Physicsaholics

DPP – 1

Video Solution on Website:- https://physicsaholics.com/home/courseDetails/54

Video Solution on YouTube:- https://youtu.be/ywVgjA2pU4c

Q 1. The freezing point on a thermometer is marked as -20° and the boiling point as 130°. A temperature of human body (34°C) on this thermometer will be read as:
(a) 31° (b) 51°
(c) 20° (d) none of these

Q 2. In a temperature scale called Z , the boiling point of water is 65Z and freezing point is -14Z. Then the temperature T = - 98 Z corresponds on the Fahrenheit scale to
(a) – 191F (b) -159 F
(c) 79 F (d) none of these

Q 3. If a thermometer reads freezing point of water as 20^0 C and boiling point 150^0C . How much thermometer reads when the actual temperature is 60^0 C ?
(a) 98^0 C (b) 110^0 C
(c) 40^0 C (d) 60^0 C

Q 4. A centigrade and a Fahrenheit therometers are dipped in boiling water. The water temperature is lowered until the Fahrenheit thermometer reads 140^0 C . The fall in temperature registered by centigrade thermometer is
(a) 80^0 C (b) 40^0 C
(c) 50^0 C (d) 90^0 C

Q 5. 100 gm of ice at 0ºC is mixed with 100 g of water at 100ºC. What will be the final temperature of the mixture ?
(A) 10ºC (B) 20ºC (C) 30ºC (D) 40ºC

Q 6. A lead bullet of 10g travelling at 300 m/s strikes against a block of wood and comes to rest. Assuming 50% of heat is absorbed by the bullet, the increase in its temperature is (specific heat of lead = 150 J/kg. K)
(a) 100^0C (b) 125^0C (c) 150^0C (d) 200^0C

Q 7. Equal masses of three liquids A, B and C have temperatures 10°C, 25°C and 40°C respectively. If A and B are mixed, the mixture has a temperature of 15°C. If B and C are mixed, the mixture has a temperature of 30°C. If A and C are mixed, the mixture will have a temperature of
(a) 16°C (b) 20°C (c) 25°C (d) 29°C

Q 8. On increasing temperature of water from freezing point to boiling point its specific heat

(a) remains constant
(b) first increases then decreases
(c) first decreases then increases
(d) decreases throughout

Q 9. Three different liquids with equal masses (m), specific heat as s_A, s_B and s_C & initial temperature as T_A, T_B & T_C are kept closed in a isolated container, then -

(a) final temperature of mixture will be $\frac{1}{3}(T_A + T_B + T_C)$ if $s_A = s_B = s_C$

(b) heat given by liquid A to liquid B & C will be $\frac{ms_A}{3}(2T_A - T_B - T_C)$ if $s_A = s_B = s_C$

(c) heat absorbed by liquid C will be $\frac{ms_C}{s_A+s_B+s_C}[s_A(T_A - T_C) + s_B(T_B - T_C)]$

(d) heat absorbed by liquid A is $\frac{ms_A}{3}(T_B + T_C - 2T_A)$ if $s_A = s_B = s_C$

Answer Key

Q.1 a	**Q.2 b**	**Q.3 a**	**Q.4 b**	**Q.5 a**
Q.6 c	**Q.7 a**	**Q.8 c**	**Q.9 a,b,c,d**	