

MHT CET 2026 Biology Answer Key PDF

Biology

1. **Option (b) Velamen**

Explanation:

Velamen is a specialized, multi-layered spongy epidermis found in the aerial roots of epiphytic orchids. It functions primarily to absorb moisture and nutrients directly from the surrounding atmosphere.

2. **Option (c) *Salmonella typhi***

Explanation:

Typhoid fever is a symptomatic bacterial infection caused by the bacterium *Salmonella enterica* serovar Typhi. It is typically transmitted through the ingestion of food or water contaminated with the feces of an infected person.

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

Explanation:

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

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

Explanation:

Cytoplasmic streaming, also known as cyclosis, is the active, directed flow of fluid cytoplasm within a living plant or animal cell. This movement facilitates the rapid distribution of nutrients, organelles, and genetic information.

Physics

5. **Option (b) Tesla (T)**

Explanation:

The standard SI unit for magnetic induction (or magnetic flux density) is the Tesla (T), named in honor of Nikola Tesla. It is defined as one Weber per square meter (Wb/m^2).

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

Explanation:

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

7. **Option (b) Second**

Explanation:

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

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

Explanation:

According to Einstein's photoelectric equation, the maximum kinetic energy is $K.E._{\text{max}} = \frac{hc}{\lambda} - \phi_0$. Since Planck's constant h , speed of light c , and work function ϕ_0 are constants, $K.E._{\text{max}}$ is inversely proportional to wavelength.

9. **Option (b)** $\frac{14}{5}MR^2$

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 spheres, the total moment of inertia about their common tangent is $2 \times \frac{7}{5}MR^2 = \frac{14}{5}MR^2$.

Chemistry

10. **Option (c) Propan-2-one**

Explanation:

Acetone is the simplest and most common aliphatic ketone, containing three carbon atoms with the carbonyl group at the middle position. According to IUPAC nomenclature, its systematic name is propan-2-one.

11. **Option (b) 2,3-dihydroxypropanal**

Explanation:

Glyceraldehyde ($\text{CH}_2(\text{OH})\text{-CH}(\text{OH})\text{-CHO}$) is a three-carbon aldose sugar. With the aldehyde group at carbon-1, the two hydroxyl substituents are located at positions 2 and 3, yielding the IUPAC name 2,3-dihydroxypropanal.

12. **Option (b) 5.9 BM**

Explanation:

The Mn^{2+} ion has a $3d^5$ configuration containing five unpaired electrons ($n = 5$). Calculating the spin-only magnetic moment using $\mu = \sqrt{n(n+2)}$ yields $\sqrt{35} \approx 5.92$ BM.

13. **Option (c) Picric acid**

Explanation:

When phenol is treated with concentrated nitric acid, rapid electrophilic aromatic substitution occurs at both ortho positions and the para position. This leads to the formation of 2,4,6-trinitrophenol, commonly known as picric acid.

14. **Option (c) +7**

Explanation:

In dichlorine heptoxide (Cl_2O_7), oxygen is highly electronegative and carries an oxidation state of -2 . Setting up the neutral molecule equation $2x + 7(-2) = 0$ yields the oxidation state of chlorine as $+7$.