

MHT CET 2026 Biology Answer Key PDF

Biology

1. **Option (c) Four times**

Explanation:

During one complete turn of the Krebs cycle, oxidation occurs at four distinct steps: three steps involve the reduction of NAD^+ to $\text{NADH} + \text{H}^+$, and one step involves the reduction of FAD to FADH_2 .

2. **Option (c) Reed swamp stage**

Explanation:

In hydrosere ecological succession, the plant communities progress through several stages. The reed swamp stage, characterized by amphibious plants like *Typha* and *Phragmites*, occurs immediately before the sedge meadow stage.

3. **Option (c) Cerebellum**

Explanation:

The cerebellum is the part of the hindbrain responsible for controlling rapid, coordinated skeletal muscle movements. It plays a primary role in maintaining body posture, muscle tone, and spatial equilibrium.

4. **Option (c) Cytoplasmic streaming (Cyclosis)**

Explanation:

Cytoplasmic streaming, also known as cyclosis, is the active, directed movement of fluid cytoplasm within a living cell. This movement facilitates the efficient distribution of organelles, nutrients, and metabolites.

5. **Option (b) Phenylalanine hydroxylase**

Explanation:

Phenylketonuria (PKU) is an inborn error of metabolism caused by a deficiency in the hepatic enzyme phenylalanine hydroxylase. This deficiency prevents the conversion of phenylalanine to tyrosine, leading to toxic accumulation.

Physics

6. **Option (b) Tesla**

Explanation:

The standard SI unit for magnetic induction (also referred to as magnetic flux density) is the Tesla (T). It can also be defined as Weber per square meter (Wb/m^2) or Newton per Ampere-meter.

7. **Option (c) $v = \sqrt{rg \tan \theta}$**

Explanation:

On a banked road of radius r and angle of inclination θ , the optimum safety speed at which a vehicle can travel without relying on friction is given by the formula $v = \sqrt{rg \tan \theta}$.

8. **Option (c) Seconds**

Explanation:

The ratio L/R represents the inductive time constant (τ) of an LR circuit, which dictates the rate of growth or decay of current. Consequently, its SI unit is seconds (s).

9. **Option (c)** $K.E. \propto \frac{1}{\lambda}$

Explanation:

According to Einstein's photoelectric equation, $K.E._{\max} = \frac{hc}{\lambda} - \phi$. Since Planck's constant h , speed of light c , and work function ϕ are constants, the maximum kinetic energy is inversely proportional to the wavelength.

10. **Option (c)** $\frac{14}{5}MR^2$

Explanation:

Using the parallel axis theorem, the moment of inertia of a single sphere about its tangent is $\frac{2}{5}MR^2 + MR^2 = \frac{7}{5}MR^2$. For two identical touching (tangent) spheres, the combined moment of inertia about their common tangent is $2 \times \frac{7}{5}MR^2 = \frac{14}{5}MR^2$.

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