AIMSET Main Test QP April 2026_Abhay

Time 00:00:00 | Max Marks: 720

Section A

Please attempt all the questions

Marks: 720

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q1 Gadolinium has a low value of third ionisation enthalpy because of

A. ✔ high exchange enthalpy

B. small size

C. high electronegativity

D. high basic character

Ans: A

Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q2 For the reaction $2A \rightleftharpoons B + C$, $K_c = 4 \times 10_{-3}$. At a given time, the composition of reaction mixture is : [A] = [B] = [C] = $4 \times 10_{-3}$, Then, which of the following is correct?

A. Reaction has a tendency to go in forward direction.

B. Reaction has gone to completion in forward direction.

C. ✔ Reaction has a tendency to go in backward direction.

D. Reaction is at equilibrium.

Ans: C

Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q3 $C(s)+H_2O(g) \rightarrow CO(g)+H_2(g)$ The pressure on the system is increased in the above reaction then:

A. [CO] decrease

B. [H_2O] increase

C. [H_2] decrease

D. ✔ all of the above

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q4 How many tripeptide bonds can be formed using combination of three amino acids (i) Glycine (ii) Alanine (iii) Phynylalanine ?

A. 4

B. ✔ 6

C. 5

D. 3

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q5 The difference between amylose and amylopectin is :

A. ✔ Amlyopectin have $1 \rightarrow 4\alpha -$ linkage and $1 \rightarrow 6\alpha -$ linkage

B. Amylose is made up of glucose and galactose

C. Amylose have $1 \rightarrow 4\alpha -$ linkage and $1 \rightarrow 6\beta -$ linkage

D. Amlyopectin have $1 \rightarrow 4\alpha -$ linkage and $1 \rightarrow 6\beta -$ linkage

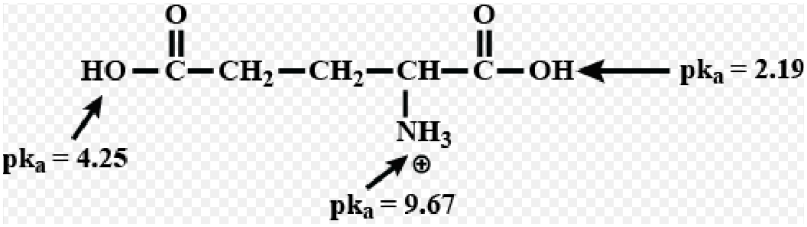
Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q6

The pH(pH at the isoelectric point) of the given amino acid is :



A. 7.48

B. ✔ 5.93

C. 8.05

D. 6.94

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q7 Which of the following is incorrect statement?

A. The radius of hydrated Li^+ is more than that of hydrated Cs^+

B. The formation of S^- is an endothermic process

C. The first ionization potential of Al is less than the first ionization potential of Mg

D. ✔ None of these

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q8 Which of the following statement is correct?

A. IP of $X^+_{(g)}$ > IP of $X_{(g)}$

B. IP of $X_{(g)}$ > IP of $X^-_{(g)}$

C. IP of $X_{(g)}$ > E.A. of $X_{(g)}$

D. ✔ All of the above

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q9 The reaction, $2Br^-_{(aq)} + Sn2^+_{(aq)} \rightarrow Br_2$ (1) + Sn (s) with the standard potentials, $E^\circ_{Sn} = -0.114V$, $E^\circ_{Br2} = +1.09V$, is:

A. ✔ Spontaneous in reverse direction

B. At equilibrium

C. Non-spontaneous in reverse direction

D. Spontaneous in forward direction

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q10 Calculate the potential of an indicator electrode versus the standard hydrogen electrode, which originally contained 0.1M MnO_{4-} and 0.5M H^+ and which was treated with 50% of the Fe^{2+} necessary to reduce all the MnO_{4-} to Mn^{+2} $MnO_{4-} + 8H^+ + 5e \rightarrow Mn^{2+} + 4H_2O$, $E^0 = 1.51V$ Given: $2.303RT/F = 0.06$.

A. 1.20V

B. 2.47V

C. ✔ 1.47V

D. 1.35V

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q11 Which of the following is correct?

A. ✔ Carbon has higher IE_1 than boron because of smaller atomic size and higher nuclear charge

B. Carbon has higher IE_1 than boron because of smaller atomic size and lower nuclear charge

C. Carbon has lower IE_1 than boron because of smaller atomic size and higher nuclear charge

D. Carbon has lower IE_1 than boron because of smaller atomic size and lower nuclear charge

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q12 Air has three major components : nitrogen,oxygen and argon. Given that one mole of air at sea level is made up of 78% nitrogen, 21% oxygen, and 1% argon, by volume. What is the density of air? Assume that gases behave in an ideal manner. (Atomic mass of argon is 40 amu)

A. ✔ 1.3 g/L

B. 0.65 g/L

C. 29 g/L

D. 14.62 g/L

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q13 10 ml mixture of CO, CH_4 and N_2, exploded with an excess of oxygen, gave a contraction of 6.5 ml. There was a further contraction of 7ml when the residual gas was treated with KOH. Volume of CO, CH_4 and N_2 respectively, is :

A. 4 ml, 3 ml, 5 ml

B. ✔ 5 ml, 2 ml, 3 ml

C. 1 ml, 8 ml, 9 ml

D. 2 ml, 6 ml, 4 ml

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q14 One day it was raining heavily and prateek filled water in the cooler he switched it on, because of the humidity he could feel arise in the temperature inside his house so he switched it off, suddenly prateek had to leave town for some urgent work and when he returned to his town after a week he found that the coolers was filling and a foul smell was all around, he could see tiny organisms in that water. Which disease has the highest chance of attacking the members of his family?

A. Cancer

B. Diabeties

C. Tuberculosis

D. ✔ Malaria

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q15 Water contains 88.89% of A by weight is decomposed into its elements B and oxygen. Pure C is a poor conductor of electricity and hence it is acidified using dilute sulphuric acid. When an electric current is passed through acidulated water, using platinum electrons, hydrogen gas is evolved at cathode and oxygen gas is evolved at D. What is A?

A. Water

B. Sulphuric Acid

C. ✔ Oxygen

D. Hydrogen

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q16 Which molecules/ions are most paramagnetic?

A. ✔ B2

B. C2

C. O_2^+

D. O_2^-

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q17 Which among the following has highest bond energy?

A. CO

B. ✔ CO

C. N2

D. N2+

Ans: B
Solution:

Subject:	Topic:	Sub Topic:

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q18 The non-linear structure is possessed by:

A. ✔ $SnCl_2$

B. NCO^-

C. NO_2^+

D. CS_2

Ans: A
Solution:

Subject:	Topic:	Sub Topic:

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q19 Which of the following interaction lies in the range of 8-42 kJ/mol?

A. H2....H_2O

B. HCl....HCl

C. ✔ H_2O....HF

D. All of the above

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q20 The number of carbon atoms per unit cell of diamond unit cell is:

A. 4

B. 1

C. ✔ 8

D. 6

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q21 Tin cry refers to:

A. Conversion of white to grey tin

B. Tin plating

C. Conversion of white tetrahedral to white rhombohedral tin

D. ✔ Emission of sound while bending a tin rod

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q22 When hydrated aluminia is treated with an aqueous NaOH solution, it gives-

A. ✔ $NaAlO_2$

B. $Na(Al_2O_3)$

C. $NaAl_2O$

D. Both (2) and (3)

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q23 The light metal in the periodic table is:

A. H

B. Mg

C. Ca

D. ✔ Li

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q24 The element having very high electron affinity but zero ionization enthalpy is:

A. He (due to inert gas configuration)

B. Be (due to fully filled subshell)

C. H (due to presence of allotropes)

D. ✔ None of the above

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q25 Consider the following reactions of Hydrogen peroxide (H2O2): I. PbS + H2O2 -----> PbSO4 + H20 II. MnO4- + H2O2 + H+ -------> Mn2+ + O2 + H2O III. H2O2 + O3 --------> H2O + 2O2 IV. MnO2 + H2O2 ----------> MnO + O2 + H2O In which of the above reactions does H2O2 act as a reducing agent?

A. ✔ I, II and III

B. I, II and IV

C. II, III and IV

D. I, III and IV

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q26 Which of the following alkali metal ions has the lowest ionic mobility in an aqueous solution?

A. Na+

B. K+

C. ✔ Li+

D. Cs+

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q27 What is the correct IUPAC name for sodium nitroprusside?

A. Sodium pentacyanonitrosyl ferrate(III)

B. ✔ Sodium pentacyanonitrosyl ferrate(II)

C. Sodium nitroferricyanide

D. Sodium nitroferrocyanide

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q28 Which of the following is the correct IUPAC name of H2[PtCl6]?

A. Hydrogen hexachloroplatinate(IV)

B. ✔ Dihydrogen hexachloroplatinate(IV)

C. Hydrogen hexachloroplatinic(IV) acid

D. Hexachloroplatinic(IV) acid

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q29 When steam is passed through red hot iron, the substances formed are:

A. $Fe_2O_3 + H_2$

B. ✔ $Fe_3O_4 + H_2$

C. $FeO + H_2$

D. $FeO + O_2 + H_2$

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q30 Which of the following lanthanoid elements is regarded as the hardest?

A. Lanthanum (La)

B. Samarium (Sm)

C. ✔ Lutetium (Le)

D. Ytterbium (Yb)

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q31 Which of the following sulphide ores offers an exception and is concentrated by chemical leaching instead of froth flotation?

A. ✔ Argentite (Ag2S)

B. Galena (PbS)

C. Copper pyrite (CuFeS2)

D. Sphalerite (ZnS)

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q32 Given below are certain cations. Using inorganic qualitative analysis, arrange them in increasing group number from I to VI. A. Al3+ B. Cu2+ C. Ba2+ D. Co2+ E. Mg2+ Choose the correct answer from the options given below:

A. B, C, A, D, E

B. E, C, D, B, A

C. E, A, B, C, D

D. ✔ B, A, D, C, E

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q33 Partial oxidation of methane with Ni/Al2O3 catalyst gives:

A. HCHO

B. HCOOH

C. H2O and CO2

D. ✔ CO and H2O

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question	Question	Bloom's Taxonomy:	Non	Timing:	Max Marks: 4	Negative

Type: MCQ	Mode: Low	Remember	Mandatory	00:00:00		Marks: -1

Q34 2,3-dimethyl-2-butene can be prepared by heating which of the following compounds with a strong acid?

A. (CH3)2 CH-CH(CH3)-CH=CH2

B. ✔ (CH3)3C-CH=CH2

C. (CH3)2C=CH-CH2-CH3

D. (CH3)2CH-CH2-CH=CH2

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q35 Geometrical isomers differ in:

A. position of functional group

B. position of atoms

C. length of carbon chain

D. ✔ spatial arrangement of atoms

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q36 How many structural isomers are possible for the compound having molecular formula C3H5Br3?

A. ✔ 5

B. 4

C. 6

D. 8

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q37 Chlorobenzene reacts with Mg in dry ether to give a compound (A). A and ethanol continue to react in order to produce?

A. Phenol

B. Ethylbenzene

C. ✔ Benzene

D. Phenylther

Ans: C
Solution:

Subject:	Topic:	Sub Topic:

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q38 The nitration of nitrobenzene with fuming HNO3 will give:

A. 1,3-dinitrobenzene

B. ✔ TNB

C. Picric acid

D. 1,4-dinitrobenzene

Ans: B
Solution:

Subject:	Topic:	Sub Topic:

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q39 Which would be least reactive towards bromine?

A. ✔ Nitrobenzene

B. Anisole

C. Phenol

D. Chlorobenzene

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q40 How many unique substitution products can be formed when ethane reacts with bromine under sunlight?

A. 8

B. 6

C. 5

D. ✔ 9

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q41 Ethylene oxide when treated with Grignard reagent yields :

A. secondary alcohol

B. tertiary alcohol

C. cyclopropyl alcohol

D. ✔ primary alcohol

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q42 The reduction of nitrogen to ammonia, carried out by the enzyme nitrogenase needs:

A. 2e-

B. 4e-

C. ✔ 8e-

D. 6e-

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q43 Which of the following is a correct statement?

A. α-carbon of α-amino acid is assymetric except for glycine

B. ✔ All proteins of the human body are found in L-form

C. The human body can synthesize all the proteins it needs

D. At pH=7, both amino and carboxylic groups exist in ionized form

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q44 The compound which on reduction with LiAlH4 gives two different alcohols:

A. ✔ CH3COOCH3

B. CH3COOC2H5

C. CH3COCH3

D. CH3CHO

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q45 Ethyl acetate on reaction with excess of methyl magnesium chloride and dil.H2SO4 gives:

A. dimethyl ketone

B. iso propyl alcohol

C. ethyl aceto acetate

D. ✔ t-butyl alcohol

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q46 Benzophenone can be converted into benzene using:

A. anhydrous AlCl3

B. acidified dichromate

C. ✔ fused alkali

D. sodium amalgam in water

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q47 The reagent used for the separation of acetaldehyde from acetophenone is:

A. ✔ NaHSO3

B. C6H5NHNH2

C. NH2OH

D. NaOH and I2

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q48 The correct IUPAC name for the following compound, which is a substituted alkene with both halide and alcohol functional groups, is: CH3-CH(OH)-CH=C(Cl)-CH2-CH3

A. 4-chloro-3-hexen-2-ol

B. ✔ 4-chloro-hex-3-en-2-ol

C. 3-chloro-4-hexen-2-ol

D. 3-chloro-hex-4-en-2-ol

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q49 How many structural isomers are possible for the compound having the molecular formula C3H5Br3 ?

A. 5

B. 4

C. ✔ 6

D. 8

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q50 An aromatic amine (A) reacts with alcoholic potash and another compound (Y), producing a foul smelling gas with the formula C6H5NC. The compound (Y) is obtained by reacting compound (Z) and chlorine (Cl2) in the presence of slaked lime. What is the identity of compound(Z)?

A. C6H5NH2

B. CH3OH

C. ✔ CH3CH2OH

D. CHCl3

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q51 A reaction that can convert acetamide to methanamine is:

A. Gabriel's pthalamide synthesis

B. Stephen's reaction

C. Carbylamine reaction

D. ✔ Hoffmann bromamide reaction

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q52 Which of the following is a non-narcotic analgesic?

A. Morphine

B. Codeine

C. ✔ Aspirin

D. Heroin

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q53 Dettol is a mixture of:

A. ✔ Chloroxylenol and Terpineol

B. Chloroxylenol and Chloramphenicol

C. Phenol and Terpineol

D. Bithional and Chloroxylenol

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q54 For a first order reaction A------> Products, the rate of reaction at [A] = 0.2 M is 10^-2 mol L^-1 min^-1. The half-life period for the reaction will be:

A. ✔ 832 sec

B. 440 sec

C. 416 sec

D. 14 sec

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q55 Assertion(A): A reaction can have zero acivation energy. Reason(R): The minimum amount of energy required by reactant molecules so that their energy becomes equal to threshold value, is called activation energy.

A. Both (A) and (R) are true and (R) correctly explains (A)

B. ✔ Both (A) and (R) are true and (R) does not correctly explains (A)

C. (A) is true but (R) is false

D. (A) is false but (R) is true

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q56 Concentrated nitric acid is 70% HNO3. The amount of concentrated nitric acid solution that should be used to prepare 250 mL of 2.0 M HNO3 would be:

A. 90.0 g conc. HNO3

B. 70.0 g conc. HNO3

C. 54.0 g conc. HNO3

D. ✔ 45.0 g conc. HNO3

Ans: D

Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q57 Enthalpy of the reaction, CH4 (g) + 1/2 O2 (g) ----------> CH3OH (l) , is negative. If the enthalpy of combustion of CH4 and CH3OH are x and y respectively, then which relation is correct?

A. ✔ x>y

B. x

C. x=y

D. x>=y

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q58 If little heat is added to ice ⇌ liquid equilibrium in a sealed container, then:

A. pressure will rise

B. Temperature will rise

C. ✔ No change in P and T

D. Temperature will fall

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q59 Which gas when passed through dilute blood will impart a cherry red colour to the solution?

A. CO2

B. COCl2

C. NH3

D. ✔ CO

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q60 If an iron rod is dipped in CuSO4 solution, then:

A. Blue colour of the solution turns red

B. ✔ Brown layer is deposited on iron rod

C. No change occurs in the colour of the solution

D. None of the above

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q61 Two point charges, Q1 and Q2, are located at a distance of 3 meters from each other. If Q1 = +4 microcoulombs and Q2 = -2 microcoulombs, what is the force of attraction between them?

A. 6.67 × 10^-8 N

B. ✔ 4.44 × 10^-5 N

C. 8.89 × 10^-5 N

D. 1.33 × 10^-4 N

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q62 An object of mass 2 kg is moving in a circular path of radius 1 meter with a constant speed of 10 m/s. What is the centripetal force acting on the object?

A. 5 N

B. 10 N

C. ✔ 20 N

D. 40 N

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q63 A light ray is incident on a glass slab at an angle of 30 degrees. If the refractive index of the glass is 1.5, what is the angle of refraction?

A. 12 degrees

B. ✔ 20 degrees

C. 30 degrees

D. 45 degrees

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q64 An object of mass 5 kg is lifted vertically by a force of 50 N. If the acceleration due to gravity is 9.8 m/s^2, what is the net force acting on the object?

A. 0 N

B. 50 N

C. ✔ 98 N

D. 148 N

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q65 A convex lens has a focal length of 20 cm. If an object is placed at a distance of 30 cm from the lens, what is the image distance?

A. ✔ 10 cm

B. 20 cm

C. 30 cm

D. 40 cm

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q66 A particle is moving in a straight line with an initial velocity of 10 m/s. If its acceleration is 2 m/s^2, what is its velocity after 5 seconds?

A. 40 m/s

B. 10 m/s

C. 30 m/s

D. ✔ 20 m/s

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q67 A bullet of mass 10g moving at 1000m/s penetrates a wooden block and comes to rest after traveling 5cm. The average force of resistance offered by the block is:

A. 2.5 × 10^5 N

B. ✔ 2.5 × 10^4 N

C. 2.5 × 10^6 N

D. 2.5 × 10^3 N

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q68 The position of a particle moving along the x-axis is given by x = 3t^2 - 4t + 5. The velocity of the particle when t = 2 s is:

A. 10 m/s

B. 14 m/s

C. 16 m/s

D. ✔ 18 m/s

Ans: D
Solution:

Subject:	Topic:	Sub Topic:

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q69 Two charges of magnitude 5 C and -3 C are placed 10 cm apart in air. The force between them is:

A. 2.3 × 10^8 N

B. 1.8 × 10^9 N

C. ✔ 8.4 × 10^8 N

D. 4.2 × 10^9 N

Ans: C
Solution:

Subject:	Topic:	Sub Topic:

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q70 A convex lens of focal length 20 cm forms a real image of a object placed 30 cm in front of it. The magnification of the image is:

A. 1/3

B. ✔ 1/2

C. 2/3

D. 3/2

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q71 A block of mass 2 kg is moving with a velocity of 5 m/s on a horizontal frictionless surface. A force of 20 N is applied to the block in the direction opposite to the motion. What is the speed of the block after it has travelled 10 meters?

A. 4.5 m/s

B. ✔ 2.5 m/s

C. 3.5 m/s

D. 5.5 m/s

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q72 A projectile is launched from the ground at an angle of 30° above the horizontal with a speed of 20 m/s. Neglecting air resistance, what is the maximum height reached by the projectile?

A. 40 m

B. 20 m

C. 10 m

D. ✔ 30 m

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q73 A circuit consists of a resistor of 2 Ω and a capacitor of capacitance 0.1 F connected in series with a 12 V battery. What is the time constant of the circuit?

A. 0.2 s

B. ✔ 0.5 s

C. 2 s

D. 5 s

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q74 An object of mass 5 kg is attached to a spring of force constant 100 N/m. If the object is displaced from its equilibrium position by 0.1 m and released, what is the frequency of its oscillation?

A. ✔ 10 Hz

B. 5 Hz

C. 2 Hz

D. 20 Hz

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q75 A converging lens has a focal length of 20 cm. An object is placed at a distance of 30 cm from the lens. What is the position and magnification of the image formed?

A. 60 cm, 1/3

B. 10 cm, 3

C. 60 cm, 3

D. ✔ 10 cm, 1/3

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q76 A disc of radius 2 m and mass 100 kg rolls on a horizontal floor. Its centre of mass has a speed of 20 cm/s. How much work is needed to stop it?

A. 1 J

B. ✔ 3 J

C. 30 J

D. 2 J

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q77 A uniform spherical shell gradually shrinks maintaining its shape. The gravitational potential at the centre:

A. inreases

B. ✔ decreases

C. remains constant

D. oscillates

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q78 The gravitational potential at the centre of a solid sphere is V. If the radius of the sphere is doubled while keeping its mass unchanged then, the gravitational potential on the surface of the new sphere will be:

A. 2V

B. V/2

C. 3V

D. ✔ V/3

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question	Question	Bloom's Taxonomy:	Non	Timing:	Max Marks: 4	Negative

Type: MCQ	Mode: Low	Remember	Mandatory	00:00:00		Marks: -1

Q79 A particle is moving along the path y = x^2 from x = 0 to x = 2 m. Then the distane travelled by the particle is:

A. 4 m

B. √20 m

C. ✔ > √20 m

D. < √20 m

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q80 A soldier is firing 20 bullets per second from his gun having a muzzle speed of 150 m/s. The mass of each bullet is 50 g. If they strike the wall and rebound with the same speed, then the force on the wall is:

A. ✔ 300 N

B. 75 N

C. 6OO N

D. 150 N

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q81 A car sometimes overturns while taking a turn. When it overturns, it is:

A. ✔ the inner wheel which leaves the ground first

B. the outer wheel which leaves the ground first

C. both the wheels leave the ground simultaneously

D. either wheel leaves the ground first

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q82 A block can slide on a smooth incline plane of inclination θ kept on the floor of a lift. When the lift is descending with a retardation 'a', the acceleration of the block relative to the incline is:

A. ✔ (g + a) sinθ

B. (g - a)

C. gsinθ

D. (g - a) sinθ

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q83 The force constant of a wire does not depend on:

A. Nature of the material

B. Radius of the wire

C. Length of the wire

D. ✔ None of the above

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q84 Select the wrong statement about pressure:

A. Pressure is a scalar quantity

B. Pressure is always compressive in nature

C. Pressure at a point is same in all directions

D. ✔ None of the above

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q85 Assertion(A): The periodic time of a hard spring is more as compared to the soft spring.
Reason(R): The spring constant of a hard spring is less.

A. Both (A) and (R) are true and (R) correctly explains (A)

B. ✔ Both (A) and (R) are true and (R) does not correctly explains (A)

C. (A) is true but (R) is false

D. (A) is false but (R) is true

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q86 Given below are two statements:
Statement I: No sustained interference pattern is obtained when two electric bulbs of the same power are taken.
Statement II: Phase difference between waves coming out of electric bulbs is not constant.

A. Statement I is false but Statement II is true

B. Both statement I and II are false

C. ✔ Both statement I and II are true

D. Statement I is true but statement II is false

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q87 What speed should a galaxy move with respect to us so that the sodium line at 589.0 nm is observed at 589.6 nm?

A. ✔ 164 km/s

B. 332 km/s

C. 102 km/s

D. 306 km/s

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q88 While capturing solar energy for commercial purposes, we use:

A. ✔ Parabolic mirrors

B. Plane mirrors

C. Convex mirrors

D. Concave mirrors

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q89 A small air bubble is at the centre of a glass sphere of radii 5 cm. When it is viewed from outside what will be the position of the image?

A. 10/3 cm from the surface near the eye

B. 7.5 cm from the surface of the sphere

C. At infinity

D. ✔ At the same place as that of object

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q90 The size of the image formed by a convex lens is one-fourth of the size of a real object. If the focal length of the lens is 30 cm, then the distance of the object from the lens is:

A. 120 cm

B. 90 cm

C. ✔ 150 cm

D. 60 cm

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q91 Given below are two statements:
Statement I: The de Broglie wavelength associated with a material particle depends on its charge and nature.
Statement II: The wave nature of particles in sub-atomic domain is significant and measureable.

A. Both statement I and II are correct

B. Both statement I and II are incorrect

C. Statement I is correct but Statement II is incorrect

D. ✔ Statement I is incorrect but statement II is correct

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q92 For what kinetic energy of a neutron will the associated de Broglie wavelength be 1.40 × 10^-10 m?

A. 1.1×10^-2 eV

B. ✔ 4.2×10^-2 eV

C. 3.3×10^-2 eV

D. 2.1×10^-2 eV

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q93 Which source is associated with a line emmision spectrum?

A. ✔ Neon street light

B. Electric fibre

C. Red traffic life

D. Sun

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q94 The fraction of the original number of radioactive atoms that disgenerates (decays) during the average lifetime of a radioactive substance will be:

A. 1/e

B. 1/1+e

C. e-1/e+1

D. ✔ e-1/e

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q95 In a depletion region of a diode:
(a) There are no mobile charges.
(b) An equal number of holes and electrons exist, making the region neutral.
(c) Recombination of holes and electrons has taken place.
(d) Immobile charged ions exist.

A. (a), (d)

B. (b), (c)

C. ✔ (a), (c) and (d)

D. (b), (d)

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q96 Two amplifiers of voltage gain 20 each, are cascaded in series. If 0.01 volt a.c. input signal is applied across the first amplifier, the output a.c. signal of the second amplifier in volts is:

A. 2

B. ✔ 4

C. 0.01

D. 0.2

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q97 The collector current in a common base amplifier using p-n transistor is 24 mA. If 80% of the electrons released by the emitter are accepted by the collector, then the base current is numerically:

A. 6mA and leaving the base

B. 3mA and leaving the base

C. ✔ 6mA and entering the base

D. 3mA and entering the base

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q98 If all linear dimensions of an inductor are tripled, then self-inductance will become (keeping the total no. of turns per unit length constant).

A. ✔ 27 times

B. 9 times

C. 3 times

D. 1/3 times

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q99 The sensitivity of a potentiometer can be increased by :

A. increasing the potential gradient

B. decreasing the length of potentiometer wire

C. ✔ decreasing the current in the potentiometer wire

D. all of these

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q100 Resistance of a tungsten wire at 150 °C is 133Ω . Its resistamce temperature coefficient is 0.0045/°C. The resistance of this wire at 500°C will be-

A. 180Ω

B. 225Ω

C. 317Ω

D. ✔ 258Ω

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q101 Resistance of a carbon resistor determined from colour codes is (22000 ± 5%)Ω. The colour of third band must be:

A. yellow

B. ✔ orange

C. red

D. green

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q102 A simple electric motor has an armature resistance of 1Ω and runs from a d.c. source of 12V. It draws a current of 2A when unloaded. When a certain load is connected to it, its speed reduces by 10% of its initial value. The current drawn by loaded motor is:

A. ✔ 3A

B. 6A

C. 2A

D. 1A

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q103 The electric potential at the surface of a charged solid sphere of insulator is 20 V. The value of electric potential at its centre will be

A. 40V

B. 20V

C. ✔ 30V

D. zero

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q104 Two point charges each of charge +q are fixed at (+a,0) and (-a, o). Another positive point charge q placed at the origin is free to move along x-axis. The charge q at origin in equilibrium will have;

A. maximum force and minimum potential energy

B. minimum force and maximum potential energy

C. maximum force and maximum potential energy

D. ✔ minimum force and minimum potential energy

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q105 The X-ray beam can be deflected by:

A. Magnetic field

B. Electric field

C. Both (1) and (2)

D. ✔ None of these

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q106 Given below are two statements:
Statement I: Net charge of an electric dipole is zero.
Statement II: An electric dipole consists of two equal and opposite charges separated by a very small distance.

A. ✔ Both statement I and II are correct

B. Statement I is correct but statement II is incorrect

C. Both statement I and II are incorrect

D. Statement I is incorrect but statement II is correct

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q107 The Ampere law is based on which theorem?

A. Green's theorem

B. Gauss divergence theorem

C. ✔ Stroke's theorem

D. Maxwell theorem

Ans: C
Solution:

Subject:	Topic:	Sub Topic:

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q108 Two small bar magnets are placed in the air at a distance r apart. The magnetic force between them is proportional to:

A. r^2

B. r^-2

C. r^-3

D. ✔ r^-4

Ans: D
Solution:

Subject:	Topic:	Sub Topic:

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q109 Given below are two statements:
Statement I: Time-dependent magnetic field generates an electric field.
Statement II: Direction of the electric field generated from the time-variable magnetic field does not obey Lenz's law.

A. Both statement I and II are correct

B. ✔ Statement I is correct but statement II is incorrect

C. Both statement I and II are incorrect

D. Statement I is incorrect but statement II is correct

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q110 During an adiabatic process, the pressure of gas is found to be proportional to the fourth power of its absolute temperature. The ideal gas would be:

A. ✔ CH2

B. H2

C. He

D. The mixture of H2 and He

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q111 One mole of an ideal monoatomic gas undergoes a process described by the equation PV^3 = constant. The heat capacity of the gas during this process is:

A. 3/2 R

B. 5/2 R

C. 2R

D. ✔ R

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q112 Assertion(A): Thermodynamic process in nature is irreversible.
Reason(R): Dissipative effects cannot be eliminated.

A. ✔ Both (A) and (R) are true and (R) correctly explains (A)

B. Both (A) and (R) are true and (R) does not correctly explains (A)

C. (A) is true but (R) is false

D. (A) is false but (R) is true

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q113 A metal rod is placed freely on a smooth horizontal surface at a temperature of 25°C. The temperature of the surroundings is then increased to 100°C. During the heating of the rod:

A. The rod will remain at the same length

B. Mechanical stress develops on the rod

C. ✔ Length of the rod increases due to thermal expansion

D. All of the above

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q114 Bridges are declared unsafe after a long time of their use due to:

A. Elastic after effect

B. ✔ Elastic fatigue

C. Plasticity

D. Both of (1) and (2)

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q115 Gas is found to obey the law P^2V = constant. The initial temperature and volume are T and V. If the gas expands to a volume 3V, its final temperature becomes:

A. T/3

B. T/√3

C. 3T

D. ✔ None of these

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q116 A body of mass 2 kg initially at rest moves under the action of an applied horizontal force of 7N on a table with a coefficient of kinetic friction = 0.1. The work done by the applied force in 10 s is:

A. ✔ 882 J

B. 635 J

C. 247 J

D. 120 J

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q117 A mass m (moving along the x-axis) with velocity v collides and stickes to mass of 3m moving vertically upward (along the y-axis) with velocity 2v. The final velocity of the combination is:

A. 3/2 vî + 1/4 vĵ

B. ✔ 1/4 vî + 3/2 vĵ

C. 1/3 vî + 2/3 vĵ

D. 2/3 vî + 1/3 vĵ

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q118 The magnitude of any physical quantity:

A. depends on the method of measurement

B. ✔ does not depend on the method of measurement

C. is more in the SI system than in the CGS system

D. is directly proportional to the fundamental units of mass, length and time

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q119 What is the radius of gyration of a uniform rod whose length is L and passes through the centre of mass?

A. L/√3

B. L/√2

C. ✔ L/2√3

D. L^2/12

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q120 By what percentage does the kinetic energy increase, if the linear momentum is increased by 50%?

A. 25%

B. 50%

C. 100%

D. ✔ 125%

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q121 "A plant shows two traits controlled by different genes. When dominant allele of one gene is present, it completely masks the expression of the second gene, regardless of its alleles. If a dihybrid cross gives a 9:3:4 ratio, which of the following best explains this interaction?"

A. Duplicate gene action

B. ✔ Recessive epistasis

C. Dominant epistasis

D. Incomplete Dominance

Ans: B
Solution:

Subject:	Topic:	Sub Topic:

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q122 "In a test cross involving two genes located on the same chromosome, the parental combinations are significantly higher than recombinant types. If recombination frequency is found to be 20%, what can be inferred?"

A. Genes are unlinked

B. ✔ Genes are 20 map units apart

C. Crossing over is absent

D. Genes are on differient chromosomes

Ans: B
Solution:

Subject:	Topic:	Sub Topic:

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q123 In a large population, frequency of allele “A” is 0.7. Assuming equilibrium, what will be the proportion of heterozygous individuals?

A. 0.49

B. 0.21

C. ✔ 0.42

D. 0.09

Ans: C

Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q124 "A disease appears in every generation and affects both males and females equally. However, unaffected parents never produce affected offspring. This pattern most likely represents:"

A. Autosomal Recessive

B. Mitrochondrial Inheritance

C. X-linked Recessive

D. ✔ Autosomal Dominant

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q125 In a cross, the heterozygote expresses both parental traits distinctly without blending. This is an example of:

A. Incomplete Dominance

B. Polygenic Inheritance

C. Multiple Alleles

D. ✔ Co-dominance

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q126 A population of insects becomes resistant to pesticide over generations. Which statement is most accurate?

A. ✔ Resistant individuals were already present

B. Pesticide induces mutations in insects

C. Resistance develops due to need

D. All insects adapted simultaneously

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q127 Which one of the following sequences was proposed by Darwin and Wallace for organic evolution?

A. Variations->Natural Selection->Overproduction->Constancy of population size

B. Overproduction->Variations->Constancy of population size->Natural Selection

C. Variations->Constancy of population size->overproduction->Natural Selection

D. ✔ Overproduction->Constancy of population size->Variations->Natural Selection

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q128 Which one of the following features is closely related with the evolution of humans?

A. Loss of tail

B. ✔ Shortening of Jaws

C. Binocular Visions

D. Flat nails

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q129 The earliest known members of the horse family belong to the genus:

A. ✔ Hyracotherium

B. Equus

C. Mesohippus

D. Merrychipus

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q130 A population of a species invades a new area. Which of the condition will lead to adaptive radiation?

A. Area with a large number of habitats having very low food supply

B. Area with a single type of vacant habitat

C. ✔ Area with many types of vacant habitats

D. Area with many habitats occupied by a large number of species

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q131 Read the following statements and select the option which includes only correct statements:

A. Theocodants are extant ancestors of crocdiles and birds.
B. Mammals have evolved from sauropsids.
C. Snakes are closer to lizards and tuataras.
D. Birds are closer to dinosaurs than crocodiles.

A. (A) and (B)

B. ✔ (C) and (D)

C. (A) and (C)

D. (A), (C) and (D)

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q132 Dinosaurs dominated the world in which of the following geologocal area

A. Coenozoic

B. Jurassic

C. ✔ Mesozoic

D. Devonion

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q133 Adaptations for evolutionary significance:

A. develop throughout thelifetime of organisms and are then passed on to their offspring

B. develop after a population encounters a change in environment

C. ✔ are inherited characteristics

D. decreases the chances of the organism surviving until maturity

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q134 Consider the given two facts :
I. Theoretically, population size will grow exponentially if everybody reproduced maximally.
II. Population sizes in reality are limited.
What inference(s) can be definitely drawn from the given facts ?
A. There had been competition for resources.
B. the best adapted survive the competition.

A. ✔ Only (A)

B. Only (B)

C. Both (A) and (B)

D. Neither (A) nor (B)

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q135 Consider the given two statements :
Assertion(A) : Natural Selection can be regarded as 'differential equation'.
Reason(R) : Nature selects for fitness.

A. Both (A) and (R) are true and (R) correctly explains (A)

B. ✔ Both (A) and (R) are true and (R) does not correctly explains (A)

C. (A) is true but (R) is false

D. (A) is false but (R) is true

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q136 A form of mimicry where a harmless species have evolved to imitate the warning signals of a harmful species directed at a predator of them both is called as:

A. Mullerian mimicry

B. ✔ Batesian mimicry

C. Aposematism

D. Camouflage

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q137 Consider the two statements:
I. Haemoglobin in humans adapted to very high altitudes has a lower binding affinity for oxygen than that found in humans living at the sea level.
II. Lower affinity of haemoglobin even at low partial pressures.

A. Both I and II are correct and II explains I

B. Both I and II are correct but II does not explain I

C. I is correct but II is incorrect

D. ✔ Both I and II are incorrect

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q138 The relationship between Nitrosomonas and Nitrobacter can be described as:

A. Mutualism

B. ✔ Commensalism

C. Competition

D. Ammensalism

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q139 Organisms that are highly valuable in learning about phloem transport are:

A. ✔ Aphids

B. Humming birds

C. Leaf miners

D. Caterpillars

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q140 The earth is an open system with respect to:

A. Organisms

B. Chemicals

C. ✔ Energy

D. All of the above

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q141 Of the total cost of various ecosystem services, the cost of climate regulation and habitat for wildlife is about:

A. 6%

B. 10%

C. ✔ 12%

D. 50%

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q142 Soil salinity is measured by:

A. Parameter

B. Caloriemeter

C. ✔ Conductivity meter

D. Potometer

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q143 The exotic species , introduced in India for its flower and leaf is:

A. Lantana

B. ✔ Water hyacinth (Eicchornia)

C. Parthenium

D. All are correct

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q144 Newly formed Biosphere Reserve of India (2013) is:

A. Pachmarhi

B. Himalaya

C. Cold desert

D. ✔ Panna

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q145 Choose the wrong pair:

A. Cenchrus-Savanna

B. Abies-Coniferous forest

C. Quercus-Broad leaf forest

D. ✔ Tectona-Temperate forest

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q146 In photosystem-I, the first electron acceptor is:

A. ferredoxin

B. Cytochrome

C. Plastocyanin

D. ✔ an iron-sulphur protein

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q147 Sun Basket' is:

A. the device to utilize sun rays directly to meet

B. ✔ the requirement of heat energy the sufficient amount of sunlight stored in a cell

C. A device for taking sunbath

D. All of the above

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q148 In photosynthesis carbon dioxide is converted to carbohydrates. It is a _____ process.

A. Reductive

B. Oxidative

C. Catabolic and exergonic

D. ✔ None of the above

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q149 Accessory pigments if photosynthesis in higher plants:
1. include chlorophyll-b, xanthophylls and carotenoids.
2. absorb light and transfer electrons to chlorophyll-a.
3. protect chlorophyll-a from photo-oxidation.

A. ✔ Only 1 and 3 are correct

B. Only 1 and 2 are correct

C. Only 2 and 3 are correct

D. 1, 2 and 3 are correct

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q150 For each ATP produced, how many H passes through F0 from the intermembrane space to the matrix down the electrochemical proton gradient?

A. 3

B. 2

C. ✔ 4

D. 1

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q151 Assertion(A): Carbohydrates are more suitable for the production of energy in the body than proteins and fats.
Reason(R): Carbohydrates can be stored in the tissues as glycogen for use in the production of energy, whenever necessary.

A. Both (A) and (R) are true and (R) correctly explains (A)

B. ✔ Both (A) and (R) are true and (R) does not correctly explains (A)

C. (A) is true but (R) is false

D. (A) is false but (R) is true

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q152 Consider the following two statements:
I. Fermentation serves an important purpose in muscle cells during exercise.
II. It is the only mechanism of ATP production under such conditions.

A. Both I and II are correct and II explains I

B. Both I and II are correct but II does not explain I

C. ✔ I is correct but II is incorrect

D. I and II both are incorrect

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q153 Dr. F Went noted that if coleoptile tips were removed and placed on agar for one hour, the agar would produce a bending when placed on one side of freshly cut coleoptile stumps. Of what significance is this experiment?

A. It is made possible the isolation and exact identification of auxin

B. ✔ It is the basis for quantitative determination of small amounts of growth-promoting substances

C. It demonstrated polar movement of auxins

D. It supports the hypothesis that IAA is auxin

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q154 A plant, regarded as a short-day plant will flower only when:

A. days are shorter than nights

B. days are shorter than a certain critical value

C. nights are shorter than a certain critical value

D. ✔ nights are longer than a certain critical value

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q155 The pineapple which under natural conditions is difficult to blossom has been made to produce fruits throughout the year by application of:

A. ✔ NAA, 2, 4-D

B. GA3

C. Cytokinin

D. IAA, IBA

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q156 The fully developed male gametophyte of an angiosperm is ____ nucleated structure and is _____ on the sporophytes.

A. 2, dependent

B. 3, independent

C. 2, independent

D. ✔ 3, dependent

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q157 All of the following cellular structures are functionally important in the cells of gametophytes of both angiosperms and gymnosperms except:

A. haploid nuclei

B. mitochondria

C. ✔ chloroplasts

D. cell walls

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q158 Given below are two statements:
Assertion(A): In pteridophytes, both the gametophytic and sporophytic phases are multicellular and vascular.
Reason(R): Pteridophytes exhibits diplontic life cycle pattern.

A. Both (A) and (R) are true and (R) correctly explains (A)

B. Both (A) and (R) are true and (R) does not correctly explains (A)

C. (A) is true but (R) is false

D. ✔ (A) is false but (R) is true

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q159 Identify a character that is not unique to archaebacteria:

A. Cell wall structure

B. Cell membrane structure

C. Flagellin Protein Structure

D. ✔ Fatty acid synthetase present

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q160 Consider the following statements about Mycoplasma:

A. They are a genus of bacteria that have a unique cell wall of their own.
B. In their genetic code UGA codes for tryptophan.
C. None of them is pathogenic to humans.
D. They have a large genome.
E. They can be killed by penicillins .
F. They can survive without oxygen.
The number of correct statemenrs is:

A. 1

B. ✔ 2

C. 3

D. 4

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q161 Dinoflagellates:

I. Are mostly marine and photosynthetic
II. Have a cell wall that has stiff cellulose plates on the outer surface.
III. Have two flagellas
IV. Have chloroplasts bound by three membranes.
The correct statements are:

A. I, II and III

B. I, III and IV

C. ✔ I, II, III and IV

D. II, III and IV

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q162 Which part of the animal virus is not reproduced in multiple copies?

A. Capsid

B. Proteins

C. ✔ Envelops

D. Ribosome

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q163 Hammerling's experiments on Acetabularia involved exchanging:

A. ✔ Rhizoid and stalk

B. Cytoplasm

C. Nucleus

D. Gametes

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q164 An organelle present in all plant cells but absent from those of animals is:

A. Mitochondria

B. Peroxisome

C. ✔ Glyoxysomes

D. Centrioles

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q165 Dutrochet has given the concept about the cell in:

A. 1834

B. 1814

C. 1822

D. ✔ 1824

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q166 What would be the number of chromosomes of the aleurone cells of a plant with 42 chromosomes in its root tip cells?

A. ✔ 63

B. 21

C. 42

D. 84

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q167 During mitosis of ER and nucleolus begin to disappear at:

A. late prophase

B. ✔ early prophase

C. late metaphase

D. early metaphase

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q168 Phage genome site on bacterial chromosome resulted in which structure?

A. Nucleic acid

B. Heterocyst

C. ✔ Prophase

D. None of these

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q169 If a flower is to be pollinated by a moth it should be:

A. ✔ heavily scented

B. be shaped like a tulip

C. close about noon

D. be bright coloured

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q170 A fertilized embryo sac of an angiosperm contains:
I. Haploid cells
II. Diploid cells
III. Triploid cells

A. I only

B. I and II only

C. I, II and III

D. ✔ II and III only

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q171 Rarely among angiosperms, the pollen grains influenced the endosperm. This is called as:

A. Meta xenia

B. ✔ Xenia

C. Mesogamy

D. nemec phenomenon

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q172 Masses of pollen grains, i.e., pollinia is found in:

A. Graminae

B. Solanaceae

C. ✔ Orchidaceae

D. Malvaceae

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q173 The function role of sporopollenin is primarily to

A. compromise spore surface that catches the wind and assist in spore dispersal

B. ✔ reduce hydration

C. make spores less dense and able to disperse more readily

D. repel toxic chemicals

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q174 Given below is list. How many of the following have an Adventitious root system? Mustard, Wheat, Grass, Monestra, Banyan

A. One

B. Three

C. Four

D. ✔ Two

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q175 Identify the correct statement(s) regarding the modifications seen in stems :
I. Stem tendrils develop from axillary buds and help plants, such as pea, to climb.
II. Opuntia modifies its stem into flattened structures to protect itself from browsing animals.
III. Underground stems of some plants such as grass and strawberry spread to new niches and when older plants die, and new plants are formed.

A. I, II and III

B. Only II and III

C. ✔ Only III

D. Only I and III

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q176 How many plants among China Rose, Ocimum, sunflower, mustard, Alstonia, guava, Calotropis, and Nerium (Oleander) have opposite phyllotaxy?

A. ✔ Three

B. Four

C. Five

D. Two

Ans: A
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q177 Given below are two statements:
Assertion(A): Presence of pneumatophores are morphological adaptive strategies of marshy plants.
Reason(R): Pneumatophores are modified adventitious roots for gaseous exchange.

A. Both (A) and (R) are true and (R) correctly explains (A)

B. Both (A) and (R) are true and (R) does not correctly explains (A)

C. ✔ (A) is true but (R) is false

D. (A) is false but (R) is true

Ans: C
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q178 Here is the list of certain features: Siliqua, Cypsela, Syngenesious stamens, Schizocarpic fruit, Tap root system, Adventitious root system, Replum, Tetradynamous stamens, Epigynous flowers, basal placentation, Tubular corolla, Reticulate venation, Spikelet, Actinomorphic flower, Zygomorphic flowers How many of them belong to 'Compositae family'?

A. Nine

B. Eight

C. Seven

D. ✔ Ten

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q179 Identify the correct statement:

A. cork cambium is a part of periderm

B. Ground meristem is a cortex and pith of a dicot stem

C. Procambium is a primary vascular tissue

D. ✔ Protoderm is a vascular tissue of a monocot stem

Ans: D
Solution:

Subject:	Topic:	Sub Topic:	

Question Type: MCQ	Question Mode: Low	Bloom's Taxonomy: Remember	Non Mandatory	Timing: 00:00:00	Max Marks: 4	Negative Marks: -1

Q180 In T.S of dicotyledonous root, the innermost layer of the cortex is called _____.

A. Pericycle

B. ✔ Endodermis

C. Pith

D. Metaxylem

Ans: B
Solution:

Subject:	Topic:	Sub Topic:	