**RUBRICS: HSSC 1st ANNUAL EXAMINATION 2022**

**SUBJECT: CHEMISTRY-II (Local) Final 01-07-2022 Time 12:39PM**

| **Q.# /Part #** | **Criteria**  | **Level 1 (Marks)** | **Level 2(Marks)** | **Level 3 (Marks)** | **Level 4 (Marks)** | **Level 5 (Marks)** |
| --- | --- | --- | --- | --- | --- | --- |
| $$2(i)$$ | Reasons of AlCI3 | Correct reason (1.5) | Partially correct reason (1) | Any relevant information (0.5) | Wrong (0) |  |
| NaCI conductor in molten state | Correct reason (1.5) | Partially correct reason (1) | Any relevant information (0.5) | Wrong (0) |  |
| $$2(ii)$$ | BeO amphoteric | Two correct reasons (2) | One correct reason (1) | Any relevant information (0.5) | Wrong (0) |  |
| BeO covalent nature | Correct reason (1) | Any relevant information (0.5) | Wrong (0) |  |  |
| $$2(iii)$$ | PbCI4 unstable PbCI2 stable | Two correct reasons (2) | One correct reason(1) | Any relevant information (0.5) | Wrong (0) |  |
| CCl4 does not undergo hydrolysis | One correct reason (1) | Any relevant information (0.5) | Wrong (0) |  |  |
| $$2(iv)$$ | Oxidation of [Cr(H2O)6]+3  to CrO42- | Three correctly written equations (3) | Two correctly written equations (2) | One correctly written equation (1) | Any relevant information (0.5) | Wrong (0) |
| $$2(v)$$ | Fe+3 as catalyst withMechanism | Correctly written reaction with S2O3-2 (1.5) | Partially correctly written reaction (1) | Any relevant information (0.5) | Wrong (0) |  |
| Correctly written reaction with I-1(1.5) | Partially correctly written reaction (1) | Any relevant information (0.5) | Wrong (0) |  |
| $$2(vi)$$ | Importance of functional group | Any three Correct points of importance(3) | Any two Correct points of importance (2) | Any one Correct point of importance (1) | Any relevant information (0.5) | Wrong (0) |
| $$2(vii)$$ | Differentiation between Structural and stereo isomerism | Two Correct differentiation(3) | One Correct differentiation (2) | Any relevant information (1) | Wrong (0) |  |
| $$2(viii)$$ | Reactions of 1-Butene | Correctly written reaction with Br2/CCl4 (1) | Partially correctly written reaction with Br2/CCl4(0.5) | Wrong (0) |  |
| Correctly written reaction with Cl2/H2O (1) | Partially correctly written reaction with Cl2/H2O (0.5) | Wrong (0) |  |
| Correctly written reaction with Cl2/H2O (1) | Partially correctly written reaction with C6 H5O3H (0.5) | Wrong (0) |  |
| $2(ix$) | Justification of trend of halide ions as reducing agent  | Correct order and justification (3) | Partially correct order and justification (2) | Any relevant information (1) | Wrong (0) |  |
| $2(x$) | Description of Diazonium Salt | Correct statement about Diazonium Salt (1) | Partially Correctly written (0.5) | Wrong (0) |  |  |
|  | Preparation from aniline | Correct preparation from aniline (1) | Partially Correctly written (0.5) | Wrong (0) |  |  |
| Decomposition | Correct decomposition (1) | Partially Correctly written (0.5) | Wrong (0) |  |  |
| $$2(xi)$$ | Mechanism of dehydration | Correctly written two equations (3) | Correctly written one equation (2) | Any relevant information (1) | Wrong (0) |  |
| $$2(xii)$$ | Kolbe-Schmitt reaction | Correct description (1) | Partially Correct description (0.5) | Wrong (0) |  |  |
| Reaction at low temperature (1) | Partially Correct Reaction at low temperature (0.5) | Wrong (0) |  |  |
| Reaction at high temperature (1) | Partially Correct Reaction at high temperature (0.5) | Wrong (0) |  |  |
| 2(xiii) | Differentiation between Aldehydes and Ketones | Correctly written any two tests (3) | Correctly written any one test (2) | Any relevant information (1) | Wrong (0) |  |
| $$2(xiv)$$ | Conversions reactions | Correctly written three equations(3) | Correctly written two equations (2) | Correctly written one equation (1) | Any relevant information (0.5) | Wrong (0) |
| $$2(xv)$$ | Preparation of CH3 COOH | Correctly written preparation from Grignard reagent (1) | Partially Correct preparation from Grignard reagent (0.5) | Wrong (0) |  |  |
| Correctly written preparation from Nitrile (1) | Partially Correct preparation from Nitrile (0.5) | Wrong (0) |  |  |
| Correctly written preparation from Alcohol (1) | Partially Correct preparation from Alcohol (0.5) | Wrong (0) |  |  |
| 2(xvi) | Differences between DNA and RNA  | Correctly written three differences (3) | Correctly written two differences (2) | Correctly written one difference (1) | Any relevant information (0.5) | Wrong (0) |
| 2(xvii) | Classification of Petrochemical raw materials | Correct description of three Classification (3) | Correct description of two Classification (2) | Correct description of one Classification (1) | Any relevant information (0.5) | Wrong (0) |
| 2(xviii) | Refining of Petroleum  | Correct description of refining of petroleum (1) | Partially Correct description of refining of petroleum (0.5) | Wrong (0) |  |
| Correct description of basic principle (fractional distillation) (2) | Partial correct basic principle (1) | Any relevant information (0.5) |
| Basic principle |
| 2(xix) | Types of electronic transitions in the range of 200 – 800 nm (uv/ visible region) | Correct description of any three transitions (3) | Correct description of any two transitions (2) | Correct description of any one transition (1) | Any relevant information (0.5) | Wrong (0) |
| 2(xx) | Differences between Atomic emission and atomic absorption spectroscopy | Correct differentiation of both (3) | Partially correct differentiation (2) | Any relevant information (1) | Wrong (0) |  |
| $$3(a)$$ | Explanation of CO2 as a gas with structure | Correct explanation with structure of CO2 (3) | Partially Correct explanation with structure of CO2 (2) | Any relevant information (1) | Wrong (0) |  |  |
| Explanation SiO2 as a solid with structure | Correct explanation with structure of SiO2 (3) | Partially Correct explanation with structure of SiO2 (2) | Any relevant information (1) | Wrong (0) |  |  |
| $3(b$) | Definition | Correct definition SN1/E1(1) | partially correct definition (0.5) | Wrong (0) |  |  |
| Explanation with mechanism | Correct explanation with mechanism (4) | partially correct explanation with mechanism (3) | Correct mechanism (2) | Any relevant information (1) | Wrong (0) |
| Evidence | Two Correct Evidences (2) | One correct Evidence(1) | Any relevant information (0.5) | Wrong (0) |  |
| $4$ (a) | Description of Geometrical isomerism | Correct definition (1) | Partially correct definition (0.5) | Wrong (0) |  |  |
| Condition of Geometrical isomerism | Correct conditions (2) | Partially correct conditions (1) | Any relevant information (0.5) | Wrong (0) |  |
| Explanation of geometrical isomers with reference to alkene and its example | Correct example of alkene (2) | Partially correct example of alkene (1) | Any relevant information (0.5) | Wrong (0) |  |
| Explanation of geometrical isomers with reference to cycloalkane and its example | Correct example of cycloalkane (2) | Partially correct example of cycloalkane (1) | Any relevant information (0.5) | Wrong (0) |  |
| 4 (b) | Description of Inhibition of enzymes  | Correct description (2) | Partially correct description (1) | Any relevant information (0.5) | Wrong (0) | Wrong (0) |
| Types of inhibitor | Any two correct types (4) | Partially correct two types (3) | Correct any one type (2) | Any relevant information (1) |
| 5 (a) | Iodoform test  | Correct description (1.5) | Partially correct description(1) | Any relevant information (0.5) | Wrong (0) |  |
|  | Applications of Iodoform  | Correct application with alcohol (1.5) | Partially Correct application with alcohol (1) | Any relevant information (0.5) | Wrong (0) |  |
| Correct application with aldehyde (1.5) | Partially Correct application with aldehyde (1) | Any relevant information (0.5) | Wrong (0) |  |
| Correct application with ketone (1.5) | Partially Correct application with ketone (1) | Any relevant information (0.5) | Wrong (0) |  |
| 5 (b) | Ozone hole | Correct description of Ozone hole (2) | Partially Correct description of Ozone hole (1) | Any relevant information (0.5) | Wrong (0) |  |
| Reasons for its formation | Three correct reasons for formation (3) | Two correct reasons for formation (2) | one correct reason for formation (1) | Any relevant information (0.5) | Wrong (0) |
| Protection of Ozone | Correct explanation for protection of Ozone (2) | Partially correct explanation for protection of Ozone (1) | Any relevant information (0.5) | Wrong (0) |  |