks:-

Heat \_\_\_\_\_ the volume of any object.



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**38.** Fill in the blanks:-

Heat comes from sun to earth by \_\_\_\_\_  
process.



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**39.** Fill in the blanks:-

Dew is the example of natural \_\_\_\_\_.



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**40.** Fill in the blanks:-

Specific heat of water \_\_\_\_.



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**41.** Fill in the blanks:-

The amount of Heat required to increase  $1^{\circ}C$  temperature of 1`g water is \_\_\_\_\_.



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**42.** Fill in the blanks:-

Heat lost by the hot body = Heat \_\_\_\_\_ by  
the cold body.



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**43.** Fill in the blanks:-

If \_\_\_\_\_ increases boiling point increases for  
a substance.



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**44.** Fill in the blanks:-

Heat capacity = mass of the body  $\times$  \_\_\_\_\_.



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**45.** Fill in the blanks:-

In conduction heat is transferred by \_\_\_\_\_.



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**46.** Fill in the blanks:-

The density of the solid ice is less than the \_\_\_\_\_ water.



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**47.** Fill in the blanks:-

The process in which a liquid change very rapidly into its \_\_\_\_\_ is called boiling.



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**48.** Fill in the blanks:-

In \_\_\_\_\_ hot liquid remains hot and cold liquid remains cold for a long time.



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**49.** Fill in the blanks:-

The houses made up by clay or mud are \_\_\_\_\_ in winter and \_\_\_\_\_ in summer.



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## 50. Match the following:

Column A	Column B
a) Heat is a kind of	i) to produce a freezing mixture.
b) Condensation of water vapour	ii) is $1083^{\circ}\text{C}$
c) Specific heat of Lead is	iii) different boiling points.
d) Melting point of wax	iv) less than water.
e) In winter wet clothes dry up	v) bad conductor of heat.
f) Ice and salt are mixed in a fixed ratio	vi) in air produces cloud, dew, fog etc.
g) Freezing point of copper	vii) dyne
h) Different liquids have	viii) is not fixed.
i) Boiling point of water is	ix) quicker than rainy season.
j) Glasswool is	x) $100^{\circ}\text{C}$



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## 51. Match the following:

Column A	Column B
a) Boiling point of salty water is more	i) the pull of gravity.
b) Spirit is a	ii) a thin piece of paper.
c) Formation of dew is an example of	iii) than pure water.
d) Heat flow is prevented fully	iv) through radiation.
e) Inside a solid substance	v) volatile substance.
f) Heat comes from sun towards earth	vi) is greater, it evaporates quickly.
g) Heavier air comes downward due to	vii) in a thermoflask.
h) Heat can easily flow through a	viii) natural condensation.
i) When the exposed area of a liquid	ix) heat is transmitted by conduction.



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**52.** What is heat? Write down its units.



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**53.** Which instrument is used to measure heat?



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**54.** SI unit of heat is





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**55.** What is CGS unit of heat?



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**56.** What is the process of solid, changing into liquid called?



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**57.** What is the process of liquid substance changing into solid state called?



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**58.** Write the name of a substance whose melting point is not fixed.



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**59.** Write the name of a substance which increase in volume after melting.



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**60.** Write the name of a substance which decrease in volume after melting.



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**61.** If pressure increases, boiling point of liquid also increases \_\_\_\_\_ using this principle an instrument is made. Write its name.



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**62.** Name a volatile substance



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**63.** What is the melting point of mercury?



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**64.** Give an example of natural process of condensation.



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**65.** By which process does heat come to earth from sun?



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**66.** Write the name of two substances which are bad conductor?



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**67.** Who invented thermoflask?



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**68.** What is the boiling point of liquid hydrogen?





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**69.** If pressure increase does it help or hinder the boiling process?



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**70.** When a liquid evaporates quickly?



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**71.** What is conduction?



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**72.** What is good conductor of heat?



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**73.** What is bad conductor of heat?



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74. In which layer of water do the aquatic animals feel more comfortable during summer?



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75. How could you find out specific heat capacity of a substance?



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**76.** What is specific latent heat? What is the SI and CGS unit of specific latent heat?



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**77.** Why evaporation of water is faster when poured in a plate than a glass?



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**78.** Why it takes much time to dry cloth in rainy season?



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**79.** What is latent heat?



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**80.** What is freezing or solidification? Is the melting point and the freezing point of a

substance same?



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**81.** Latent heat of fusion of ice is 80 cal/g, what does this signify.



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**82.** The Latent heat of steam is 537 cal/g, what does this signify.



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**83.** Why are burns caused by steam more painful than those caused by hot water at same temperature?



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**84.** What is boiling? How is boiling affected by pressure?



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**85.** Why is water used as a coolant in car radiator?



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**86.** Why we feel cool when spirit is poured on our hand?



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**87.** Why it takes much time to cook food in mountain region?



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**88.** In summer it is comfortable to stand below a fan when perspiring heavily. Why?



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**89.** What is dew?





**Watch Video Solution**

**90.** What is conduction?



**Watch Video Solution**

**91.** What is radiation?



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**92.** Name three factors that determine the quantity of heat absorbed by a body.



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**93.** What is specific latent heat? What is the SI and CGS unit of specific latent heat?



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**94.** Discuss the features of conduction.



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**95.** Discuss the features of radiation.



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**96.** State the difference between evaporation and boiling.



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**97.** On what factors the boiling point of a liquid depend?



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**98.** Specific heat capacity of a substance is  $0.12 \text{ cal}/(\text{gm} \cdot ^\circ\text{C})$ , mass is  $10 \text{ gm}$ . If there is  $20^\circ\text{C}$  increase in temperature then how much heat is required?



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**99.** To rise temperature of 30 gm water from  $20^{\circ}C$  to  $50^{\circ}C$  how much heat is required?



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**100.** How much heat is required to melt 5 gm ice?



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**101.** In a tumber there is 100 gm ice, 6400 calorie heat is given to it. What will be the result?



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**102.** How much heat is required for 40g water to boil and turn into vapour?



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**103.** Mass of an object is 200 gm and specific heat 0.09 calorie/gm  $C$ . To rise temperature of that object from  $20^{\circ}C$  to  $90^{\circ}C$  how much heat is required?



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**104.** Calculate the thermal capacity of 200 gm Aluminium. Specific heat capacity of Aluminium  $0.21 \text{ calorie } gm^{-1} \text{ } ^{\circ}C^{-1}$ .



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**105.** How much heat is required to rise temperature from  $-8^{\circ}C \rightarrow 50^{\circ}C$  of 10gm ice. Specific heat of ice  $0.5 \text{ calorie gm}^{-1}^{\circ}C^{-1}$ .



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