

## HSC 1st Year Academic Program Pioneer Batch

### Class and Exam Routine-02

Helpline

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| Date and time                                                                                                                                         | Live Class-01<br>Time-2:30pm                                                                                                                  | Live Class-02<br>Time-6:45 pm | Live Class<br>Online- 8 am to 11:55 pm                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------|
| 16 August 2026 (Sunday)                                                                                                                               | Zoology (Z-02)                                                                                                                                | Chemistry (C-30)              | Daily Live Exam P-18 MCQ (10×1=10); 10 min.<br>Daily Live Exam HM-21 MCQ (10×1=10); 10 min. |
| 18 August 2026 (Tuesday)                                                                                                                              | H.Math (HM-08)                                                                                                                                | Chemistry (C-13)              | Daily Live Exam Z-02 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-30 MCQ (10×1=10); 10 min.  |
| 20 August 2026 (Thursday)                                                                                                                             | Physics (P-19)                                                                                                                                | Botany (B-15)                 | Daily Live Exam HM-08 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-13 MCQ (10×1=10); 10 min. |
| 21 August 2026 (Friday)                                                                                                                               | Physics (P-20)                                                                                                                                | H.Math (HM-22)                | Daily Live Exam P-19 MCQ (10×1=10); 10 min.<br>Daily Live Exam B-15 MCQ (10×1=10); 10 min.  |
| <b>22 August 2026 (Saturday)<br/>Chapter-wise Exam-06</b>                                                                                             | <b>H.Math 1st Paper Chapter-01 (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>                                  |                               |                                                                                             |
| 23 August 2026 (Sunday)                                                                                                                               | Zoology Z-03                                                                                                                                  | Chemistry (C-31)              | Daily Live Exam P-20 MCQ (10×1=10); 10 min.<br>Daily Live Exam HM-22 MCQ (10×1=10); 10 min. |
| <b>24 August 2026 (Monday)<br/>Chapter-wise Exam-07</b>                                                                                               | <b>Chemistry 1st Paper Chapter-03 [Part-01 Lecture C-23 to 30]; (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b> |                               |                                                                                             |
| 25 August 2026 (Tuesday)                                                                                                                              | H.Math (HM-35)                                                                                                                                | Chemistry (C-14)              | Daily Live Exam Z-03 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-31 MCQ (10×1=10); 10 min.  |
| 27 August 2026 (Thursday)                                                                                                                             | Physics (P-21)                                                                                                                                | Botany (B-16)                 | Daily Live Exam HM-35 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-14 MCQ (10×1=10); 10 min. |
| 28 August 2026 (Friday)                                                                                                                               | Physics (P-22)                                                                                                                                | H.Math (HM-23)                | Daily Live Exam P-21 MCQ (10×1=10); 10 min.<br>Daily Live Exam B-16 MCQ (10×1=10); 10 min.  |
| <b>29 August 2026 (Saturday)<br/>Chapter-wise Exam-08</b>                                                                                             | <b>Physics 1st Paper Chapter-03 (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>                                 |                               |                                                                                             |
| 30 August 2026 (Sunday)                                                                                                                               | H.Math (HM-24)                                                                                                                                | Chemistry (C-32)              | Daily Live Exam P-22 MCQ (10×1=10); 10 min.<br>Daily Live Exam HM-23 MCQ (10×1=10); 10 min. |
| <b>31 August 2026 (Monday)</b>                                                                                                                        | <b>H.Math Problem Solving Class-02</b>                                                                                                        |                               |                                                                                             |
| 01 September 2026 (Tuesday)                                                                                                                           | H.Math (HM-36)                                                                                                                                | Chemistry (C-15)              | Daily Live Exam HM-24 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-32 MCQ (10×1=10); 10 min. |
| 03 September 2026 (Thursday)                                                                                                                          | Physics (P-23)                                                                                                                                | Botany (B-17)                 | Daily Live Exam HM-36 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-15 MCQ (10×1=10); 10 min. |
| 04 September 2026 (Friday)                                                                                                                            | Physics (P-24)                                                                                                                                | Zoology (Z-04)                | Daily Live Exam P-23 MCQ (10×1=10); 10 min.<br>Daily Live Exam B-17 MCQ (10×1=10); 10 min.  |
| <b>05 September 2026 (Saturday)</b>                                                                                                                   | <b>Biology Problem Solving Class-02</b>                                                                                                       |                               |                                                                                             |
| 06 September 2026 (Sunday)                                                                                                                            | Zoology (Z-05)                                                                                                                                | Chemistry (C-33)              | Daily Live Exam P-24 MCQ (10×1=10); 10 min.<br>Daily Live Exam Z-04 MCQ (10×1=10); 10 min.  |
| <b>07 September 2026 (Monday)</b>                                                                                                                     | <b>Chemistry Problem Solving Class-02</b>                                                                                                     |                               |                                                                                             |
| 08 September 2026 (Tuesday)                                                                                                                           | H.Math (HM-37)                                                                                                                                | Chemistry (C-16)              | Daily Live Exam Z-05 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-33 MCQ (10×1=10); 10 min.  |
| 10 September 2026 (Thursday)                                                                                                                          | Physics (P-25)                                                                                                                                | Botany (B-18)                 | Daily Live Exam HM-37 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-16 MCQ (10×1=10); 10 min. |
| <b>Online classes and examination activities will be closed on September 11, 2026 (Friday) on the occasion of the College Admissions Examination.</b> |                                                                                                                                               |                               |                                                                                             |
| 13 September 2026 (Sunday)                                                                                                                            | Zoology (Z-06)                                                                                                                                | Chemistry (C-34)              | Daily Live Exam P-25 MCQ (10×1=10); 10 min.<br>Daily Live Exam B-18 MCQ (10×1=10); 10 min.  |
| <b>14 September 2026 (Monday)<br/>Chapter-wise Exam-09</b>                                                                                            | <b>Physics Problem Solving Class-02<br/>Botany Chapter-03 (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>       |                               |                                                                                             |
| 15 September 2026 (Tuesday)                                                                                                                           | H.Math (HM-38)                                                                                                                                | Chemistry (C-17)              | Daily Live Exam Z-06 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-34 MCQ (10×1=10); 10 min.  |
| 17 September 2026 (Thursday)                                                                                                                          | Physics (P-26)                                                                                                                                | Zoology (Z-15)                | Daily Live Exam HM-38 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-17 MCQ (10×1=10); 10 min. |
| 18 September 2026 (Friday)                                                                                                                            | Physics (P-27)                                                                                                                                | H.Math (HM-25)                | Daily Live Exam P-26 MCQ (10×1=10); 10 min.<br>Daily Live Exam Z-15 MCQ (10×1=10); 10 min.  |
| <b>19 September 2026 (Saturday)<br/>Chapter-wise Exam-10</b>                                                                                          | <b>Guideline Seminar-02<br/>Zoology Chapter-01 (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>                  |                               |                                                                                             |

| Date and time                                                              | Live Class-01<br>Time-2:30pm                                                                                                       | Live Class-02<br>Time-6:45 pm | Live Class<br>Online- 8 am to 11:55 pm                                                       |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|----------------------------------------------------------------------------------------------|
| 20 September 2026 (Sunday)                                                 | Zoology (Z-16)                                                                                                                     | Chemistry (C-35)              | Daily Live Exam P-27 MCQ (10×1=10); 10 min.<br>Daily Live Exam HM-25 MCQ (10×1=10); 10 min.  |
| 21 September 2026 (Monday)                                                 | Physics (P-28)                                                                                                                     | Chemistry (C-18)              | Daily Live Exam Z-16 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-35 MCQ (10×1=10); 10 min.   |
| 23 September 2026 (Wednesday)                                              | Physics (P-29)                                                                                                                     | Botany (B-25)                 | Daily Live Exam P-28 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-18 MCQ (10×1=10); 10 min.   |
| 24 September 2026 (Thursday)                                               | H.Math (HM-26)                                                                                                                     | H.Math (HM-39)                | Daily Live Exam B-25 MCQ (10×1=10); 10 min.<br>Daily Live Exam P-29 MCQ (10×1=10); 10 min.   |
| 27 September 2026 (Sunday)                                                 | Chemistry (C-36)                                                                                                                   | Botany (B-26)                 | Daily Live Exam HM-26 MCQ (10×1=10); 10 min.<br>Daily Live Exam HM-39 MCQ (10×1=10); 10 min. |
| 28 September 2026 (Monday)                                                 | H.Math (HM-40)                                                                                                                     | Physics (P-30)                | Daily Live Exam B-26 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-36 MCQ (10×1=10); 10 min.   |
| 30 September 2026 (Wednesday)                                              | Zoology (Z-17)                                                                                                                     | Chemistry (C-19)              | Daily Live Exam HM-40 MCQ (10×1=10); 10 min.<br>Daily Live Exam P-30 MCQ (10×1=10); 10 min.  |
| 01 October 2026 (Thursday)                                                 | H.Math (HM-45)                                                                                                                     | Physics (P-31)                | Daily Live Exam Z-17 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-19 MCQ (10×1=10); 10 min.   |
| 02 October 2026 (Friday)<br>Chapter-wise Exam-11                           | H.Math 1st Paper Chapter-03 [Part-02 Lecture HM-19 to 26]; (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.   |                               |                                                                                              |
| 03 October 2026 (Saturday)<br>Chapter-wise Exam-12                         | Chemistry 1st Paper Chapter-03 [Part-02 Lecture C-31 to 36]; (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min. |                               |                                                                                              |
| 04 October 2026 (Sunday)                                                   | Zoology (Z-18)                                                                                                                     | Chemistry (C-37)              | Daily Live Exam HM-45 MCQ (10×1=10); 10 min.<br>Daily Live Exam P-31 MCQ (10×1=10); 10 min.  |
| 05 October 2026 (Monday)                                                   | H.Math (HM-41)                                                                                                                     | Chemistry (C-20)              | Daily Live Exam Z-18 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-37 MCQ (10×1=10); 10 min.   |
| 07 October 2026 (Wednesday)                                                | Botany (B-27)                                                                                                                      | Physics (P-32)                | Daily Live Exam HM-41 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-20 MCQ (10×1=10); 10 min.  |
| 08 October 2026 (Thursday)                                                 | H.Math (HM-46)                                                                                                                     | Physics (P-33)                | Daily Live Exam B-27 MCQ (10×1=10); 10 min.<br>Daily Live Exam P-32 MCQ (10×1=10); 10 min.   |
| 09 October 2026 (Friday)<br>Chapter-wise Exam-13                           | H.Math 1st Paper Chapter-05 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.                                  |                               |                                                                                              |
| 10 October 2026 (Saturday)<br>Chapter-wise Exam-14                         | Physics 1st Paper Chapter-04 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.                                 |                               |                                                                                              |
| 11 October 2026 (Sunday)                                                   | Zoology (Z-07)                                                                                                                     | Chemistry (C-38)              | Daily Live Exam HM-46 MCQ (10×1=10); 10 min.<br>Daily Live Exam P-33 MCQ (10×1=10); 10 min.  |
| 12 October 2026 (Monday)                                                   | H.Math (HM-42)                                                                                                                     | Chemistry (C-21)              | Daily Live Exam Z-07 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-38 MCQ (10×1=10); 10 min.   |
| 14 October 2026 (Wednesday)                                                | Botany (B-28)                                                                                                                      | Physics (P-34)                | Daily Live Exam HM-42 MCQ (10×1=10); 10 min.<br>Daily Live Exam C-21 MCQ (10×1=10); 10 min.  |
| 15 October 2026 (Thursday)                                                 | H.Math (HM-47)                                                                                                                     | Physics (P-35)                | Daily Live Exam B-28 MCQ (10×1=10); 10 min.<br>Daily Live Exam P-34 MCQ (10×1=10); 10 min.   |
| 16 October 2026 (Friday)<br>Chapter-wise Exam-15                           | H.Math Problem-Solving Class-03                                                                                                    |                               |                                                                                              |
|                                                                            | Zoology Chapter-03 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.                                           |                               |                                                                                              |
| 17 October 2026 (Saturday)<br>Chapter-wise Exam-16                         | Biology Problem-Solving Class-03                                                                                                   |                               |                                                                                              |
|                                                                            | Botany Chapter-05 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.                                            |                               |                                                                                              |
| The next class and exam routine-03 will be published...                    |                                                                                                                                    |                               |                                                                                              |
| ***The routine can change or be modified in case of special necessities*** |                                                                                                                                    |                               |                                                                                              |

#### Online Class and Exam Procedure:

- To participate in classes and exams, visit [udvash.com](http://udvash.com) and click on the "Join Now" menu. Log in using your admitted registration number.
- Daily Live Classes** will be held as per the schedule, with **two separate subject classes per day** at the mentioned date and time.
- Daily Live Exams** will be available as per the schedule from **8:00am to 11:55pm**, where students can take the exam once per with **two separate subjects**. However, for additional practice, students can take the Practice Exam multiple times with the same syllabus.
- To watch recorded videos and PDFs of daily classes, use the "Past Classes/Course & Content" option.
- To access **Archive Classes & One Shot CQ-MCQ Classes**, use the "Course & Content" option.
- The **Q&A** option is available **24/7** to resolve subject-related queries after the class.
- All students enrolled in the Combo Batch can take chapter-based exams both online and at any nearby branch (**from 9:00am to 5:00pm**).
- To get updates quickly, join our Facebook group (**HSC & Admission উদ্ভাস-উন্মেষ**).

## 1st Year Pioneer Batch Syllabus-02

| Physics 1st Paper                          |         |                                                                                                                                                                                                                                                                                                                       |
|--------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chapter                                    | Lecture | Lecture-based discussion topics                                                                                                                                                                                                                                                                                       |
| <b>Chapter-3</b><br>Dynamics               | P-19    | CQ & Admission Standard Problems related to projectile motion.                                                                                                                                                                                                                                                        |
|                                            | P-20    | Circular motion, Various quantities related to circular motion, centripetal acceleration, centripetal acceleration formulae, net acceleration, angular equations of motion.                                                                                                                                           |
| <b>Chapter-4</b><br>Newtonian Mechanics    | P-21    | Basic concepts of force, Newtonian mechanics, Newton's first law of motion, inertia of motion and rest, definition and characteristics of force, different types of forces, fundamental forces, gravitational force, electromagnetic force, strong nuclear force, weak nuclear force, Force balance                   |
|                                            | P-22    | Momentum, Newton's second law of motion, equilibrium of forces. CQ & Admission Standard Problems. Impulsive force and impulsive of force, Newton's third law of motion.                                                                                                                                               |
|                                            | P-23    | system of forces, external and internal forces, types of forces, gravitational force, normal force, weight of an object, tension.                                                                                                                                                                                     |
|                                            | P-24    | Friction, angle of friction, limiting angle.                                                                                                                                                                                                                                                                          |
|                                            | P-25    | Conservation of momentum, vector representation of conservation of momentum, collision, formulas for one-dimensional elastic collision.                                                                                                                                                                               |
|                                            | P-26    | Center of mass, impulse and impact force, applicability and applications of Newton's laws, standing on the ground, walking, pulling a horse cart, towing a boat, space missions and rocket motion, interrelation of Newton's laws of motion.                                                                          |
|                                            | P-27    | CQ & Admission Standard Problems to moment of inertia, torque, quantities for torque, vector representation of torque, torque and angular acceleration                                                                                                                                                                |
|                                            | P-28    | Uniform circular motion, centripetal force, centrifugal force, banking of curved roads for vehicles (bicycles, trains, motor vehicles).                                                                                                                                                                               |
|                                            | P-29    | Rotational inertia: moment of inertia, radius of gyration, perpendicular axis theorem, parallel axis theorem.                                                                                                                                                                                                         |
|                                            | P-30    | Angular momentum, equivalent methods for calculating angular momentum, angular momentum of a rotating object in circular motion, relationship between torque ( $\tau$ ) and angular momentum ( $L$ ), Newton's laws for rotational motion, applications of Newton's laws in rotational motion, mathematical problems. |
| <b>Chapter-5</b><br>Work, Energy and Power | P-31    | Work, positive, negative, and zero work, constant and variable force, work done by a constant force.                                                                                                                                                                                                                  |
|                                            | P-32    | Work done by a variable force, spring force, work done in rotational motion, displacement of the center of mass and mathematical problems.                                                                                                                                                                            |
|                                            | P-33    | CQ & Admission Standard mathematical problems related to center of mass displacement, dependency of work done on the path, kinetic energy and work-energy theorem, kinetic energy of a rotating object, kinetic energy of an object undergoing both translational and rotational motion.                              |
|                                            | P-34    | Conservative forces, non-conservative forces, potential energy, gravitational potential energy, elastic potential energy, relationship between potential energy and force.                                                                                                                                            |
|                                            | P-35    | Problems related to potential energy and kinetic energy, Changes in work done and mechanical energy, conservation of mechanical energy, principle of conservation of energy.                                                                                                                                          |

| Chemistry 1st Paper                                          |         |                                                                                                                                                                                                                                                            |
|--------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chapter                                                      | Lecture | Lecture-based discussion topics                                                                                                                                                                                                                            |
| <b>Chapter-2</b><br>Qualitative Chemistry Introduction       | C-13    | spectrum of H atom + Rydberg Discussions, Related Math.                                                                                                                                                                                                    |
|                                                              | C-14    | Lines of spectrum, Uses of UV in fake money and passport identification, Uses of IR ray in medical science, Use of MRI in diagnosis.                                                                                                                       |
|                                                              | C-15    | Solubility and Solubility Product- Mixture and Solution, Solubility, Factors influencing solubility.                                                                                                                                                       |
|                                                              | C-16    | solubility products, ionic product, Related Math.                                                                                                                                                                                                          |
|                                                              | C-17    | Principle of Solubility Product, Application of the principle of Solubility Product Common ion and its effect to change solubility                                                                                                                         |
|                                                              | C-18    | Application of common ion, effect of pH on solubility, Related Math.                                                                                                                                                                                       |
|                                                              | C-19    | Qualitative Analysis (Ion identification)- Flame test, wet test (+ve and -ve ion identification), detecting presence of Carbon in organic compounds, detection of Hydrogen in organic compounds, Detection of N, S, X (F, Cl, Br, I) in organic compounds. |
|                                                              | C-20    | Applications of Qualitative Chemistry (Physical Analysis)- crystallization, distillation and partial distillation, steam distillation, sublimation, low pressure distillation.                                                                             |
|                                                              | C-21    | Nernst's distribution formula, solvent extraction.                                                                                                                                                                                                         |
| <b>Chapter-3</b> Periodic Properties and Bonding in Elements | C-30    | Transitional Element, Properties of transitional element (Except for the effects of transition metals and the nomenclature of complex compounds.                                                                                                           |
|                                                              | C-31    | Melting point/Boiling point ( 2 <sup>nd</sup> period, 3 <sup>rd</sup> period, d- block), Effects of Transition Metals, Naming of Complex Compounds.                                                                                                        |
|                                                              | C-32    | Chemical Bonds- Ionic bond, Metallic bond, Covalent bond, Classification of covalent bond, Lewis dot structure.                                                                                                                                            |
|                                                              | C-33    | Orbital overlapping. Hybridization, Classification of Hybrid orbitals.                                                                                                                                                                                     |
|                                                              | C-34    | Determination of Hybridization state of central atom, Relation between Shapes of covalent compounds and hybrid orbitals, Effect of lone pair electrons on Molecular shapes.                                                                                |
|                                                              | C-35    | Effect of electronegativity on compounds with chemical bonds- Polarization or deformation of ion, Covalent properties in ionic compounds, Fajan's rule, Effect of polarization on salt.                                                                    |
| <b>Chapter-4</b><br>Chemical Changes                         | C-36    | Weak chemical bonds- Vander Waals force, H bond, Importance of H bond, Naming of inorganic compounds.                                                                                                                                                      |
|                                                              | C-37    | Chemical Reaction and Rate of Reaction- Green Chemistry, Reaction Direction:( Irreversible Reaction and Reversible reaction), Rate of reaction.                                                                                                            |
|                                                              | C-38    | Rate constant                                                                                                                                                                                                                                              |

| H.Math 1st Paper |         |                                 |
|------------------|---------|---------------------------------|
| Chapter          | Lecture | Lecture-based discussion topics |

|                                                                                  |       |                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Chapter-1</b><br>Matrix &<br>Determinant                                      | HM-08 | Exercise - 1.2; Solving equations with determinants, Solving systems of equations - Cramer's rule, solving systems of equations - Inverse matrix method, Problems related to solving systems of equations, Special formula related to the magnitude of determinants.                                                                                                                                                            |
| <b>Chapter-5</b><br>Permutations and<br>Combinations                             | HM-35 | Exercise - 5.1; Addition and multiplication rules of counting, permutation, use of factorial and ${}^nP_r$ formula.                                                                                                                                                                                                                                                                                                             |
|                                                                                  | HM-36 | Exercise - 5.1; permutation of objects that are not all different, total arrangement of all n different letters (things), permutation of such cases where repetitions can occur, in such cases permutation, How many letters (or objects) can be put together or not, How many specific letters (or objects) can never be put together, the position of a letter (or object) is fixed.                                          |
|                                                                                  | HM-37 | Exercise - 5.1; Regarding rearrangement, certain letters (or objects) will not change the order Change in relative position of certain letters (or objects), permutation of certain letters from words with different letters, formation of numbers of certain digits, formation of odd numbers, formation of even numbers, numbers smaller and greater than a certain number.                                                  |
|                                                                                  | HM-38 | Exercise - 5.1; Cycle permutation, Exercise - 5.2; Combination, difference between permutation and combination, complementary combination, problems related to the use of ${}^nC_r$ formula, selection related.                                                                                                                                                                                                                 |
|                                                                                  | HM-39 | Exercise - 5.1; Conditional combination-including or excluding a certain number of objects, Exercise - 5.2; Word formation through combination, Exercise - 5.2; formation of groups or committees.                                                                                                                                                                                                                              |
|                                                                                  | HM-40 | Determination of generative number, formation of straight lines, triangles, polygons, diagonals and planes from points, Determination of intersection point, division into groups or groups, problems related to division into groups or groups, divisibility.                                                                                                                                                                  |
| <b>Chapter-6</b><br>Trigonometric Ratios                                         | HM-41 | Exercise - 6; Types of trigonometry, Quadrilateral, Two-dimensional angle, Measurement of two-dimensional angle, Radian angle is a constant angle, Relationship between degree and radian, Three-dimensional angle and its measurement, Problems related to mutual conversion of sexagesimal, circular and centigrade systems of angles, Determination of the length of arc of a circle, Determination of the area of a circle. |
|                                                                                  | HM-42 | Exercise - 6; Angle between the hour and minute hands of a clock, Interior angle of a polygon, Similar triangle, Ratio of trigonometric angles, Fundamental theorem, Trigonometric ratio of axial angle, Relationship between ratios of trigonometric angles.                                                                                                                                                                   |
| <b>Chapter-3</b> Straight<br>Line                                                | HM-22 | Exercise - 3.6; Related to two perpendicular straight lines, related to equation of a straight line to the intersection of two straight lines.                                                                                                                                                                                                                                                                                  |
|                                                                                  | HM-23 | Exercise - 3.6; Internal angle between two straight lines, Different types of centers.                                                                                                                                                                                                                                                                                                                                          |
|                                                                                  | HM-24 | Exercise - 3.7; Perpendicular distance of a given straight line from a given point, Position of a point with respect to a straight line                                                                                                                                                                                                                                                                                         |
|                                                                                  | HM-25 | Exercise - 3.7; Bisection of a line segment joining two points, perpendicular distance between two parallel straight lines,                                                                                                                                                                                                                                                                                                     |
|                                                                                  | HM-26 | Exercise - 3.7; Equation of the bisector of an angle between two non-parallel straight lines, Determining the equation of the bisector of an angle under different conditions, image related                                                                                                                                                                                                                                    |
| <b>Chapter-7</b><br>Trigonometric Ratios<br>of Associated and<br>Compound Angles | HM-45 | Exercise - 7.1; Trigonometric ratio of $\theta$ or positive acute angle: $(-\theta)$ or negative angle: $(90^\circ - \theta)$ , i.e. trigonometric ratio of angle $\theta$ : Co-function: Trigonometric ratio of angle $(90^\circ + \theta)$ , $(180^\circ - \theta)$ , $(180^\circ + \theta)$ , $(270^\circ - \theta)$ , $(270^\circ + \theta)$ , Trigonometric quantities                                                     |
|                                                                                  | HM-46 | Exercise - 7.1; problems involving associated angles, Problems related to sum of squares of trigonometric ratios, Multiplication and problems of Tangent or Cotangent ratios, Determination of values and problems using various trigonometric formulas.                                                                                                                                                                        |
|                                                                                  | HM-47 | Exercise - 7.2; Trigonometric ratio of compound angles, A and B are positive acute angles where $A > B$ , Problems related to trigonometric ratios.                                                                                                                                                                                                                                                                             |

### Biology 1st Paper

| Chapter                             | Lecture | Lecture-based discussion topics                                                                                                                                                                                 |
|-------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Chapter-3</b><br>Cell Chemistry  | B-15    | Oligosaccharide, Polysaccharide, Functions of Carbohydrate                                                                                                                                                      |
|                                     | B-16    | Amino Acid: Types of Amino Acid, Protein: Types of Protein                                                                                                                                                      |
|                                     | B-17    | Lipid: Structure of Lipid, Types of Lipids, Role of lipid in living body                                                                                                                                        |
|                                     | B-18    | Enzyme: Characteristics of enzyme, mechanism of action of enzyme, theories regarding mechanism of action of enzyme. Classification of enzyme, regulators of enzyme, Uses of enzyme                              |
| <b>Chapter-5</b><br>Algae and fungi | B-25    | Benthic Hooker classification, Algae (Characteristics, Physical structure, Cellular structure), asexual reproduction, sexual reproduction)                                                                      |
|                                     | B-26    | Reproduction of algae (Vegetative reproduction, <i>Ulothrix</i> (habitat, Physical structure, reproduction), Economic importance of algae                                                                       |
|                                     | B-27    | Fungi (Characteristics, Physical structure, Cellular Structure), Reproduction of fungi (Vegetative reproduction, asexual reproduction, sexual reproduction), importance of fungi (advantages and disadvantages) |
|                                     | B-28    | <i>Agaricus</i> (Habitat, Physical structure), Economic importance of <i>Agaricus</i> , fungal diseases, Lichen (Habitat, Characteristics, Structure, Classification), Importance of Lichen.                    |

### Biology 2nd Paper

| Chapter                                                              | Lecture | Lecture-based discussion topics                                                                                                                                                                                  |
|----------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Chapter-1</b><br>Animal Diversity and<br>Classification           | Z-02    | Symmetry to notocord, Nomenclature of animals, principles of nomenclature of animals, classification of animal kingdom, major phyla of animal kingdom: Non-chordate.                                             |
|                                                                      | Z-03    | Porifera, Cnidaria, Platyhelminthes, Nematoda.                                                                                                                                                                   |
|                                                                      | Z-04    | Mollusca, Annelida, Arthropoda, Echinodermata.                                                                                                                                                                   |
|                                                                      | Z-05    | Chordata: characteristics of various sub-phylum and classes of chordata, classification of vertebrates (cyclostomata)                                                                                            |
|                                                                      | Z-06    | Classification of vertebrates (Gnathostomata)                                                                                                                                                                    |
| <b>Chapter-3</b><br>Human Physiology:<br>Digestion and<br>Absorption | Z-15    | Digestion: Types of digestion, Digestive system, Oral Cavity, Digestion of food in mouth, Dental formula, Pharynx, Esophagus                                                                                     |
|                                                                      | Z-16    | Stomach, Digestion of food in stomach, Small Intestine, Digestion of food in small intestine, Large intestine                                                                                                    |
|                                                                      | Z-17    | Digestive glands: salivary glands, liver, pancreas, gastric glands, intestinal glands, Role of nervous system and hormones in digestion                                                                          |
| <b>Chapter-2</b><br>Animal Identity                                  | Z-18    | Absorption of digested food: components of food and their absorption, fate of absorbed nutrients, Obesity                                                                                                        |
|                                                                      | Z-07    | Hydra, External structure of Hydra, Internal structure of Hydra, Cells of body wall of Hydra, Cells of Epidermis, Structure of ideal cnidocyte, Types of nematocyst, Mechanism of Discharge of nematocyst-thread |



দেশব্যাপী **উদ্ভাস-উন্মেষ** এর  
শাখাসমূহের বিস্তারিত ঠিকানা  
দেখতে **QR** কোডটি স্ক্যান করো

**উদ্ভাস-উন্মেষ** এর  
**App** ডাউনলোড করতে  
**QR** কোডটি স্ক্যান করো

