HSC 1st Year Academic Program
Pioneer Batch

Class & Exam
(New Routine)

Online Batch Time

English Version – 3:00pm

Online Exam Time

From 9:00am to 11:00pm

Part-02		
Date & Day	**Live Class**	**Live Exam**
13 August 2024 (Tuesday)	**Live Class (HM-45+46)** H.Math: Chapter – 07	Daily Live Exam (HM-43+44) **MCQ** (10×1=10); 10 min
15 August 2024 (Thursday)	**Live Class (P-23+24)** Physics: Chapter – 04	Daily Live Exam (HM-45+46) **MCQ** (10×1=10); 10 min
16 August 2024 (Friday)	**Live Class (Z-09+10)** Zoology: Chapter – 02	Daily Live Exam (P-23+24) **MCQ** (10×1=10); 10 min
17 August 2024 (Saturday)	**Chapter-wise Exam [H.Math Chapter-06] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.**	
18 August 2024 (Sunday)	**Live Class (C-33+34)** Chemistry: Chapter – 03	Daily Live Exam (Z-09+10) **MCQ** (10×1=10); 10 min
20 August 2024 (Tuesday)	**Live Class (HM-47+48)** H.Math: Chapter – 07	Daily Live Exam (C-33+34) **MCQ** (10×1=10); 10 min
22 August 2024 (Thursday)	**Live Class (P-25+26)** Physics: Chapter – 04	Daily Live Exam (HM-47+48) **MCQ** (10×1=10); 10 min
23 August 2024 (Friday)	**Live Class (Z-11+12)** Zoology: Chapter – 02	Daily Live Exam (P-25+26) **MCQ** (10×1=10); 10 min
25 August 2024 (Sunday)	**Live Class (C-35+36)** Chemistry: Chapter – 03	Daily Live Exam (Z-11+12) **MCQ** (10×1=10); 10 min
27 August 2024 (Tuesday)	**Live Class (HM-49+50)** H.Math: Chapter – 07	Daily Live Exam (C-35+36) **MCQ** (10×1=10); 10 min
29 August 2024 (Thursday)	**Live Class (P-27+28)** Physics: Chapter – 04	Daily Live Exam (HM-49+50) **MCQ** (10×1=10); 10 min
30 August 2024 (Friday)	**Live Class (Z-13+14)** Zoology: Chapter – 02	Daily Live Exam (P-27+28) **MCQ** (10×1=10); 10 min
31 August 2024 (Saturday)	**Chapter-wise Exam [Chemistry Chapter-03] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.**	
Part-03		
01 September 2024 (Sunday)	**Live Class (C-01+02)** Chemistry: Chapter – 01	Daily Live Exam (Z-13+14) **MCQ** (10×1=10); 10 min
02 September 2024 (Monday)	**Chapter-wise Exam [Zoology Chapter-02] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.**	
03 September 2024 (Tuesday)	**Live Class (HM-51+52)** H.Math: Chapter – 07	Daily Live Exam (C-01+02) **MCQ** (10×1=10); 10 min
04 September 2024 (Wednesday)	**Live Class (P-29+30)** Physics: Chapter – 04	Daily Live Exam (HM-51+52) **MCQ** (10×1=10); 10 min
05 September 2024 (Thursday)	**Live Class (P-31+32)** Physics: Chapter – 05	Daily Live Exam (P-29+30) **MCQ** (10×1=10); 10 min
08 September 2024 (Sunday)	**Live Class (C-03+04)** Chemistry: Chapter – 01	Daily Live Exam (P-31+32) **MCQ** (10×1=10); 10 min
09 September 2024 (Monday)	**Chapter-wise Exam [H.Math Chapter-07] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.**	
10 September 2024 (Tuesday)	**Live Class (HM-53+54)** H.Math: Chapter – 08	Daily Live Exam (C-03+04) **MCQ** (10×1=10); 10 min
11 September 2024 (Wednesday)	**Live Class (P-33+34)** Physics: Chapter – 05	Daily Live Exam (HM-53+54) **MCQ** (10×1=10); 10 min
12 September 2024 (Thursday)	**Live Class (B-13+14)** Botany: Chapter - 03	Daily Live Exam (P-33+34) **MCQ** (10×1=10); 10 min
15 September 2024 (Sunday)	**Live Class (C-37+38)** Chemistry: Chapter – 04	Daily Live Exam (B-13+14) **MCQ** (10×1=10); 10 min
16 September 2024 (Monday)	**Chapter-wise Exam [Physics Chapter-04] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.**	
17 September 2024 (Tuesday)	**Live Class (HM-55+56)** H.Math: Chapter – 08	Daily Live Exam (C-37+38) **MCQ** (10×1=10); 10 min
18 September 2024 (Wednesday)	**Live Class (P-35+36)** Physics: Chapter – 05	Daily Live Exam (HM-55+56) **MCQ** (10×1=10); 10 min
19 September 2024 (Thursday)	**Live Class (HM-57+58)** H.Math: Chapter – 08	Daily Live Exam (P-35+36) **MCQ** (10×1=10); 10 min
22 September 2024 (Sunday)	**Live Class (C-39+40)** Chemistry: Chapter – 04	Daily Live Exam (HM-57+58) **MCQ** (10×1=10); 10 min
23 September 2024 (Monday)	**Chapter-wise Exam [Chemistry Chapter-01] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.**	
24 September 2024 (Tuesday)	**Live Class (HM-59+60)** H.Math: Chapter – 09	Daily Live Exam (C-39+40) **MCQ** (10×1=10); 10 min
25 September 2024 (Wednesday)	**Live Class (P-37+38)** Physics: Chapter – 06	Daily Live Exam (HM-59+60) **MCQ** (10×1=10); 10 min

26 September 2024 (Thursday)	**Live Class (B-15+16)** Botany: Chapter - 03	Daily Live Exam (P-37+38) **MCQ** (10×1=10); 10 min
29 September 2024 (Sunday)	**Live Class (C-41+42)** Chemistry: Chapter – 04	Daily Live Exam (B-15+16) **MCQ** (10×1=10); 10 min
30 September 2024 (Monday)	Chapter-wise Exam [H.Math Chapter-08] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.	
01 October 2024 (Tuesday)	**Live Class (HM-61+62)** H.Math: Chapter – 09	Daily Live Exam (C-41+42) **MCQ** (10×1=10); 10 min
02 October 2024 (Wednesday)	**Live Class (P-39+40)** Physics: Chapter – 06	Daily Live Exam (HM-61+62) **MCQ** (10×1=10); 10 min
03 October 2024 (Thursday)	**Live Class (B-17+18)** Botany: Chapter - 03	Daily Live Exam (P-39+40) **MCQ** (10×1=10); 10 min
06 September 2024 (Sunday)	**Live Class (C-43+44)** Chemistry: Chapter – 04	Daily Live Exam (B-17+18) **MCQ** (10×1=10); 10 min
07 September 2024 (Monday)	Chapter-wise Exam [Physics Chapter-05] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.	
08 October 2024 (Tuesday)	**Live Class (HM-63+64)** H.Math: Chapter – 09	Daily Live Exam (C-43+44) **MCQ** (10×1=10); 10 min
09 October 2024 (Wednesday)	**Live Class (P-41+42)** Physics: Chapter – 06	Daily Live Exam (HM-63+64) **MCQ** (10×1=10); 10 min
10 October 2024 (Thursday)	**Live Class (Z-19+20)** Zoology: Chapter – 04	Daily Live Exam (P-41+42) **MCQ** (10×1=10); 10 min
Online classes and exams will be closed on October 12 and 13 on the occasion of Autumn Durga Puja.		
15 October 2024 (Tuesday)	**Live Class (HM-65+66)** H.Math: Chapter – 09	Daily Live Exam (Z-19+20) **MCQ** (10×1=10); 10 min
16 October 2024 (Wednesday)	**Live Class (P-59+60)** Physics: Chapter – 10	Daily Live Exam (HM-65+66) **MCQ** (10×1=10); 10 min
17 October 2024 (Thursday)	**Live Class (Z-21+22)** Zoology: Chapter – 04	Daily Live Exam (P-59+60) **MCQ** (10×1=10); 10 min
20 September 2024 (Sunday)	**Live Class (C-45+46)** Chemistry: Chapter – 04	Daily Live Exam (Z-21+22) **MCQ** (10×1=10); 10 min
21 September 2024 (Monday)	Chapter-wise Exam [Botany Chapter-03] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.	
22 October 2024 (Tuesday)	**Live Class (HM-67+68)** H.Math: Chapter – 09	Daily Live Exam (C-45+46) **MCQ** (10×1=10); 10 min
23 October 2024 (Wednesday)	**Live Class (P-61+62)** Physics: Chapter – 10	Daily Live Exam (HM-67+68) **MCQ** (10×1=10); 10 min
24 October 2024 (Thursday)	**Live Class (Z-23+24)** Zoology: Chapter – 04	Daily Live Exam (P-61+62) **MCQ** (10×1=10); 10 min
27 September 2024 (Sunday)	**Live Class (C-47+48)** Chemistry: Chapter – 04	Daily Live Exam (Z-23+24) **MCQ** (10×1=10); 10 min
28 September 2024 (Monday)	Chapter-wise Exam [Physics Chapter-06] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.	
29 October 2024 (Tuesday)	**Live Class (HM-69+70)** H.Math: Chapter – 09	Daily Live Exam (C-47+48) **MCQ** (10×1=10); 10 min
30 October 2024 (Wednesday)	**Live Class (P-63+64)** Physics: Chapter – 10	Daily Live Exam (HM-69+70) **MCQ** (10×1=10); 10 min
31 October 2024 (Thursday)	**Live Class (Z-25+26)** Zoology: Chapter – 04, 05	Daily Live Exam (P-63+64) **MCQ** (10×1=10); 10 min
03 November 2024 (Sunday)	**Live Class (C-49+50)** Chemistry: Chapter – 04	Daily Live Exam (Z-25+26) **MCQ** (10×1=10); 10 min
04 November 2024 (Monday)	Chapter-wise Exam [Zoology Chapter-04] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.	
05 November 2024 (Tuesday)	**Live Class (HM-71+72)** H.Math: Chapter – 09	Daily Live Exam (C-49+50) **MCQ** (10×1=10); 10 min
06 November 2024 (Wednesday)	**Live Class (HM-25+26)** H.Math: Chapter – 04	Daily Live Exam (HM-71+72) **MCQ** (10×1=10); 10 min
07 November (Thursday)	**Live Class (Z-27+28)** Zoology: Chapter – 05	Daily Live Exam (HM-25+26) **MCQ** (10×1=10); 10 min
09 November (Saturday)	Chapter-wise Exam [H.Math Chapter-09] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.	
10 November 2024 (Sunday)	**Live Class (C-51+52)** Chemistry: Chapter – 04	Daily Live Exam (Z-27+28) **MCQ** (10×1=10); 10 min
11 November 2024 (Monday)	Chapter-wise Exam [Physics Chapter-10] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.	
12 November 2024 (Tuesday)	**Live Class (HM-27+28)** H.Math: Chapter – 04	Daily Live Exam (C-51+52) **MCQ** (10×1=10); 10 min
13 November 2024 (Wednesday)	**Live Class (HM-29+30)** H.Math: Chapter – 04	Daily Live Exam (HM-27+28) **MCQ** (10×1=10); 10 min
14 November (Thursday)	**Live Class (B-25+26)** Botany: Chapter - 05	Daily Live Exam (HM-29+30) **MCQ** (10×1=10); 10 min
16 November (Saturday)	Chapter-wise Exam [Zoology Chapter-05] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.	
17 November 2024 (Sunday)	**Live Class (B-27+28)** Botany: Chapter - 05	Daily Live Exam (B-25+26) **MCQ** (10×1=10); 10 min
18 November 2024 (Monday)	Chapter-wise Exam [Chemistry Chapter-04] (CQ 2×10=20); Time: 50min & (Pre-Admission MCQ 10×1=10); Time: 10min.	
Next Class & Exam Routine (Part-04) will be published…		

HSC 1st Year Academic Program Pioneer Batch Part-03 Syllabus-2024 (Online)

Physics 1st Paper (Reference Book: UDVASH Parallel Text)		
Chapter	**Chapter**	**Chapter**
Chapter-4 Newtonian Mechanics	P-23	Newton's third law of motion, System, External and Internal Force, Types of forces, Gravitational Force, Normal Force, Weight, Tension.
	P-24	Friction, Friction angle, Static Angle.
	P-25	Conservation of momentum, Vector format of Conservation of momentum, Collision, Quantities of One dimentional collision.
	P-26	Center of mass, Impulse, Application of Newton's forces, standing of the ground, Walking, running horse cart, Pulling Boat, Motion of Rocket, Relation between Newton's Laws.
	P-27	Uniform Circular motion, Centripetal force, Centrifugal force, Banking on roads. Cycle, Train/Cars.
	P-28	Rotational inertia: Moment of inertia, Radius of gyration, Perpendicular Axis theorem, Parallel axis theorem.
	P-29	Moment of inertia in various objects, Torque, equations of torque, Vector format of torque, Torque and angular acceleration.
	P-30	Angular momentum, Equivalent way of measuring angular momentum, angular momentum of circular motion, relation between torque and angular momentum, Newton's law of angular motion, Important formulas together, Mathematical Problems.
Chapter-5 Work, Energy and Power	P-31	Work, Positive, negative and zero work, Constant force and changing force, Work done for constant force.
	P-32	Work done for changing force, Spring force, Work done for rotation.
	P-33	Dependency of work done on path, Kinetic Energy and Work-Energy theorem, Kinetic energy of rotating body, Kinetic energy rotating and spinning body.
	P-34	Conservative force, non-conservative force, Potential energy, Gravitational potential energy, Elastic potential energy, Relation between force and potential energy.
	P-35	Work done and change of mechanical energy, Conservation of mechanical energy, Conservation of energy.
	P-36	Power, Efficiency, Mathematical Problems, Displacement of center of mass, Well and reservoir related problems.
Chapter-6 Gravitation and Gravity	P-37	Falling Bodies, Kepler's Law of Planetary Motion, Gravitation, Vector form of Gravitational Force, Moment of Inertia and Gravitational Mass, Gravity and gravitational acceleration.
	P-38	Determining the value of g: Relation between gravitational constant and gravitational acceleration, change of gravitational acceleration, Change of Gravitational acceleration due to earth's shape, Change of Gravitational acceleration due to height from earth's surface, change of gravitational acceleration due to depth, Change of gravitational acceleration due to earth's rotation.
	P-39	Center of Gravity, Gravitational Field, Gravitational Field Intensity.
	P-40	Gravitational Potential, Relation between Gravitational field intensity and Gravitational potential, Gravitational Potential Energy.
	P-41	Escape velocity, Application of the Laws of gravitational force, Application of the Laws of gravity in sloid sphere.
	P-42	Relation between Newton's law of gravitation and Kepler's laws, Motion of Satellite. Geo-stationary satellite, Polar Satellite, Weightlessness in space, Research and search for natural resources.
Chapter-10 Ideal gas and kinetics of gases	P-59	Gas, Pressure of gas, Volume of gas, Temperature of gas, amount of gas, Formulas of gas, Relation between pressure and volume, Relation between volume and temperature, law of pressure.
	P-60	Ideal gas, Features of Ideal Gas, Real gas, Molecular Kinetic Theory of gases, Postulates of gaseous atoms, Application of Molecular Kinetic Theory.
	P-61	Mean free path, Degrees of freedom.
	P-62	One molecular, two molecular and three molecular gas, Linear molecular gas, non-linear molecular gas, Law of equal distribution of energy.
	P-63	Water vapor and air pressure, Evaporation, condensation, saturated and non-saturated pressure, relation between pressure and volume of water vapor in isothermal condition, due point and relative humidity.
	P-64	Due point, Humidity, Relative humidity and due point, Devices to measure humidity, Wet and dry bulb thermometer, Some phenomena on Hygrometry.

Chemistry 1st Paper (Reference Book: UDVASH Parallel Text)		
Chapter	**Chapter**	**Chapter**
Chapter-3 Periodic Properties and Bonding in Elements	C-33	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-34	Ligand, Coordinate covalent bond.
	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-1 Safe Use of Laboratory	C-01	Safe use of Laboratory- Aprons, masks, safety glasses, gloves, lab rules/golden rules, Solvent measuring device and its uses- Chemical analysis, test tubes, beakers, burettes, pipettes, volumetric flasks, conical flasks, wash bottles, measuring cylinders, techniques for cleaning glassware.

	C-02	Solute measuring instruments - chemical instruments, Paul-Bunge balances, method of weighing in balances, digital balances. Concentration- Molarity, Molality, Dilution, Standard Substances (Primary & Secondary), Titration- Method, Indicator, End Point & Equivalent Point, Formulation of Titration Equations + Math.
	C-03	Heating Techniques with Laboratory Apparatus- Bunsen Burner & Flame, Heating Techniques in Round Bottom Flasks, Conical flask heating technique, Water bath heating technique, Porcelain bowl heating technique, Test tube heating technique, Beaker heating technique. Storage, Use, Precautions and Disposal of Chemicals- Storage of Chemicals, Waste Management, Use and Precautions of Chemicals.
	C-04	Effects of Chemicals on Environment and Moderate Use - Environmental Pollution by Airborne Substances, Environmental Pollution by Laboratory Solid and Liquid Substances, Effects of chemicals on Environment and Health, moderate use of chemicals, analytical methods (macro, semi-micro, micro), laboratory safety equipment and rules of use - fume hood, blanket, laboratory kit, eyecup, sink, use of fire extinguisher, first aid box, first aid and Use of first aids.
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
	C-40	molecularity of reaction
	C-41	Effect of temperature on rate of reaction (Arrhenius equation), Activation energy, Collision theory.
	C-42	Effect of Pressure on rate of reaction, Effect of concentration on rate of reaction, Effect of catalyst on rate of reaction.
	C-43	Equilibrium of Chemical Reaction- Equilibrium and its Dynamics, Le-Chatelier's Principle
	C-44	Effect of temperature, pressure and concentration on equilibrium, Use in industry (Le-Chatelier's Principle).
	C-45	Law of mass action, Discussion about equilibrium constant (K_p and K_c).
	C-46	Derivation of mathematical expression of K_p and K_c.
	C-47	Acid-Base equilibrium- Theories related to acid-base, Ionic product of water
	C-48	Dissociation constant of acid-base, Degree of dissociation, Acid-Base strength.
	C-49	P_H & P_{OH}
	C-50	Buffer solution
	C-51	Thermochemistry- Law of conservation of mass and energy, Thermochemical equation, Heat of reaction.
	C-52	Bond energy, Lavoisier and Hess's law, determining heat of reaction using Lavoisier and Hess's law.

H.Math 1st Paper (Reference Book: UDVASH Parallel Text)		
Chapter	Chapter	Chapter
Chapter-7 Trigonometric Ratio of Associated Angle	HM-45	Exercise - 7.3; $TF_1C \pm TF_2D$ related problems, $sinA + cosA$ related problems.
	HM-46	Exercise - 7.4; Trigonometric Ratios of Multiple Angles, Formulas and Problems related to Trigonometric Ratios of Angles 2A, Series (Arithmetic and Geometric series) and Problems.
	HM-47	Exercise - 7.4; Periodic Square Roots related and Problems, Trigonometric Ratios of 3A Angles and Problems related to Trigonometric Ratios of 3A Angles, Trigonometric Ratios of Certain Angles.
	HM-48	Exercise - 7.5; Formulas and problems related to proof, problems related to determination of values of various trigonometric ratios from values of $cos x + cos y$ and $sinx + siny$.
	HM-49	Exercise - 7.6; problems related to tangent and cotangent, related to sine and cosine.
	HM-50	Exercise - 7.7; Related to sine rule of triangle, tangent rule or Napier's formula, Tangent rule related problems.
	HM-51	Exercise - 7.7; Cosine rule, Cosine rule of triangle, Projection rule, Perpendicular projection, Progression Related, Trigonometric ratios and formulas of half-angles of triangles.
	HM-52	Exercise - 7.7; Area of Triangle, Relationship between Inradius and Circumradius: Area, Determining nature of triangle subject to conditions, Others.
Chapter-8 Functions & Graph	HM-53	Exercise - 8; Set and its types, Interval, Set mapping & cartesian product, relation and their identification, clear idea of set through mapping, Domain. Range and Co-domain, role of constant and co-efficient in function, Function and its graph, Piecewise Function, problems related to value determination of function.
	HM-54	Exercise - 8; One-one function and many-one function, Onto function, Bijective function.
	HM-55	Exercise - 8; Inverse function related, Inverse function and inverse relation, Discussion related to domain range determination.
	HM-56	Exercise - 8; Interconversion of function and relation, graph shifting or translation, graph, scaling graph reflecting Symmetry of graph.
	HM-57	Exercise - 8; Square root functions, rational functions, $\left(f(x) = \frac{P(x)}{Q(x)}\right)$.
	HM-58	Exercise - 8; n^{th} root functions, Absolute value function, exponential functions, $(y = a^x; a > 0, a \neq 1)$, logarithmic functions, Composite function.
	HM-59	Exercise - 9.1; Primary discussion of limit, Undefined, Indeterminate limits, Existence of limit, Limit, Characteristics of limit, limits at infinity, infinite limits, some special limits.

Chapter-9 Differentiation	HM-60	Exercise - 9.1; *Existence of* limits and general limits, factorization, $\lim_{x \to a} \frac{x^n - a^n}{x - a}$, Multiplying numerator and denominator by conjugate, infinite limit.
	HM-61	Exercise - 9.1; $\lim_{x \to 0} \frac{\sin x}{x}$; $\lim_{x \to 0} \frac{\tan x}{x}$; Continuity of function, Sandwich Theorem.
	HM-62	Exercise - 9.2; Differentiability of a function, Differentiation by first principle.
	HM-63	Exercise - 9.2; General formulas related to differentiation. Exercise - 9.3; Differentiation of product of functions.
	HM-64	Exercise - 9.3; Differentiation of quotient of functions, Exercise - 9.4; Differentiation of composite function.
	HM-65	Exercise - 9.4; Inverse trigonometric function, Differentiation using logarithm.
	HM-66	Exercise - 9.4; *L'Hôpital's Rule* (Admission Special),
	HM-67	Exercise - 9.5: Derivative of implicit function, Differentiation of parametric equations.
	HM-68	Exercise - 9.5: Differentiation of a function with respect to another function, Exercise - 9.6; Successive differentiation, nth derivative.
	HM-69	Exercise - 9.6; Proof related to different successive differentiations, Exercise - 9.7; Physical Application.
	HM-70	Exercise - 9.7; Geometrical Application.
	HM-71	Exercise - 9.8; Increasing function, decreasing function, maxima, minima.
	HM-72	Exercise - 9.8; Problems related to maxima and minima.
Chapter-4 Circle	HM-25	Exercise - 4.1; Concept of Circle, Equation of the circle with center at the origin and radius r, Equation of a circle with specific center and radius, General Equation of Circle, Some Characteristics of general equation of circle/Conditions for the equation of circle, The sign of g and f in different quadrants, Classification of Circle, Position of a point according to the circle.
	HM-26	Exercise - 4.1; Determination of the equation of a circle using terminal points of diameter, Determining the end points of diameter of a circle Intersection of axes by circle and regarding tangent, Equation of circle not touching or intersecting any of the axes, Equation of circle when its center and any point on the circumference is given.
	HM-27	Exercise - 4.1; Equation of circle passing through the intersection of a straight line/circle and another circle, Equation of circle passing through three fixed points, Equation of circle with center residing on a specific straight line, Related to Circumcircle and Incircle, Exercise - 4.2; Equation of tangent and normal of circle at a fixed point.
	HM-28	Exercise - 4.2; Problems on tangents drawn from points outside the circle, Regarding the determination of the length of a chord of a circle, Determining the coordinates of the nearest and farthest point of the circle from the specified point/line.
	HM-29	Exercise - 4.2; Relative position of two circles, Radical axis and common chord.
	HM-30	Exercise - 4.2; Number of common tangents of two circles and determination of their equation, Polar Equation of Circle, Parametric Equation of Circle.

Botany (Reference Book: UDVASH Parallel Text)		
Chapter	**Chapter**	**Chapter**
Chapter-3 Cell Chemistry	B-13	Carbohydrates: Properties of Carbohydrates, Types of Carbohydrates (Sugars): Monosaccharides (Triose, Tetrose, Pentose).
	B-14	Monosaccharides (hexose, heptose), disaccharides.
	B-15	Oligosaccharides, Polysaccharides, Functions of Carbohydrates.
	B-16	Amino acid, classification of amino acoid, protein, classification of protein.
	B-17	Lipid, classification of lipid, function of lipid.
	B-18	Enzymes: Properties of Enzymes, Mechanism of action of Enzymes, Types of Enzymes, Effectors on Enzymes, Uses of Enzymes.
Chapter-5 Algae and Fungi	B-25	Algae (Characteristics, Physical Structure, Celluler Structure), Reproduction of Algae (Vegetative Reproduction, Asexual Reproduction, Sexual Reproduction).
	B-26	Ulothrix (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 (Beneficial and Harmful Effects).
	B-28	Agaricus (Habitat, Physical Structure), Economic Importance of Agaricus, Fungal Diseases, Lichen (Habitat, Characteristics, Structure, Classification), Importance of Lichen.

Zoology (Reference Book: UDVASH Parallel Text)		
Chapter	**Chapter**	**Chapter**
Chapter-2 Introduction to Animal	Z-09	Grasshopper, external structure of grasshopper, regions of grasshopper, Mouthparts of grasshopper.
	Z-10	Alimentary system (alimentary canal, alimentary glands), feeding and digestion of grasshopper.
	Z-11	Circulatory system, respiratory system, excretory system.
	Z-12	Sensory organs of grasshopper, Compound eye of grasshopper, vision mechanism, reproduction process, metamorphosis, role of hormones in metamorphosis.
	Z-13	The Rohu fish, external structure, scale, circulatory system, blood, heart, blood vessels (arterial system).

	Z-14	Fish venous system, respiratory system, structure of gills, respiratory mechanism, air bladder, reproduction and life cycle of fish.
Chapter-4 Human Physiology: Blood and Circulation	Z-19	Blood, blood components, plasma, red blood corpusle.
	Z-20	White blood corpusle, types, platelet.
	Z-21	Blood coagulation process, lymph, lymphatic system, types of blood vessels.
	Z-22	Human heart (location, shape, covering, wall), structure of cardiac muscle, chambers of the heart, valves of the heart, circulation of blood through the heart.
	Z-23	Heartbeat: cardiac cycle, myogenic control, conduction of impulses.
	Z-24	Blood Pressure and Baroreceptors, Blood Circulation in the Human Body (Systemic, Pulmonary, Coronary, Portal)
	Z-25	Heart disease, chest pain or angina, heart attack, heart failure, treatment concepts, mechanical pacemaker, open heart surgery, coronary bypass surgery.
Chapter-5 Human Physiology: Breathing and Respiration	Z-26	Respiration, Stages of Respiration (Exhalation and Inhalation), Difference between Exhalation and Inhalation, Parts of Respiratory System.
	Z-27	Lungs, Function of the respiratory system, ventilation mechanism, Gaseous exchange.
	Z-28	Control of ventilation, Diseases of respiratory system, Artificial respiration.

For any information regarding the online program contact the following numbers

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