UDVASH
Academic And Admission Care

HSC 1st Year Academic Program Prime Batch

Class and Exam Routine-02

Helpline
09 666 77 55 66

Date and time	Live Class-01 Time-2:30 pm	Live Class-02 Time-6:45 pm	Live Class Online- 8 am to 11:55 pm
01 November 2026(Sunday)	H.Math (HM-36)	Botany (B-09)	Daily Live Exam C-30 MCQ (10×1=10); 10 min. Daily Live Exam P-22 MCQ (10×1=10); 10 min.
02 November 2026 (Monday)	Zoology (Z-16)	Physics (P-31)	Daily Live Exam HM-36 MCQ (10×1=10); 10 min. Daily Live Exam B-09 MCQ (10×1=10); 10 min.
03 November 2026 (Tuesday)	H.Math (HM-37)	Chemistry (C-12)	Daily Live Exam Z-16 MCQ (10×1=10); 10 min. Daily Live Exam P-31 MCQ (10×1=10); 10 min.
04 November 2026 (Wednesday)	Physics (P-23)	H.Math (HM-08)	Daily Live Exam HM-37 MCQ (10×1=10); 10 min. Daily Live Exam C-12 MCQ (10×1=10); 10 min.
05 November 2026 (Thursday)	Chemistry (C-31)	Physics (P-24)	Daily Live Exam P-23 MCQ (10×1=10); 10 min. Daily Live Exam HM-08 MCQ (10×1=10); 10 min.
06 November 2026 (Friday) Chapter-wise Exam-06	**Physics Problem Solving Class -02**		
	Chemistry 1st Paper Chapter-03 [Part-01 Lecture C-23 to 30]; (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.		
07 November 2026 (Saturday) Chapter-wise Exam-07	**Physics 1st Paper Chapter-01 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.**		
08 November 2026 (Sunday)	H.Math (HM-38)	Botany (B-10)	Daily Live Exam C-31 MCQ (10×1=10); 10 min. Daily Live Exam P-24 MCQ (10×1=10); 10 min.
09 November 2026 (Monday)	Zoology (Z-17)	Physics (P-32)	Daily Live Exam HM-38 MCQ (10×1=10); 10 min. Daily Live Exam B-10 MCQ (10×1=10); 10 min.
10 November 2026 (Tuesday)	H.Math (HM-39)	Chemistry (C-13)	Daily Live Exam Z-17 MCQ (10×1=10); 10 min. Daily Live Exam P-32 MCQ (10×1=10); 10 min.
11 November 2026 (Wednesday)	Physics (P-25)	H.Math (HM-41)	Daily Live Exam HM-39 MCQ (10×1=10); 10 min. Daily Live Exam C-13 MCQ (10×1=10); 10 min.
12 November 2026 (Thursday)	Chemistry (C-32)	Physics (P-26)	Daily Live Exam P-25 MCQ (10×1=10); 10 min. Daily Live Exam HM-41 MCQ (10×1=10); 10 min.
13 November 2026 (Friday) Chapter-wise Exam-08	**Physics 1st Paper Chapter-03 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.**		
14 November 2026 (Saturday) Chapter-wise Exam-09	**Chemistry 1st Paper Chapter-02 [Part-01 Lecture C-05 to 12]; (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.**		
15 November 2026 (Sunday)	H.Math (HM-40)	Botany (B-11)	Daily Live Exam C-32 MCQ (10×1=10); 10 min. Daily Live Exam P-26 MCQ (10×1=10); 10 min.
16 November 2026 (Monday)	Zoology (Z-18)	Physics (P-33)	Daily Live Exam HM-40 MCQ (10×1=10); 10 min. Daily Live Exam B-11 MCQ (10×1=10); 10 min.
17 November 2026 (Tuesday)	H.Math (HM-45)	Chemistry (C-14)	Daily Live Exam Z-18 MCQ (10×1=10); 10 min. Daily Live Exam P-33 MCQ (10×1=10); 10 min.
18 November 2026 (Wednesday)	Physics (P-27)	H.Math (HM-42)	Daily Live Exam HM-45 MCQ (10×1=10); 10 min. Daily Live Exam C-14 MCQ (10×1=10); 10 min.
19 November 2026 (Thursday)	Chemistry (C-33)	Physics (P-28)	Daily Live Exam P-27 MCQ (10×1=10); 10 min. Daily Live Exam HM-42 MCQ (10×1=10); 10 min.
20 November 2026 (Friday) Chapter-wise Exam-10	**Chemistry Problem Solving Class -02**		
	H.Math 1st Paper Chapter-01 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.		
21 November 2026 (Saturday) Chapter-wise Exam-11	**Guideline Seminar-02**		
	H.Math 1st Paper Chapter-05 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.		
22 November 2026 (Sunday)	H.Math (HM-46)	Botany (B-12)	Daily Live Exam C-33 MCQ (10×1=10); 10 min. Daily Live Exam P-28 MCQ (10×1=10); 10 min.
23 November 2026 (Monday)	Zoology (Z-07)	Physics (P-34)	Daily Live Exam HM-46 MCQ (10×1=10); 10 min. Daily Live Exam B-12 MCQ (10×1=10); 10 min.
24 November 2026 (Tuesday)	H.Math (HM-47)	Chemistry (C-15)	Daily Live Exam Z-07 MCQ (10×1=10); 10 min. Daily Live Exam P-34 MCQ (10×1=10); 10 min.
25 November 2026 (Wednesday)	Physics (P-29)	H.Math (HM-43)	Daily Live Exam HM-47 MCQ (10×1=10); 10 min. Daily Live Exam C-15 MCQ (10×1=10); 10 min.
26 November 2026 (Thursday)	Chemistry (C-34)	Physics (P-30)	Daily Live Exam P-29 MCQ (10×1=10); 10 min. Daily Live Exam HM-43 MCQ (10×1=10); 10 min.

27 November 2026 (Friday) **Chapter-wise Exam-12**	**Biology Problem Solving Class -02**		
	Zoology Chapter-03 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.		
28 November 2026 (Saturday)	**H.Math Problem Solving Class -03**		
29 November 2026 (Sunday)	H.Math (HM-48)	Botany (B-13)	Daily Live Exam C-34 MCQ (10×1=10); 10 min. Daily Live Exam P-30 MCQ (10×1=10); 10 min.
30 November 2026 (Monday)	Zoology (Z-08)	Physics (P-35)	Daily Live Exam HM-48 MCQ (10×1=10); 10 min. Daily Live Exam B-13 MCQ (10×1=10); 10 min.
01 December 2026 (Tuesday)	H.Math (HM-49)	Chemistry (C-16)	Daily Live Exam Z-08 MCQ (10×1=10); 10 min. Daily Live Exam P-35 MCQ (10×1=10); 10 min.
02 December 2026 (Wednesday)	Physics (P-61)	H.Math (HM-44)	Daily Live Exam HM-49 MCQ (10×1=10); 10 min. Daily Live Exam C-16 MCQ (10×1=10); 10 min.
03 December 2026 (Thursday)	Chemistry (C-35)	Physics (P-62)	Daily Live Exam P-61 MCQ (10×1=10); 10 min. Daily Live Exam HM-44 MCQ (10×1=10); 10 min.
04 December 2026 (Friday) **Chapter-wise Exam-13**	**Botany Chapter-02 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.**		
05 December 2026 (Saturday) **Chapter-wise Exam-14**	**Physics Problem Solving Class -03**		
	Physics 1st Paper Chapter-04 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.		
06 December 2026 (Sunday)	H.Math (HM-50)	Botany (B-14)	Daily Live Exam C-35 MCQ (10×1=10); 10 min. Daily Live Exam P-62 MCQ (10×1=10); 10 min.
07 December 2026 (Monday)	Zoology (Z-09)	Physics (P-36)	Daily Live Exam HM-50 MCQ (10×1=10); 10 min. Daily Live Exam B-14 MCQ (10×1=10); 10 min.
08 December 2026 (Tuesday)	H.Math (HM-63)	Chemistry (C-17)	Daily Live Exam Z-09 MCQ (10×1=10); 10 min. Daily Live Exam P-36 MCQ (10×1=10); 10 min.
09 December 2026 (Wednesday)	Physics (P-63)	H.Math (HM-51)	Daily Live Exam HM-63 MCQ (10×1=10); 10 min. Daily Live Exam C-17 MCQ (10×1=10); 10 min.
10 December 2026 (Thursday)	Chemistry (C-36)	Physics (P-64)	Daily Live Exam P-63 MCQ (10×1=10); 10 min. Daily Live Exam HM-51 MCQ (10×1=10); 10 min.
11 December 2026 (Friday) **Chapter-wise Exam-15**	**H.Math 1st Paper Chapter-06 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.**		
13 December 2026 (Sunday)	H.Math (HM-52)	Botany (B-15)	Daily Live Exam C-36 MCQ (10×1=10); 10 min. Daily Live Exam P-64 MCQ (10×1=10); 10 min.
14 December 2026 (Monday)	Zoology (Z-10)	Physics (P-37)	Daily Live Exam HM-52 MCQ (10×1=10); 10 min. Daily Live Exam B-15 MCQ (10×1=10); 10 min.
15 December 2026 (Tuesday)	H.Math (HM-64)	Chemistry (C-18)	Daily Live Exam Z-10 MCQ (10×1=10); 10 min. Daily Live Exam P-37 MCQ (10×1=10); 10 min.
On the occasion of Victory Day Online class and exam will be closed on Wednesday December 16, 2026.			
17 December 2026 (Thursday)	Chemistry (C-37)	Physics (P-65)	Daily Live Exam HM-64 MCQ (10×1=10); 10 min. Daily Live Exam C-18 MCQ (10×1=10); 10 min.
18 December 2026 (Friday) **Chapter-wise Exam-16**	**Physics 1st Paper Chapter-05 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.**		
20 December 2026 (Sunday)	H.Math (HM-53)	Botany (B-16)	Daily Live Exam C-37 MCQ (10×1=10); 10 min. Daily Live Exam P-65 MCQ (10×1=10); 10 min.
21 December 2026 (Monday)	Zoology (Z-11)	Physics (P-38)	Daily Live Exam HM-53 MCQ (10×1=10); 10 min. Daily Live Exam B-16 MCQ (10×1=10); 10 min.
22 December 2026 (Tuesday)	H.Math (HM-65)	Chemistry (C-19)	Daily Live Exam Z-11 MCQ (10×1=10); 10 min. Daily Live Exam P-38 MCQ (10×1=10); 10 min.
23 December 2026 (Wednesday)	Physics (P-66)	H.Math (HM-54)	Daily Live Exam HM-65 MCQ (10×1=10); 10 min. Daily Live Exam C-19 MCQ (10×1=10); 10 min.
24 December 2026 (Thursday)	Chemistry (C-38)	Physics (P-43)	Daily Live Exam P-66 MCQ (10×1=10); 10 min. Daily Live Exam HM-54 MCQ (10×1=10); 10 min.
26 December 2026 (Saturday) **Chapter-wise Exam-17**	**H.Math Problem Solving Class-04**		
	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.		
27 December 2026 (Sunday)	H.Math (HM-55)	Botany (B-17)	Daily Live Exam C-38 MCQ (10×1=10); 10 min. Daily Live Exam P-43 MCQ (10×1=10); 10 min.
28 December 2026 (Monday)	Zoology (Z-12)	Physics (P-39)	Daily Live Exam HM-55 MCQ (10×1=10); 10 min. Daily Live Exam B-17 MCQ (10×1=10); 10 min.
29 December 2026 (Tuesday)	H.Math (HM-66)	Chemistry (C-20)	Daily Live Exam Z-12 MCQ (10×1=10); 10 min. Daily Live Exam P-39 MCQ (10×1=10); 10 min.
30 December 2026 (Wednesday)	Physics (P-44)	H.Math (HM-56)	Daily Live Exam HM-66 MCQ (10×1=10); 10 min. Daily Live Exam C-20 MCQ (10×1=10); 10 min.
31 December 2026 (Thursday)	Chemistry (C-39)	Physics (P-45)	Daily Live Exam P-44 MCQ (10×1=10); 10 min.

			Daily Live Exam HM-56 MCQ (10×1=10); 10 min.
01 January 2027 (Friday) **Chapter-wise Exam-18**	**Biology Problem Solving Class-03**		
	Physics 1st Paper Chapter-10 (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.		
02 January 2027 (Saturday) **Chapter-wise Exam-19**	**Physics Problem Solving Class-04**		
	H.Math 1st Paper Chapter-07 (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** 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/ Organize & Content**" option.
- To access **Archive Classes & One Shot CQ-MCQ Classes**, use the " **Organize & 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 Prime Batch Syllabus-02

Physics 1st Paper		
Chapter	**Lecture**	**Lecture-based discussion topics**
Chapter-5 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.
	P-36	Power, efficiency, mathematical problems, and problems related to work done, wells and cisterns.
Chapter-4 Newtonian Mechanics	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 (τ) and angular momentum ($\vec{L}$), Newton's laws for rotational motion, applications of Newton's laws in rotational motion, mathematical problems.
Chapter-6 Gravitation and Gravity	P-37	Falling objects, Kepler's laws of planetary motion, gravitation, vector representation of gravitational force, inertial mass and gravitational mass, gravity and gravitational acceleration.
	P-38	Determination of g: relationship between gravitational constant and gravitational acceleration, variations in gravitational acceleration, changes in g due to the shape of the Earth, variation of g with altitude, variation of g with depth from the Earth's surface, variation of g due to Earth's rotation.
	P-39	Center of gravity, gravitational field, gravitational field intensity.
Chapter-10 Ideal gas and kinetics of gases	P-61	Gases, pressure of gases, volume of gases, temperature of gases, number of gases, gas laws, relationship between pressure and volume, relationship between volume and temperature, Boyle's law or pressure law.
	P-62	Ideal gases, properties of ideal gases, real gases, fundamental assumptions of the kinetic theory of gases.
	P-63	Kinetic molecular theory of gases, applications of kinetic theory, Different types of velocities of gas molecules, mean free path,
	P-64	Degrees of freedom, Monatomic gases, diatomic gases, polyatomic gases, linear polyatomic gases, nonlinear polyatomic gases, principle of equipment of energy
	P-65	Water vapor and atmospheric pressure, gases and vapors, evaporation, condensation, saturated and unsaturated vapor pressure, relationship between vapor pressure and volume at constant temperature, relationships among different parameters of water vapor, dew point and relative humidity. Common mathematical problem
	P-66	Humidity measuring instruments and humidity determination, description of wet and dry bulb hygrometer, working principle of wet and dry bulb hygrometer, CQ & Admission Standard Mathematical Problems on Relative Humidity and Dew Point, some phenomena related to hygrometry.

Chapter-7 Structural Properties of Matter	P-43	Intermolecular forces, intermolecular forces in solids, intermolecular forces in liquids, intermolecular forces in gases, bonding, intermolecular forces and elasticity of materials, intermolecular attraction and repulsion forces, potential energy, analysis of graphs, analysis of potential energy graphs, summary of graphs, quantities related to elasticity.
	P-44	Elasticity-based classification of materials, deformation, stress, types of deformation, types of stress, Hooke's law, elastic constants and general mathematical problems, relationships among different elastic constants.
	P-45	CQ & Admission Standard mathematical problems related to elastic constants, elastic potential energy, Poisson's ratio.

Chemistry 1st Paper		
Chapter	**Lecture**	**Lecture-based discussion topic**
Chapter-2 Qualitative Chemistry Introduction	C-12	Electronic Configuration- Aufbau Principle, Hund's Rule, Pauli's Exclusion Principle, e^- configuration of compounds and ions, stability of electronic configuration.
	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 $\mathrm{N, S, X\ (F, Cl, Br, I)}$ in organic compounds.
	C-20	Applications of Qualitative Chemistry (Physical Analysis)- crystallization, distillation and partial distillation, steam distillation, sublimation, low pressure distillation.
Chapter-3 Periodic Properties and Bonding in Elements	C-31	Melting point/Boiling point (2^{nd} period, 3^{rd} 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.
	C-36	Weak chemical bonds- Vander Waals force, H bond, Importance of H bond, Naming of inorganic compounds.
Chapter-4 Chemical Changes	C-37	Chemical Reaction and Rate of Reaction- Green Chemistry, Reaction Direction:(Irreversible Reaction and Reversible reaction), Rate of reaction.
	C-38	Rate constant
	C-39	Order of reaction, molecularity of reaction

H.Math 1st Paper		
Chapter	**Lecture**	**Lecture-based discussion topic**
Chapter-5 Permutations and Combinations	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 ${}^{n}\mathrm{C}_{\mathrm{r}}$ 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.
Chapter-1 Matrix & 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.
Chapter-6 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.
	HM-43	Exercise – 6; Problems related to mutual conversion of trigonometric ratios and determination of value, Problems related to proof, Problems related to trigonometric identities, Circular function and its domain-range.
	HM-44	Exercise – 6; Graphs of trigonometric functions, graph related problems, period of trigonometric functions, various changes in the graph of trigonometric functions, determination of fundamental period.
Chapter-7 Trigonometric Ratios of Associated and Compound Angles	HM-45	Exercise – 7.1; Trigonometric ratio of θ or positive acute angle: (-θ) or negative angle: (90° – θ), i.e. trigonometric ratio of angle θ: Co-function: Trigonometric ratio of angle (90° + θ), (180° – θ), (180° +θ), (270° - θ), (270° + θ), 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.

	HM-48	Exercise – 7.2; $A \pm B$ related formulae and problems, problems related to trigonometric expansions, problems related to $\frac{\cos A \pm \sin A}{\cos A \mp \sin A}$ formula, problems related to A + B = constant, Finding the maximum/minimum value of a trigonometric expression.
	HM-49	Exercise – 7.3; Formulae and problems related to $\sin(A+B) \pm \sin(A-B)$ or $\cos(A+B) \pm \cos(A-B)$, Problems related to $TF_1C \pm TF_2D$, problems related to $\sin A + \cos A$.
	HM-50	Exercise – 7.4; Trigonometric ratios of multiple angles, formulae and problems for trigonometric ratios of 2A angles, series related (arithmetic and geometric series) and problems.
	HM-51	Exercise - 7.4; Problems related to periodic square roots, Trigonometric ratios of 3A angles and problems, Trigonometric ratios of specific angles.
	HM-52	Exercise – 7.5; Formulae and problems related to proof, Problems related to determining the values of various trigonometric ratios from the values of cos x + cos y and sinx + siny.
	HM-53	Exercise – 7.6; Problems related to tangent and cotangent, problems related to sine and cosine.
	HM-54	Exercise – 7.7; Sine law of a triangle, law of tangents, problems related to law of tangent.
	HM-55	Exercise – 7.7; Cosine law, related to cosine law of a triangle, perpendicular projection, perpendicular projection related.
	HM-56	Exercise – 7.7; progression related, trigonometric ratios of half angles of a triangle and formulae, Area of a triangle related, relationship between the in-radius and the circumradius: Area related, determining the nature of a triangle based on conditions, others.
Chapter-9 Differentiation	HM-63	Exercise - 9.1; Basic concepts of limits, undefined, infinite, existence of limits,
	HM-64	Exercise - 9.1; Limits, basic theorems of limits, Existence of limits and general limits, factor analysis related, related to multiplying denominator and numerator of $\lim_{x \to a} \frac{x^n - a^n}{x - a}$ by conjugate.
	HM-65	Exercise - 9.1; Limits at infinite points and infinite limits, some special limits; Infinite limits related. $\lim_{x \to 0} \frac{\sin x}{x}$; $\lim_{x \to 0} \frac{\tan x}{x}$
	HM-66	Exercise - 9.1; $\lim_{x \to 0} (1+x)^{\frac{1}{x}}$; $\lim_{x \to \infty} \left(1 + \frac{1}{x}\right)^x$ related., Series related; Continuity of functions, Sandwich theorem.

Biology 1st Paper		
Chapter	**Lecture**	**Lecture-based discussion topic**
Chapter-2 Cell Division	B-09	Amitosis, Cell Cycle: Controllers of Cell Cycle, Interphase: G_1 Phase, S Phase, G_2 Phase.
	B-10	M-phase (Prophase, Prometaphase, Metaphase, Anaphase, Telophase) *Uncontrolled Mitosis,* Cell Death
	B-11	Importance of Mitosis, Meiosis: Meiosis 1: Prophase-1, Metaphase-1, Anaphase-1, Telophase-1, Interkinesis-1
	B-12	Meiosis-2: Prophase-2, Metaphase-2, Anaphase-2, Telophase-2, Cytokinesis-2, Characteristics of Meiosis, Importance of Meiosis, Crossing Over.
Chapter-3 Cell Chemistry	B-13	Carbohydrate: Characteristics of Carbohydrate, Types of Carbohydrate: Monosaccharide (Triose, Tetrose, Pentose).
	B-14	Monosaccharide (Hexose, Heptose), Disaccharide
	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

Biology 2nd Paper		
Chapter	**Lecture**	**Lecture-based discussion topic**
Chapter-3 Human Physiology: Digestion and Absorption	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
	Z-18	Absorption of digested food: components of food and their absorption, fate of absorbed nutrientts, Obesity
Chapter-2 Animal Identity	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
	Z-08	Cells of gastrodermis, Mesoglea, Coelenteron, Ingestion and digestion of food of Hydra, Locomotion of Hydra, Reproduction of Hydra, Regeneration of Hydra, Division of Labor of Hydra, Symbiosis
	Z-09	Grasshopper, External structure of grasshopper, Tagmata of Grasshopper, Mouth parts of grasshopper
	Z-10	Digestive system of grasshopper (Alimentary Canal, Digestive Glands), Ingestion and Digestion of food
	Z-11	Blood circulatory system of grasshopper, respiratory system, excretory system
	Z-12	Sensory organs of grasshopper, Compound eye of grasshopper, Mechanism of vision, process of reproduction, metamorphosis, role of hormone in metamorphosis

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