Questions: 60 | Time: 01:00 hh:mm | Marks: 61

Q1. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **2 Marks**

Assertion: Ortho substituted anilines are usually weaker bases than anilines.
Reason: This is due to ortho effect.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.
B Assertion and reason both are correct statements but reason is not correct explanation for assertion.
C Assertion is correct statement but reason is wrong statement.
D Assertion is wrong statement but reason is correct statement.

Q2. **Assertion (A):** $(CH_3)_3$ C–O–CH_3 gives $(CH_3)_3$ C–I and CH_3OH on treatment with HI. **1 Mark**
Reason (R): The reaction occurs by S_N1 mechanism.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).
B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).
C Assertion (A) is correct, but Reason (R) is wrong statement.
D Assertion (A) is wrong, but Reason (R) is correct statement.

Q3. **Assertion (A):** 0.1M solution of KCl has greater osmotic pressure than 0.1M solution of glucose at same temperature. **1 Mark**
Reason (R): In solution, KCl dissociates to produce more number of particles.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).
B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).
C Assertion (A) is correct, but Reason (R) is wrong statement.
D Assertion (A) is wrong, but Reason (R) is correct statement.

Q4. **Assertion (A):** An ideal solution obeys Henry's law. **1 Mark**
Reason (R): In an ideal solution, solute-solute as well as solventsolvent interactions are similar to solute-solvent interaction.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).
B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).
C Assertion (A) is correct, but Reason (R) is wrong statement.
D Assertion (A) is wrong, but Reason (R) is correct statement.

Q5. Two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below: **1 Mark**
Assertion (A): The complex $[Cr(H_2O)_3Cl_3]$ does not give precipitate with $AgNO_3$ solution.
Reason (R): The complex $[Cr(H_2O)_3Cl_3]$ is non-ionizable.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).
B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).
C Assertion (A) is correct, but Reason (R) is incorrect statement.
D Assertion (A) is correct, but Reason (R) is incorrect statement.

Q6. Two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below: **1 Mark**
Assertion (A): The molecularity of the reaction H2 + $Br_2 \rightarrow$ 2HBr appears to be 2.
Reason (R): Two molecules of the reactants are involved in the given elementary reaction.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).
B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is correct, but Reason (R) is incorrect statement.

D Assertion (A) is incorrect, but Reason (R) is correct statement.

Q7. Two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below: **1 Mark**

Assertion (A): Sucrose is a non-reducing sugar.

Reason (R): Reducing groups of glucose and fructose are involved in glycosidic bond formation.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is correct, but Reason (R) is incorrect statement.

D Assertion (A) is incorrect, but Reason (R) is correct statement.

Q8. **Assertion (A):** For complex reactions molecularity and order are not same. **1 Mark**

Reason (R): Order of reaction may be zero.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is correct, but Reason (R) is wrong statement.

D Assertion (A) is wrong, but Reason (R) is correct statement.

Q9. **Assertion (A):** Hydrolysis of an ester follows first order kinetics. **1 Mark**

Reason (R): Concentration of water remains nearly constant during the course of the reaction.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is correct, but Reason (R) is wrong statement.

D Assertion (A) is wrong, but Reason (R) is correct statement.

Q10 **Assertion (A):** F_2 has low reactivity. **1 Mark**

Reason (R): F-F bond has low Δ_{bond} H°.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is correct, but Reason (R) is wrong statement.

D Assertion (A) is wrong, but Reason (R) is correct statement.

Q11. For Questions two statements are given — one labelled as Assertion (A) and the other labelled as Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below. **1 Mark**

Assertion (A): $(C_2H_5)_2NH$ is more basic than $(C_2H_5)_3N$ in aqueous solution.

Reason (R): In $(C_2H_5)_2NH$, there is more steric hindrance and +I effect than $(C_2H_5)_3N$.

A Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is true, but Reason (R) is false.

D Assertion (A) is false, but Reason (R) is true.

Q12. Two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below: **1 Mark**

Assertion (A): F - F bond in F_2 molecule is weak.

Reason (R): F atom is small in size.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is correct, but Reason (R) is incorrect statement.

D Assertion (A) is incorrect, but Reason (R) is correct statement.

Q13. Two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below: **1 Mark**

Assertion (A): Acetic acid is stronger than formic acid.

Reason (R): In acetic acid, the electron releasing methyl group makes it difficult to break the O – H bond.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is correct, but Reason (R) is incorrect statement.

D Assertion (A) is correct, but Reason (R) is incorrect statement.

Q14 **Assertion (A):** F_2 is a strong oxidising agent. **1 Mark**
Reason (R): Electron gain enthalpy of fluorine is less negative.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is correct, but Reason (R) is wrong statement.

D Assertion (A) is wrong, but Reason (R) is correct statement.

Q15. Two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below: **1 Mark**
Assertion (A): Sucrose is a non-reducing sugar.
Reason (R): Sucrose has glycosidic linkage.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is correct, but Reason (R) is incorrect statement.

D Assertion (A) is incorrect, but Reason (R) is correct statement.

Q16. For Questions two statements are given — one labelled as Assertion (A) and the other labelled as Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below. **1 Mark**
Assertion (A): The pKa of ethanoic acid is lower than that of Cl - CH_2 - COOH.
Reason (R): Chlorine shows electron withdrawing (I) effect which increases the acidic character of Cl - CH_2 COOH.

A Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is true, but Reason (R) is false.

D Assertion (A) is false, but Reason (R) is true.

Q17. For Questions two statements are given — one labelled as Assertion (A) and the other labelled as Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below. **1 Mark**
Assertion (A): Ammonolysis of alkyl halides is not a suitable method for the preparation of pure primary amines.
Reason (R): Ammonolysis of alkyl halides yields mainly secondary amines.

A Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is true, but Reason (R) is false.

D Assertion (A) is false, but Reason (R) is true.

Q18. Two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below: **1 Mark**
Assertion (A): The C–O–H bond angle in alcohols is slightly less than the tetrahedral angle.
Reason (R): This is due to the repulsive interaction between the two lone electron pairs on oxygen.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is correct, but Reason (R) is incorrect statement.

D Assertion (A) is correct, but Reason (R) is incorrect statement.

Q19 For Questions number 15 to 18, two statements are given — one labelled as Assertion (A) and the other labelled as Reason (R). Select the correct answer to these questions from the codes (a), (b), (c) and (d) as given below. **1 Mark**
Assertion (A): -NH_2 group is o- and p-directing in electrophilic substitution reactions.
Reason (R): Aniline cannot undergo Friedel-Crafts reaction.

A Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is true, but Reason (R) is false.

D Assertion (A) is false, but Reason (R) is true.

Q20 **Assertion (A):** Oxidation of ketones is easier than aldehydes. **1 Mark**
Reason (R): C-C bond of ketones is stronger than C-H bond of aldehydes.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is correct, but Reason (R) is wrong statement.

D Assertion (A) is wrong, but Reason (R) is correct statement.

Q21 **Assertion (A):** Elevation in boiling point is a colligative property. **1 Mark**
Reason (R): Elevation in boiling point is directly proportional to molarity.

A Both Assertion (A) and Reason (R) are correct statements, and Reason (R) is the correct explanation of the Assertion (A).

B Both Assertion (A) and Reason (R) are correct statements, but Reason (R) is not the correct explanation of the Assertion (A).

C Assertion (A) is correct, but Reason (R) is wrong statement.

D Assertion (A) is wrong, but Reason (R) is correct statement.

Q22 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**
Assertion: The decomposition of NH_3 on finely divided platinum surface is first order when the concentration is low, however at higher concentration, the reaction becomes zero order.
Reason: In first order reaction, the rate of reaction is proportional to the first power of the concentration of the reactant.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q23 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**
Assertion: Tollens' reagent, Benedict's solution and Fehling's solution are reducing agents.
Reason: Mild oxidising agents like chlorine or bromine water convert glucose into gluconic acid.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q24 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**
Assertion: Kinetics explains the reaction mechanism.
Reason: Kinetics explains the formation of products.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q25 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**
Assertion: Water boils at 373K as the vapour pressure at this temperature becomes equal to atmospheric pressure.
Reason: Vapour pressure of water is less than 1.013 bar at 373K.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q26 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**
Assertion: Controlled nitration of aniline at low temperature mainly gives m-nitroaniline.
Reason: In acidic medium, $-NH_2$ group gets converted into m-directing group.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q27. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: The observed conductance depends upon the nature of the electrolyte and the concentration of the solution.

Reason: The cell constant of a cell depends upon the nature of the material of the electrodes.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q28. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Ammonia is more basic than water.

Reason: Nitrogen is less electronegative than oxygen.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q29. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Carboxylic acids have higher boiling points than alkanes.

Reason: Carboxylic acids are resonance hybrids.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q30. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Auric chloride ($AuCl_3$) solution cannot be stored in a vessel made of copper, iron, nickel, chromium, zinc or tin.

Reason: Gold is a very precious metal.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q31. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion : On increasing dilution, the specific conductance keep on increasing.

Reason : On increasing dilution, degree of ionisation of weak electrolyte increases and molality of ions also
increases.

A If both Assertion and Reason are correct and the Reason is a correct explanation of the Assertion.

B If both Assertion and Reason are correct but Reason is not a correct explanation of the Assertion.

C If the Assertion is correct but Reason is incorrect.

D If both the Assertion and Reason are incorrect.

Q32. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: In ammonolysis, the order of reactivity of halides with amines is R-1 < R-Br > R-Cl.

Reason: Ammonolysis is a nucleophilic substitution reaction.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q33 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: $[Cu(NH_3)_4]^{2+}$ is coloured while $[Cu(CN)_4]^{3-}$ ion is colourless.

Reason: $[Cu(NH_3)_4]^{2+}$ has dsp^2 hybridisation.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q34 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Molar conductivity of a weak electrolyte at infinite dilution cannot be determined experimentally.

Reason: Kohlrausch law helps to find the molar conductivity of a weak electrolyte at infinite dilution.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q35 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Aromatic aldehydes and formaldehyde undergo Cannizzaro reaction.

Reason : Aromatic aldehydes are almost as reactive as formaldehyde.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q36 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Boiling point of amines are lower than those of alcohols and carboxylic acids.

Reason: Amines are much more soluble in water than less polar solvents like alcohol, ether, etc.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q37 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: The rate ofreaction is always negative.

Reason: Minus sign used in expressing the rate shows that concentration of product is decreasing.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q38 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: The electrical resistance of any object decreases with increase in its length.

Reason: The electrical resistance of any object decreases with increase in its area of cross-section.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q39. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Sodium chloride used to clear snow on the roads.

Reason: Sodium chloride depresses the freezing point of water.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q40. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Carboxylic acids are stabilised by resonance.

Reason: Chloroacetic acid is weaker than acetic acid.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q41. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Zinc displaces copper from copper sulphate solution.

Reason: E^{o} of zinc is -0.76V and that of copper is +0.34V.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q42. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Tert-Butyl alcohol undergoes acid catalysed dehydration readily than propanol.

Reason: 3º Alcohols do not give Victor-Meyer's test.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q43. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Reverse osmosis is used in the desalination of sea water.

Reason: When pressure more than osmotic pressure is applied, pure water is squeezed out of the sea water through the membrane.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q44. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: In Hoffmann bromamide reaction, the amine formed has one carbon atom less than the parent 1° amide.

Reason: N-methyl acetamide undergoes Hoffmann bromamide reaction.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q45. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: p-Anisidine is weaker base than aniline.

Reason: OCH_3 group in anisidine exerts +R effect.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q46. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: 50% of a zero order reaction is completed in 100sec, therefore, 75% reaction will be completed in 150sec.

Reason: The rate constant of a zero order reaction depends upon time.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q47. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Substances like glass, ceramics, etc. having very low conductivity are known as insulators.

Reason: They do not allow the passage of electric current through them.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q48. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Fluoroacetic acid is stronger than chloroacetic acid.

Reason: Carboxylic acids are weak acids and turn blue litmus red.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q49. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Carbon-halogen bond in aryl halide has partial double bond character.

Reason: Aryl halides undergo nucleophilic substitution easily.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q50. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Primary and secondary alcohols can be distinguished by Victor-Meyer's test.

Reason: Primary alcohols form nitrolic acid which dissolves in NaOH to form blood red colouration but secondary alcohols form pseudonitrols which give blue colouration with NaOH.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q51 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Half-life period of a reaction of first order is independent of initial concentration.

Reason: Half-life period for a first order reaction,

$$t_{\frac{1}{2}} = \frac{2.303}{k}\log 2$$

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q52 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: The vapour pressure of a liquid decreases if some non-volatile solute is dissolved in it.

Reason: The relative lowering of vapour pressure of a solution containing a non-volatile solute is equal to the mole fraction of the solute in the solution.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q53 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Carbylamine reaction involves the reaction between 1º amine and chloroform in basic medium.

Reason: In carbylamine reaction, $-NH_2$ group is converted into - NC group.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q54 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Benzyl chloride is more reactive than p-chlorotoluene towards aqueous NaOH.

Reason: The C - Cl bond in benzyl chloride is more polar than C - Cl bond in p-chlorotoluene.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q55 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: The rate of the reaction is the rate of change of concentration of a reactant or a product.

Reason: Rate of reaction remains constant during the complete reaction.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q56 In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: If blood cells are placed in pure water, they swell and burst.

Reason: Due to osmosis, the movement of water molecules into the cell, dilutes the salt content.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q57. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: The rate law equation can be found only by experiment.

Reason: It can be written from stoichiometric equation.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q58. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: $[Al(NH_3)_6]^{3+}$ does not exist in aqueous solution.

Reason: NH_3 is a neutral ligand.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q59. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Chemical kinetics deals with the rate of reaction, the factors affecting the rates of the reactions and the mechanism by which the reaction proceed.

Reason: Nature of reactants, concentration of reactants, products and catalyst affect the rate of reaction.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.

Q60. In these questions, a statement of assertion followed by a statement of reason is given. Choose the correct answer out of the following choices. **1 Mark**

Assertion: Presence of acids and bases activates carbonyl compounds for reaction.

Reason: Carbonyl compounds possess positive and negative centres and provide a seat for electrophilic and nucleophilic attack.

A Assertion and reason both are correct statements and reason is correct explanation for assertion.

B Assertion and reason both are correct statements but reason is not correct explanation for assertion.

C Assertion is correct statement but reason is wrong statement.

D Assertion is wrong statement but reason is correct statement.