



# PHYSICS

## AAKASH INSTITUTE ENGLISH

### MOCK\_TEST\_17

#### Example

1. Two substance of same size are made of same material but one is hollow and the other

is solid. They are heated to same temperature,  
then

- A. Rate of heat radiation in solid is more
- B. Rate of heat radiation in hollow is more
- C. Rate of heat radiation in both are equal
- D. Depends on mass of the sphere

**Answer: C**



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2. A body cools in 10 minutes from  $60^{\circ}C$  to  $40^{\circ}C$ . What will be its temperature after next 10 minutes? The temperature of the surroundings is  $10^{\circ}C$ .

A. Greater than  $20^{\circ}C$

B. Less than  $20^{\circ}C$

C. Equal to  $20^{\circ}C$

D. Equal to  $40^{\circ}C$

**Answer: B**



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3. If the temperature of the body is increases from  $27^{\circ}\text{C}$  to  $327^{\circ}\text{C}$  then wavelength corresponding to maximum intensity becomes

- A. Double
- B. Remain same
- C. Half
- D. Thole

**Answer: C**





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4. Which of the following law states that "good absorbes of heat are good emmitters"?

A. Stefan`s law

B. Wein`s displacement law

C. Newton`s law

D. Kirchhoffs law

**Answer: D**



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5. The ratio of time taken by ice on the surface of ponds or lakes to become triple the thickness is

A. 1 : 2

B. 1 : 3

C. 1 : 1

D. 1 : 9

**Answer: D**



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6. For perfectly black body emissivity ( $e$ ) is

A.  $0 < e < 1$

B.  $e = 0$

C.  $e > 1$

D.  $e = 1$

**Answer: D**



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7. A body cools in 3 minute from  $90^{\circ}\text{C}$  to  $80^{\circ}\text{C}$ .  
The temperature reduce to  $70^{\circ}\text{C}$  in next (If  
temperature of surroundings is  $20^{\circ}\text{C}$ )

A. 2.54 minutes

B. 2 minutes

C. 6 minutes

D. 3.54 minutes

**Answer: D**



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8. If there is no gravity i.e. acceleration due to gravity is zero then which method of heat transfer is not possible

A. Radiation

B. Natural convection

C. Conduction

D. All of these

**Answer: B**



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9. Which of the following statement is correct

A. Good emitter are bad absorber

B. Good electrical conductor is also a good thermal conductor and vice-versa always

C. Good electrical conductor is also a good thermal conductor but good thermal conductors need not be good electrical conductors

D. Good absorbers are good reflector

**Answer: C**



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**10.** A black body, at temperature  $T$  K emits radiation at the rate of  $81 \text{ W/m}^2$ . If the temperature falls to  $t = T/3$  K, then the new rate of thermal radiation will be

A.  $(81)^2 \frac{\text{W}}{\text{m}^2}$

B.  $27 \text{ W/m}^2$

C.  $243 \text{ W/m}^2$

D.  $1 \text{ W/m}^2$

**Answer: D**



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**11.** If 2 is a zero of the polynomial  $ax^2 - 2x$  then the value of 'a' is .....

A. 0.08

B. -0.08

C. 0.04

D. -0.04

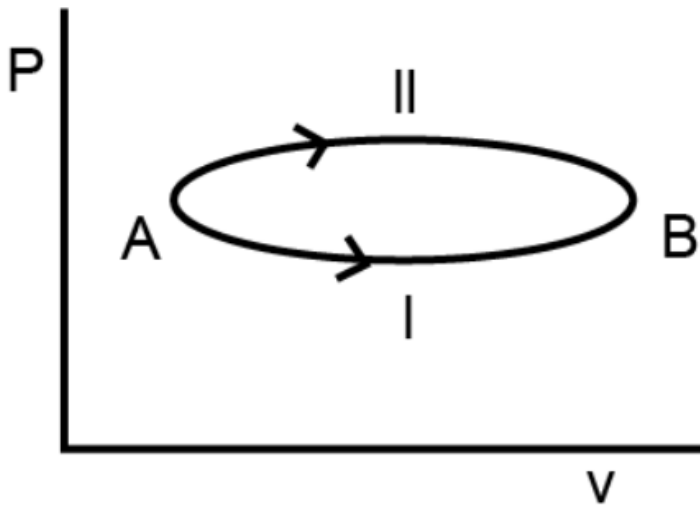
**Answer: A**



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**12.** Two path 1 and 2 are shown in figure. If the change in internal energies are  $U_1$  and  $U_2$  for

path 1 and 2 respectively, then



A.  $U_1 = U_2$

B.  $U_1 > U_2$

C.  $U_1 < U_2$

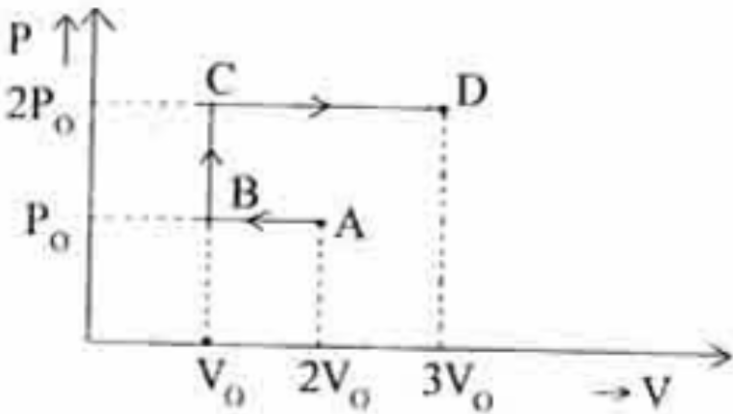
D.  $U_1 = 2U_2$

**Answer: A**



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**13.** The work done by the gas in the process shown in given P-V diagram is



A.  $P_0V_0$

B.  $2P_0V_0$

C.  $3P_0V_0$

D.  $\frac{P_0V_0}{2}$

**Answer: C**



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**14.** For a gaseous state if heat supplied to the system is 100 J and work done by the system is 25 J. then internal energy of the system is



A. 125 J

B. 100 J

C. 50 J

D. 75 J

**Answer: D**



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**15.** Internal energy of an ideal gas change's  
with change in its

A. Pressure only

B. Volume only

C. Temperature only

D. Temperature and pressure

**Answer: C**



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