MHT CET 2024 Solution

(April 27 - Shift 1)

Biology Questions

Ques. Question related to Chemical Coordination : Hormones. Solu. Hormones play a vital role in chemical coordination within organisms, regulating various physiological processes.

Ques. Question related to Bacterial DNA : Avery-MacLeod-McCarty experiment.
Solu. Avery, MacLeod, and McCarty's experiment established DNA as the genetic material in bacteria, elucidating its role in heredity.

Ques. Question related to Bacteriophage: Hershey-Chase experiment.
Solu. The Hershey-Chase experiment confirmed that DNA, not protein, is the genetic material of bacteriophages.

Ques. Question related to Ecological Succession.
Solu. Ecological succession refers to the gradual process of change in the species structure of an ecological community over time.

Ques. Question related to Pulmonary Artery.
Solu. The pulmonary artery carries deoxygenated blood from the heart to the lungs for oxygenation.

Ques. Aldose : What type of monosaccharides are fructose and glucose, xylose? they belong to which family based on their functional groups?
Solu. Fructose, glucose, and xylose are aldose monosaccharides, belonging to the family of carbohydrates based on their functional groups.

Ques. Question related to Reproduction in higher and lower plants.
Solu. Reproduction in plants varies between higher and lower plants, encompassing processes like pollination, fertilization, and seed dispersal.

Physics Questions

Ques. A metallic sphere of radius R is charged to a potential V the magnitude of the electric field at a distance r (r > R) from the centre of the sphere is
Solu. The electric field magnitude at a distance r from the center of a charged metallic sphere of radius R is inversely proportional to r.

Ques. The coefficient of performance of a refrigerator is 5 if the temperature inside freezer is -20°C the temperature of the surrounding to which it rejects heat is

Ans. 303. 6 K
Solu. With a coefficient of performance of 5 for a refrigerator and a freezer temperature of -20°C, the temperature to which it rejects heat is 303.6 K.

Ques. Questions related to semiconductor on logic gates
Solu. Semiconductor logic gates are fundamental building blocks in digital electronics, enabling various logical operations.

Ques. Question related to gravitation on time period of satellite
Ques. Question related to electrostatics Current electricity On meter bridge

Ques. Question related to Electrostatics - Coulomb's law

Ques. Which elements have the same Magnetic moment μ? Solu.
Elements with the same magnetic moment μ are those with similar electronic configurations, such as elements in the same group or with the same number of unpaired electrons.

Chemistry Questions

Ques. For irreversible expansion of an ideal gas under isothermal condition the correct option is
Solu. During the irreversible expansion of an ideal gas under isothermal conditions, the correct option depends on factors such as work done and heat transfer.

Ques. The atomic radius of Ag is closest to

Ans. Au
Solu. The atomic radius of Ag is closest to that of Au among the options provided.

Ques. The IUPAC name of the complex ion formed when gold dissolves in aqua regia is :

- **A. tetrachloroaurate (I)**
- **B. dichloridoaurate (III)**
- **C. tetrachloridooaurate(III)**
- **D. tetrachloroaurate(II)**

Ans. C
Solu. When gold dissolves in aqua regia, it forms the tetrachloridooaurate(III) complex ion, represented as [AuCl4]^-.

Ques. Which is Gattermann - Koch reaction?
Solu. Gattermann-Koch reaction involves the synthesis of aldehydes from benzene or its derivatives using carbon monoxide and hydrogen chloride.

Ques. The metal that cannot be obtained by electrolysis of an aqueous solution of its salts is:

- **A. Ag**
- **B. Ca**
- **C. Cu**
- **D. Cr**

Ans. B
Solu. Calcium (Ca) is the metal that cannot be obtained by electrolysis of an aqueous solution of its salts.

Ques. An example of a sigma bonded organometallic compound is:

- **A. Cobaltocene**
- **B. Ruthenocene**
- **C. Ferrocene**
- **D. Grignard's reagent**

Ans. D
Solu.
Grignard's reagent is an example of a sigma-bonded organometallic compound, widely used in organic synthesis.

Ques. The reagent used in the Etard reaction is.....

Ans. Chromyl Chloride (CrO_2Cl_2)
Solu. Chromyl chloride (CrO2Cl2) is the reagent used in the Etard reaction, which oxidizes primary alcohols to aldehydes or carboxylic acids.

Ques. Which of the following is not a neutral ligand?

A. H_20
B. NH_2
C. ONO
D. CO

Ans. C
Solu. Nitrate ion (NO3^-) is a neutral ligand, while nitro (NO2^-) is negatively charged.

Ques. Which of the following is the Reimer-Tiemann reaction?
Solu. Reimer-Tiemann reaction involves the conversion of phenols to salicylaldehydes using chloroform and a strong base.

Ques. How many lattice points in BCC Structure?

Ans. 2
Solu. In a Body-Centered Cubic (BCC) structure, there are 2 lattice points per unit cell.