The Brigade School@ G and W

Total points 15/30

Class 10 Physics Internal Assessment
Marks 20

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Class: *

10 A

✗ 1. Differentiate between heat capacity and specific heat capacity based on (i) definition (ii) SI unit * 2/4

(i) Heat Capacity of a body is the amount of heat energy required to raise a temperature by 1K or 1 degree C ; where as, Specific Heat Capacity of a body is defined as heat capacity per unit mass of the body of that substance.

(ii) Si unit of Heat Capacity is joule per kelvin (J K^-1) and for Specific Heat Capacity it is joule per kilogram per kelvin (J kg^-1 K^-1).

Feedback

Heat capacity is the amount of heat required to raise the temperature of entire body by 1 degree C SI unit = J/K
Specific heat capacity of a substance is the amount of heat required to raise the temperature of unit mass of the body of that substance by 1 degree C SI unit J/Kg K 2+1

✗ 2. A radio active substance X undergoes the following emissions in the sequence alpha, gamma, alpha, beta respectively. If the atomic mass (A) of final product is 206 and its atomic number (Z) is 82. Write the complete nuclear reaction from original radioactive substance Y to X. (With reasoning) * 0/4

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Feedback

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✓ 3. Draw a neat labelled diagram to show deflection of radioactive radiation in (i) an electric field (ii) magnetic field. * 4/4

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✓ 4. How is real depth related to apparent depth when a ray of light travels from one medium to another. (state the formula) * 2/2

Refractive Index = Real Depth / Apparent Depth.

Feedback

Refractive index = Real depth/ Apparent depth

✗ 5. With the help of a diagram compare the position, size and nature of image formed by a convex lens when the object is kept (i) Beyond 2F (ii)Between F and 2 F * 3/4

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✓ 6. State two conditions under which refraction of light does not take place when it moves from one medium into another. * 2/2

(i) When the refractive index of the two media is the same.
(ii) When the incident ray is perpendicular to the media and passes without deviation.

Feedback

1. When incident ray is normal to surface separating the two media / incident angle is zero degree
2.When refractive index of both media is the same

✓ 7. Differentiate between alpha particle, beta particle and gamma radiation based on ionizing power. * 2/2

Alpha Particle has maximum ionizing power i.e 10,000 times that of gamma rays ; Beta Particle has an ionizing power of 100 times of gamma rays ; and Gamma Radiation has minimum ionizing power.

Feedback

alpha particle - Maximum, beta particle- less than alpha, gamma- least

✗ 8. Calculate the mass of ice required to lower the temperature of 300g of water at 40ºCto water at 0ºC. Specific latent heat of ice = 336 J/g; Specific heat capacity of water = 4.2 J/gºC. * 0/3

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Feedback

Hot body (water) mass = m1=300g; sp.heat of water = 4.2 J/gºC; t1= 40ºC
Cold body (ice) m2= ?, L= 336 J/g; t2 = 0ºC; Final temp = 0ºC
A/c to principle of mixtures
Heat gained by ice= Heat lost by water
m2 x L= m1 x c x (40-0)0ºC
m2 = 300 x 4.2 x 40 / 336 = 150 g

✗ 9. Based on the characteristic/use identify the electromagnetic radiation. (i) produce fluorescence on striking a zinc sulphide screen (ii) used in radio therapy (iii) can penetrate through human flesh but they are stopped by bones (iv) used in television transmission. * ···/4

(i) X- rRays, Gamma Rays, UV Rays
(ii) Gamma Rays
(iii) X - Rays
(iv) Radio Waves

Feedback

(i) UV radiation/ X ray
(ii) Gamma rays
(iii) X-ray
(iv) radio waves

✗ 10. What happens when a ray of light travels from denser to rarer medium and incident angle is greater than critical angle? * 0/1

In this condition, no refracted ray is obtained. The incident ray is totally reflected.

Feedback

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