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# Physics Questions for CDS, CGL Tier 1 and 10+2 Exams

## Physics Quiz 80

Directions: Study the following question carefully and choose the right answer.

**1. A boy throws four stones of same shape, size and weight with equal speed at different initial angles with the horizontal line. If the angles are 150, 300, 450 and 600 at which angles the stone will cover the maximum horizontally?**

A. 150    B. 300    C. 450    D. 600

**2. The most familiar form of radiant energy in sunlight that causes tanning and sun burning of human skin, is called**

A. Ultraviolet radiation    B. Visible radiation    C. Infrared radiation  
D. Microwave radiation

**3. Consider the following statements**

**1. Clear sky appears blue due to poor scattering of blue wavelength of visible light.**

**2. Red part of light shows more scattering than blue light in the atmosphere.**

**3. In the absence of atmosphere, there would be no scattering of light and sky will look black.**

**Which of the statements given above is/are correct?**

A. Only 1    B. 1 and 2    C. Only 3    D. All of these

**4. Hairs of a shaving brush cling together when the brush is removed from water due to**

A. Viscosity    B. Surface tension    C. Friction    D. Elasticity

**5. Which one of the following is not result of surface tension?**

- A. Vapour formation above the liquid surface
- B. Convex shape of liquid meniscus
- C. Liquid rising in a capillary
- D. Spherical shape of mercury fallen on the floor

**6. Fat can be separated from milk in a cream separation because of**

- A. Cohesive force    B. Gravitational force    C. Centrifugal force
- D. Centripetal force

**7. A perfect black body has the unique characteristic feature as**

- A. A good absorber only
- B. A good radiator only
- C. A good absorber and a good radiator
- D. Neither a radiator nor an absorber

**8. Laser is a device to produce**

- A. A beam of white light    B. Coherent light    C. Microwaves    D. X-rays

**9. Earthquake (shock) waves are**

- A. Infrasonic waves    B. Ultrasonic waves    C. Seismic    D. Infrared waves

**10. By which one of the following, an old written material which cannot be read easily, can be read**

- A.  $\gamma$ -rays    B. X-rays    C. IR-rays    D. Radiofrequency waves

**Correct Answers:**

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>
C	A	C	B	C	C	C	B	C	C

**Explanations:****1.**

As the boy throws stones at different angles with horizontal line, they all moves in a curved path and their motion is known as projectile motion. For projectile motion, the horizontal distance covered by the body is given as

For maximum horizontal distance should be  $45^\circ$

**2.**

The tanning and sun burning of human skin is due to the ultraviolet radiation coming from sun. The sun is the most important source of UV radiations. The wavelength of UV rays varies from  $6 \times 10^{-10}$  m to  $3 \times 10^{-7}$  m and they are very harmful to the living tissues.

**3.**

1. The blue colour of sky on a clear day is due to the scattering of blue wavelength of visible light.

2. The scattering of red part of light is least in comparison to blue light in atmosphere because wavelength of red colour is larger than other colours.

3. If there is no atmosphere on Earth, then there will be no scattering of visible light and hence, the sky would appear black.

**4.**

If we immerse a shaving brush in water, then inside the water the hairs of the brush remain separated from each other, but when the brush is taken out, the hair stick together. This happens due to surface tension. When brush is taken out, the water film is formed between the hairs and they contract due to surface tension.

## WHAT IS SURFACE TENSION?

- Surface Tension is defined as the tension of the surface film of a liquid caused by the attraction of the particles in the surface layer by the bulk of the liquid, which tends to minimize surface area.
- It is due to the phenomena of surface tension that the drops of water tend to assume a spherical shape to attain minimum surface area.



5.



## WHAT IS SURFACE TENSION?

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6.

Churning of milk is the process which works on the concept of centrifugal force. This process is used to churn out fat from milk by Centrifugal cream separators.

Centrifugal cream separators allow the properties of centrifuge to be applied to butter making.

A centrifuge is a piece of equipment that puts an object in rotation around a fixed axis (spins it in a circle), applying a potentially strong force perpendicular to the axis of spin (outward). The centrifuge works using the sedimentation principle, where the centripetal acceleration causes denser substances and particles to move outward in

the radial direction. At the same time, objects that are less dense are displaced and move to the center.

**7.**

A perfect black body is a good absorber and a good radiator.

**8.**

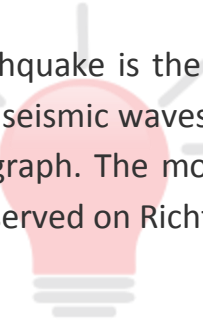
A laser is a device that emits electromagnetic radiation through a process called stimulated emission. Laser light is usually spatially coherent, which means that the light either is emitted in a narrow, low-divergence beam or can be converted into one with the help of optical components such as lenses.

**9.**

An Earthquake is the result of a sudden release of energy in the Earth's crust that creates seismic waves. Earth quakes are recorded with a seismometer also known as seismograph. The moment magnitude of an Earthquake is conventionally recorded and observed on Richter scale.

**10.**

An old written material which cannot be read easily by the naked eye, can be read by using infrared-rays (IR-rays).





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