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

**SUBJECT: PHYSICS HSSC-II (Local)**

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| **Q.# /Part #** | **Criteria**  | **Level 1 (Marks)** | **Level 2 (Marks)** | **Level 3 (Marks)** | **Level 4 (Marks)** | **Level 5 (Marks)** |
| 2(i) | Scientific reasoning | Correctly using Gauss’s law to explain E=0 inside a car OR correct explanation of Faraday’s cage (3) | Partially correct response (2) | Any relevant information (1) | Wrong answer (0) |  |
| 2(ii) | Figure along with Data | Correct Figure along with Data (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Formulae and Calculation | Applying correct formulae and correct calculation (2) | Partially correct response (1) | Wrong answer (0) |  |  |
| 2(iii) | Circuit diagram | Correct diagram (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Description | Correct description of Potential divider using Rheostat OR Potentiometer (2) | Partially correct response (1) | Wrong answer (0) |  |  |
| 2(iv) | Statement of condition | Correct statement of the condition (1) | Wrong answer (0) |  |  |  |
| Proof | Correct proof (2) | Partially correct proof (1) | Some correct mathematical steps (0.5) | Wrong answer (0) |  |
|  2(v) | Response | Correct response i.e. wires repel each other (1) | Wrong response (0) |  |  |  |
| Explanation | Correct explanation i.e. description of strong magnetic field between the wires OR describing that outward forces will act on wires (2) | Partially correct description OR sketching the correct magnetic field of wires (1) | Some relevant information (0.5) | Wrong answer (0) |  |
| 2(vi) | Definition | Correct definition (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Conversion | Correct calculation of Rh and mentioning Rh in series with Galvanometer (2) | Partially correct response (1) | Some relevant information (0.5) | Wrong answer (0) |  |
|  2(vii) | Logical decision and Explanation | Correct logical decision i.e. the step up transformer cannot increase the power level and its correct explanation i.e. it can increase AC voltage only (3) | Partially correct response (2) | Some relevant information (1) | Wrong answer (0) |  |
| 2(viii) | Statement | Correct statement (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Proof | Correct proof (2) | Partially correct (1) | Some relevant information (0.5) | Wrong answer (0) |  |
| 2(ix) | Explanation/Proof | Correct explanation EITHER using voltage current graphs OR proof using power formula (3) | Partially correct response (2) | Some relevant information (1) | Wrong answer (0) |  |
| 2(x) | Logical decision | Correct logical decision i.e. voltage will lead the current (1) | Wrong answer (0) |  |  |  |
| Illustration with phasor diagram | Correct illustration (2) | Partially correct (1) | Some relevant information (0.5) | Wrong answer (0) |  |
| 2(xi) | Differentiation with suitable examples | Correctly differentiating the three with examples (3) | Partially correct differentiation (2) | Some relevant information (1) | Wrong answer (0) |  |
| 2(xii) | Sketching Stress-Strain Curve | Correct sketching (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Explanation | Correct explanation (2) | Partially correct (1) | Some relevant information (0.5) | Wrong answer (0) |  |
| 2(xiii) | Principle | Mentioning the correct principle (1) | Partially correct response (0.5) | Wrong answer (0) |  |  |
| Explanation and reason of its high speed | Correct explanation along with correct reason (2) | Partially correct (1) | Some relevant information (0.5) | Wrong answer (0) |  |
| 2(xiv) | Reason | Correct reason (3) | Partially correct (2) | Some relevant information (1) | Wrong answer (0) |  |
| 2(xv) | Circuit diagram and input, output wave forms | Correct (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Explanation  | Correct (2) | Partially correct (1) | Some relevant information (0.5) | Wrong answer (0) |  |
| 2(xvi) | Derivation | Correct derivation (3) | Partially correct (2) |  Only Relation(1) | Wrong answer (0) |  |
| 2(xvii) | Calculation | Correct calculation and correct answer (3) | Partially correct calculation (2) | Some correct mathematical steps (1) | Wrong answer (0) |  |
|  |
| 2(xviii) | Calculation | Correct calculation and correct answer (3) | Partially correct calculation (2) | Some correct mathematical steps (1) | Wrong answer (0) |  |
| 2(xix) | Factors | Mentioning the factors correctly (3) | Partially correct response (2) | Some relevant information (1) | Wrong answer (0) |  |
| 2(xx) | Data and Formula | Correct (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Calculation | Correct calculation (2) | Partially correct (1) | Some correct mathematical steps (0.5) | Wrong answer (0) |  |
| 3(a) | Charging | Correct explanation with graph (2.5) | Correct explanation without graph (2) | Partially correct (1) | Some relevant information (0.5) | Wrong answer (0) |
| Discharging | Correct explanation with graph (2.5) | Correct explanation without graph (2) | Partially correct (1) | Some relevant information (0.5) | Wrong answer (0) |
| 3(b) | Statement | Correct (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Derivation  | Correct derivation with diagram (3) | Partially correct (2) | Some relevant information (1) | Wrong answer (0) |  |
| 3 (c) | Data | Correct (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Formulae | Correct relevant formulae (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Calculation | Correct calculation with answer (2) | Partially correct (1) | Some correct mathematical steps (0.5) | Wrong answer (0) |  |
|  4(a) | Definition  | Correct definition (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Derivation | Correct derivation (3) | Partially correct derivation (2) | Some mathematical steps (1) | Wrong answer (0) |  |
| Condition  | Correct (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| 4 (b) | Definition | Correct (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Explanation | Correct explanation with diagram (3) | Partially correct (2) | Some relevant information (1) | Wrong answer (0) |  |
| 4 (c) | Equations | Two correct loop equations (2) | One correct loop equation (1) | Wrong (0) |  |  |
| Calculation | Correct calculation (2) | Partially correct (1) | Some mathematical steps (0.5) | Wrong answer (0) |  |
| 5 (a) | Statement | Correct (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Results | Any three correct results and their graphs (3) | Partially correct description of results (2) | Some relevant information (1) | Wrong answer (0) |  |
| Photon theory | Correct discussion including derivation of photoelectric equation (3) | Partially correct response (2) | Some relevant information (1) | Wrong answer (0) |  |
| 5 (b) | Definition | Correct definition (1) | Partially correct (0.5) | Wrong answer (0) |  |  |
| Explanation | Correct explanation with nuclear equations (3) | Partially correct response (2) | Some relevant information (1) | Wrong answer (0) |  |
| Example of Proton-cycle | Correct description of the example (2) | Partially correct description (1) | Some relevant information (0.5) | Wrong example (0) |  |