

# HSC 2nd Year Academic Program

## Pioneer Batch

Online Batch Time

English Version – 3:00pm

**Class & Exam**  
(New Routine)

Online Exam Time

From 9:00am to 11:00pm

### Part-03

Date & Day	Live Class	Live Exam
01 September 2024 (Sunday)	<b>Live Class (HM-17+18)</b> H.Math: Chapter - 06	Daily Live Exam (HM-15+16) <b>MCQ</b> (10×1=10); 10 min.
02 September 2024 (Monday)	<b>Live Class (C-37+38)</b> Chemistry: Chapter - 03	Daily Live Exam (HM-17+18) <b>MCQ</b> (10×1=10); 10 min.
03 September 2024 (Tuesday)	<b>Live Class (HM-19+20)</b> H.Math: Chapter - 06	Daily Live Exam (C-37+38) <b>MCQ</b> (10×1=10); 10 min.
04 September 2024 (Wednesday)	<b>Live Class (HM-21+22)</b> H.Math: Chapter - 06	Daily Live Exam (HM-19+20) <b>MCQ</b> (10×1=10); 10 min.
05 September 2024 (Thursday)	<b>Live Class (Z-35+36)</b> Zoology: Chapter - 11	Daily Live Exam (HM-21+22) <b>MCQ</b> (10×1=10); 10 min.
<b>06 September 2024 (Friday)</b>	<b>Chapter-wise Exam [Chemistry 2nd Paper Chapter-03] (Part-01); Lecture C-35 to 37; (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
08 September 2024 (Sunday)	<b>Live Class (P-25+26)</b> Physics: Chapter - 07	Daily Live Exam (Z-35+36) <b>MCQ</b> (10×1=10); 10 min.
09 September 2024 (Monday)	<b>Live Class (C-39+40)</b> Chemistry: Chapter - 03	Daily Live Exam (P-25+26) <b>MCQ</b> (10×1=10); 10 min.
10 September 2024 (Tuesday)	<b>Live Class (HM-23+24)</b> H.Math: Chapter - 06	Daily Live Exam (C-39+40) <b>MCQ</b> (10×1=10); 10 min.
11 September 2024 (Wednesday)	<b>Live Class (HM-33+34)</b> H.Math: Chapter - 08	Daily Live Exam (HM-23+24) <b>MCQ</b> (10×1=10); 10 min.
12 September 2024 (Thursday)	<b>Live Class (Z-37+38)</b> Zoology: Chapter - 11	Daily Live Exam (HM-33+34) <b>MCQ</b> (10×1=10); 10 min.
<b>13 September 2024 (Friday)</b>	<b>Chapter-wise Exam [Physics 2nd Paper Chapter-07] (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
<b>14 September 2024 (Saturday)</b>	<b>Chapter-wise Exam [H.Math 2nd Paper Chapter-06] (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
15 September 2024 (Sunday)	<b>Live Class (P-27+28)</b> Physics: Chapter - 08	Daily Live Exam (Z-37+38) <b>MCQ</b> (10×1=10); 10 min.
16 September 2024 (Monday)	<b>Live Class (C-41+42)</b> Chemistry: Chapter - 03	Daily Live Exam (P-27+28) <b>MCQ</b> (10×1=10); 10 min.
17 September 2024 (Tuesday)	<b>Live Class (HM-35+36)</b> H.Math: Chapter - 08	Daily Live Exam (C-41+42) <b>MCQ</b> (10×1=10); 10 min.
18 September 2024 (Wednesday)	<b>Live Class (HM-37+38)</b> H.Math: Chapter - 08	Daily Live Exam (HM-35+36) <b>MCQ</b> (10×1=10); 10 min.
19 September 2024 (Thursday)	<b>Live Class (B-33+34)</b> Botany: Chapter - 11	Daily Live Exam (HM-37+38) <b>MCQ</b> (10×1=10); 10 min.
<b>20 September 2024 (Friday)</b>	<b>Chapter-wise Exam [Zoology Chapter-11] (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
<b>21 September 2024 (Saturday)</b>	<b>Chapter-wise Exam [Chemistry 2nd Paper Chapter-03] (Part-02); Lecture C-38 to 42; (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
22 September 2024 (Sunday)	<b>Live Class (P-29+30)</b> Physics: Chapter - 08	Daily Live Exam (B-33+34) <b>MCQ</b> (10×1=10); 10 min.
23 September 2024 (Monday)	<b>Live Class (C-43+44)</b> Chemistry: Chapter - 04	Daily Live Exam (P-29+30) <b>MCQ</b> (10×1=10); 10 min.
24 September 2024 (Tuesday)	<b>Live Class (HM-39+40)</b> H.Math: Chapter - 08	Daily Live Exam (C-43+44) <b>MCQ</b> (10×1=10); 10 min.
25 September 2024 (Wednesday)	<b>Live Class (HM-41+42)</b> H.Math: Chapter - 08	Daily Live Exam (HM-39+40) <b>MCQ</b> (10×1=10); 10 min.
26 September 2024 (Thursday)	<b>Live Class (B-35+36)</b> Botany: Chapter - 11	Daily Live Exam (HM-41+42) <b>MCQ</b> (10×1=10); 10 min.
<b>27 September 2024 (Friday)</b>	<b>Chapter-wise Exam [H.Math 2nd Paper Chapter-08] (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
<b>28 September 2024 (Saturday)</b>	<b>Chapter-wise Exam [Botany Chapter-11] (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
29 September 2024 (Sunday)	<b>Live Class (P-31+32)</b> Physics: Chapter - 08	Daily Live Exam (B-35+36) <b>MCQ</b> (10×1=10); 10 min.
30 September 2024 (Monday)	<b>Live Class (C-45+46)</b> Chemistry: Chapter - 04	Daily Live Exam (P-31+32) <b>MCQ</b> (10×1=10); 10 min.
01 October 2024 (Tuesday)	<b>Live Class (HM-43+44)</b> H.Math: Chapter - 09	Daily Live Exam (C-45+46) <b>MCQ</b> (10×1=10); 10 min.
02 October 2024 (Wednesday)	<b>Live Class (HM-45+46)</b> H.Math: Chapter - 09	Daily Live Exam (HM-43+44) <b>MCQ</b> (10×1=10); 10 min.
03 October 2024 (Thursday)	<b>Live Class (P-33+34)</b> Physics: Chapter - 09	Daily Live Exam (HM-45+46) <b>MCQ</b> (10×1=10); 10 min.
<b>04 October 2024 (Friday)</b>	<b>Chapter-wise Exam [Physics 2nd Paper Chapter-08] (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
<b>05 October 2024 (Saturday)</b>	<b>Chapter-wise Exam [Chemistry 2nd Paper Chapter-04] (Part-01); Lecture C-43 to 45; (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
06 September 2024 (Sunday)	<b>Live Class (P-35+36)</b> Physics: Chapter - 10	Daily Live Exam (P-33+34) <b>MCQ</b> (10×1=10); 10 min.

07 September 2024 (Monday)	<b>Live Class (C-47+48)</b> Chemistry: Chapter - 04	Daily Live Exam (P-35+36) <b>MCQ</b> (10×1=10); 10 min.
08 October 2024 (Tuesday)	<b>Live Class (HM-47+48)</b> H.Math: Chapter - 09	Daily Live Exam (C-47+48) <b>MCQ</b> (10×1=10); 10 min.
09 October 2024 (Wednesday)	<b>Live Class (HM-49+50)</b> H.Math: Chapter - 09	Daily Live Exam (HM-47+48) <b>MCQ</b> (10×1=10); 10 min.
<b>Online classes and exams will be closed from October 10 to October 13 on the occasion of Sharadiya Durga Puja.</b>		
14 September 2024 (Monday)	<b>Live Class (P-37+38)</b> Physics: Chapter - 10	Daily Live Exam (HM-49+50) <b>MCQ</b> (10×1=10); 10 min.
15 October 2024 (Tuesday)	<b>Live Class (HM-51+52)</b> H.Math: Chapter - 09	Daily Live Exam (P-37+38) <b>MCQ</b> (10×1=10); 10 min.
16 October 2024 (Wednesday)	<b>Live Class (P-39+40)</b> Physics: Chapter - 10	Daily Live Exam (HM-51+52) <b>MCQ</b> (10×1=10); 10 min.
17 October 2024 (Thursday)	---	Daily Live Exam (P-39+40) <b>MCQ</b> (10×1=10); 10 min.
<b>18 October 2024 (Friday)</b>	<b>Chapter-wise Exam [Physics 2nd Paper Chapter-09] (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
<b>19 October 2024 (Saturday)</b>	<b>Chapter-wise Exam [Chemistry 2nd Paper Chapter-04] (Part-02); Lecture C-46 to 48; (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
<b>21 October 2024 (Monday)</b>	<b>Chapter-wise Exam [H.Math 2nd Paper Chapter-09] (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
<b>23 October 2024 (Tuesday)</b>	<b>Chapter-wise Exam [Physics 2nd Paper Chapter-10] (CQ 2×10=20); Time: 50min &amp; (Pre-Admission MCQ 10×1=10); Time: 10min.</b>	
<b>***End***</b>		

### Online Classes & Exam Procedure:

\* Go to this website [udvash.com](http://udvash.com) and click on 'Join Now' menu to give **Live Class & Exam. Login** to class **12th academic program Pioneer Batch** using your admitted registration number to participate in classes and exams.

\* The **Daily Live Exam** will run from **09:00 am to 11:00 pm** as per the date mentioned in the routine. A student can participate in the **Live Exam** only once during this period. However, for more practice, students can participate in the **Practice Exam** of the same syllabus multiple times.

### HSC 2nd Year Academic Pioneer Batch Course Syllabus (Online)

<b>Physics 2nd Paper (Reference Book: <b>UDVASH</b> Parallel Text)</b>		
Chapter	Chapter	Chapter
<b>Chapter-7</b> Physical Optics	P-25	Diffraction, Fraunhofer diffraction, Grating diffraction.
	P-26	Polarization of light, Malus' Law, Intensity of light in polarization, Polarization in double refraction
<b>Chapter-8</b> Introduction of Modern Physics <b>(Partial)</b>	P-27	Concept of modern physics, Inertial and non-inertial reference frame, Relation between various inertial reference frame, Michelson-Morley's experiment.
	P-28	Special theory of relativity, Galilean transformation, Lorentz transformation.
	P-29	Time dilation, Length contraction, Relativity of mass, Relation of mass-energy, Momentum of light.
	P-30	Fundamental force, Travelling in space, Black-body radiation, Atomic mass unit.
	P-31	Photo-electric effect, Limitations of electromagnetic theory of light, Theory of Photon and photoelectric effect, Stopping potential
<b>Chapter-9</b> Atomic Model & Nuclear Physics	P-32	X-ray, Producing X-ray, Properties and types of x-ray.
	P-33	Structure of Atom, Thomson's atomic model. Rutherford's alpha-particle experiment, Solar model, Bohr's atomic model, Atomic radius and energy, Structure of nucleus, Quantities of nucleus.
<b>Chapter-10</b> Semi-Conductor & Electronics	P-34	Radioactivity, Radioactive ray, Alpha, Beta and gamma radiation, Rules of radioactive transformation, Radioactive decay, Equation of decay, Transformation law, Half-life and average-life, Mass defect and binding energy, Nuclear reaction, Fission, fusion and nuclear reactor.
	P-35	Energy band, Conductor, Semi-conductor and insulator with respect to band theory, Effect of temperature on semi-conductor, Pure and impure semi-conductor, P-type and n-type semi-conductor, p-n junction diode.
	P-36	Biasing in p-n junction, Forward and reverse bias, Ideal diode model, Model of constant voltage drop, use of diode as a rectifier.
	P-37	Structure of transistor, Basic combinations of transistors, Mechanism of p-n-p transistor.
	P-38	Properties of a transistor, Use of transistor as an amplifier, Use of transistor as a switch, Applying Kirchhoff's law in a transistor.
	P-39	Numeric system, Introduction to various numeric system, Transformation of various numeric system, Binary addition, subtraction, multiplication and division.
	P-40	Operations of Boolean algebra, Logic-gate, types of logic gates, Universal gate, Logic-circuit from Boolean equations.

<b>Chemistry 2nd Paper (Reference Book: <b>UDVASH</b> Parallel Text)</b>		
Chapter	Chapter	Chapter
<b>Chapter-3</b> Stoichiometric Chemistry <b>(Partial)</b>	C-37	Molar concentration and substance (Primary and secondary), Molarity, Molality, Normality, Percentage (%W/V, %W/W, %V/V), ppm, ppb, ppt, Dilution.
	C-38	Acid-base reaction- Introduction and neutralization reaction, Acid base titration + Math
	C-39	Indicator, Titration, Neutralization point, Titration graph.

	C-40	Oxidation number, Valency and latent valency, Oxidation-reduction (Basic concept), Compatibility, Incompatibility, Auto oxidation-reduction.
	C-41	Balancing of oxidation-reduction.
	C-42	Oxidation-reduction titration (Determination of amount of metal ion and impurity, iodimetry and iodometry)
<b>Chapter-4</b> Electro-chemistry <b>(Partial)</b>	C-43	Electric conductivity and classification, Specific conductance, equivalent conductance and molar conductance of electrolyte.
	C-44	Reactivity series of metal, Electric cell, Classification and technique of electrolyte, Factors having effect on electrolyte.
	C-45	Faraday's law + Math.
	C-46	Electrode and Electrode potential – Elements of electrochemical cell, Oxidation-reduction half-cell reaction, Electrode and classification, Single and double chamber electrochemical cell + usage, Galvanic cell, Standard electrode potential, Salt bridge and its use.
	C-47	Electrode indicator, Math of standard electrode potential, Math of safe container.
	C-48	Electric cell, Cell potential and its effect- Nernst equation + Math, Relation of Gibbs Free energy, pH Meter.

H.Math 2nd Paper (Reference Book: <b>UDVASH</b> Parallel Text)		
Chapter	Chapter	Chapter
<b>Chapter-06</b> Conics	HM-17	Exercise – 6.1; Parametric Equation of Parabola, Polar Equation of Parabola, Determining the Equation of a Parabola from the Definition of Conic, Tangent at the Vertex (Vertex and Epicenter Will Be Given).
	HM-18	Exercise – 6.1; Smallest Distance of Parabola from an External Point, Applying the Equation of Parabola to Real Life Problems.
	HM-19	Exercise – 6.2; Standard Equation of Ellipse, Graphing the Standard Equation of Ellipse and Chart of Various Elements of Standard Equation.
	HM-20	Exercise – 6.2; $SP + S'P = 2a$ (Length of Major Axis), Axis Shifting, Determining the Equation of an Ellipse from the Definition of Conic, Determining the Equation of an Ellipse from One of its Foci, Opposite Directrix & Eccentricity.
	HM-21	Exercise – 6.3; Hyperbola, Standard Equation of Hyperbola, Chart of Various Elements of Standard Equation.
	HM-22	Exercise – 6.3; Axis Shifting, Asymptote.
	HM-23	Exercise – 6.3; Rectangular Hyperbola, Parametric Coordinates of Hyperbola, Determining the Equation of a Hyperbola from the Definition of Conic
	HM-24	Exercise – 6.3; Explanation of a Pair of Straight Lines When $e \rightarrow \infty$ , Discussion and Problems on Tangent of Conic, General Equation of Conic and hence Identification of Conic, Position of Point Relative to Conic.
<b>Chapter-08</b> Statics	HM-33	Exercise – 8.1; Elementary Ideas of Mechanics, Principle of Transmissibility of Force, Action and Reaction of a Force, Different Kinds of Forces, Definition of Some Triangle Related Topics in Statics Problem Solving.
	HM-34	Exercise – 8.1; Resultant of Two Forces acting on a Particle, Addition of Forces, Determination of Magnitude and Direction of Resultant of Two Forces Acting at an Angle $\alpha$ to Each Other, Related to Unchanged Direction of Resultant.
	HM-35	Exercise – 8.1; Resultant of 3 or More Forces, Some Special Cases Related to Parallelogram Law, Polygon Formula of Addition of Forces, (m, n) Theorem.
	HM-36	Exercise – 8.1; Resolving a Force at a Certain Direction into Two Perpendicular Components. Projection Theorem, Application of Projection Theorem For Two or More Forces, Determining the Value & Direction of Two Forces Using Perpendicular Components.
	HM-37	Exercise – 8.2; Equilibrium of Coplanar Forces, Law of Triangle of Forces in Equilibrium, Inverse Formula of Law of Triangle of Forces in Equilibrium, Condition of Equilibrium of Coplanar Forces Acting at a point.
	HM-38	Exercise – 8.2; Lami's Theorem, Inverse of Lami's Theorem.
	HM-39	Exercise – 8.2; Problems Related to Lami's Theorem.
	HM-40	Exercise – 8.2; Problems on Inverse Formula of Law of Triangle of Forces in Equilibrium.
	HM-41	Exercise – 8.3; Resultant of Parallel Forces Acting on a Rigid Body, Determining the Magnitude, Direction and Point of Action of Two Similar Parallel Forces.
	HM-42	Exercise – 8.3; Determining the Magnitude, Direction and Point of Action of Two Unequal and unlike Parallel Forces, Mathematical Problems.
<b>Chapter-09</b> Motion of Particles in a Plane	HM-43	Exercise – 9.1; Displacement, Velocity, Acceleration, Resultant of Velocity More than One, Determining the Value and Direction of the Resultant of Two Velocities Directed Towards the Same Point, Parallelogram Formula of Velocity, Triangle Formula of Velocity.
	HM-44	Exercise – 9.1; Problems on Minimum Distance Between Two Moving Particles, Problems on Crossing River.
	HM-45	Exercise – 9.2; Determining Relative Velocity, Problems on Determining Relative Velocity.
	HM-46	Exercise – 9.3; Uniform Acceleration, Unit of Acceleration, Equations of Motion for a Particle having Uniform Acceleration & Moving along a Straight Line, Distance Traversed in a Particular Second and Average Velocity.
	HM-47	Exercise – 9.3; Graph of the Path of Motion of a Particle, From the Graph Velocity and Acceleration of a Particle.
	HM-48	Exercise – 9.3; Determining Velocity From Distance-Time Graph (In case of Uniform Velocity), Determining Velocity, Acceleration and Covered Distance from Velocity-Time Graph.
	HM-49	Exercise – 9.4; Application of Formulae Relating to Acceleration in Case of Vertical Motion of a Particle, Motion of a Particle Projected in a Vertical Plane, Motion of a Freely Falling Body from h height.
	HM-50	Exercise – 9.4; Greatest Height, Time to reach at the Greatest Height, Time of Flight, Problems Related to Greatest Height, Velocity of Object Falling to the Ground, Proof of Equations of Motion for Freely Falling Bodies, Problems on Determination of Velocity and Displacement of Freely Falling Bodies.
	HM-51	Exercise – 9.5; Motion of a Particle Projected in a Vertical Plane, Projectile, Determining the Position and Velocity of a Particle at a Given Time, Determining the Position and Velocity of a Particle at a Given Height, Relation Between H & R, R & T, T & H.

	HM-52	Exercise – 9.5; Range, Greatest Height, Problems on Position and Velocity, Problems Related to Projectiles Thrown from Height, Problems Related to Two Trajectories.
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Botany (Reference Book: <b>UDVASH</b> Parallel Text)		
Chapter	Chapter	Chapter
<b>Chapter-11</b> Biotechnology	B-33	Tissue Culture, Methods of Plant Tissue Culture, Applications of Plant Tissue Culture
	B-34	Genetic Engineering, Steps in Genetic Engineering.
	B-35	Gene Cloning, Applications of Biotechnology: Applications of Recombinant DNA Technology.
	B-36	Genome Sequencing, Biosafety policies in Application of Biotechnology

Zoology (Reference Book: <b>UDVASH</b> Parallel Text)		
Chapter	Chapter	Chapter
<b>Chapter-11</b> Genetics and Evolution	Z-35	Deviations to Mendel's second law (complementary genes), epistasis (dominant epistasis, duplicate recessive epistasis), polygenic inheritance.
	Z-36	Sex Determination principles, Sex Linked Disorders, Red-Green Color Blindness, Hemophilia, Muscular Dystrophy.
	Z-37	Problems caused by ABO blood group and Rh factor, evolution, Lamarckism
	Z-38	Darwinism or the theory of natural selection, neo-Darwinism, evidence in favor of evolution.

**For any information regarding the online program contact the following numbers**

**Dhaka Branches:** Mirpur-01713-236705, Rupnagar-01713-236734, Cantonment-01713-236724, Uttara-01713-236707, Mohammadpur-01713-236701  
Science Lab.-01713-236706, Farmgate (Green Road)-01713-236710, Farmgate (Malek Tower)-01713-236711, Shantinagar-01713-236703  
Malibagh-01713-236702, Motijheel-01713-236908, Basabo-01713-236722, Banshri-01713-236723, Laxmibazar-01713-236720, Jatrabari-01713-236719  
Dania-01713-236718, Savar-01713-236721, Gazipur-01713-236746, Narayanganj-01713-236717, Konapara-01713-236757, Tongi-01713-236759  
Bakshibazar-01713-236712, Khilgaon-01713-236768.

**Branches outside Dhaka:** Mymensingh (Natun Bazar)-01713-236716, Mymensingh (KB)-01713-236769, Kishoreganj-01713-236739, Netrokona- 01713-236767  
Jamalpur-01713-236740, Sherpur-01713-236749, Tangail-01713-236737, Sirajganj-01713-236742, Bogura-01713-236727 Gaibandha-01713-236755  
Rangpur (Medical Mor)-01713-236726, Rangpur (Khamar Mor)-01713-236783, Kurigram-01713-236753, Lalmonirhat-01713-236777, Saidpur-01713-236741  
Dinajpur-01713-236733, Thakurgaon-01713-236748, Panchagarh-01713-236778 Joypurhat-01713-236754, Naogaon-01713-236756  
Chapainawabganj-01713-236747, Rajshahi-01713-236713, Natore-01713-236751, Pabna-01713-236736, Kushtia-01713-236735, Meherpur-01313-368670  
Chuadanga-01713236764, Jhenaidah-01713-23676, Magura-01713-236752 Jashore-01713-236731, Narail-01713-236788, Khulna- 01713-236715  
Satkhira- 01713-236750, Pirajpur-01713-236790, Bhola-01713-236791, Barishal-01713-236730, Patukhali-01713-236784, Shariatpur-01713-236782  
Gopalganj-01713-236760, Faridpur-01713-236732, Rajbari-01713-236786Manikganj-01713-236763 Munshiganj-01713-236762, Brahmanbaria- 01713-236743  
Narsingdi-01713-236738, Cumilla-01713-236728, Chandpur-01713-236765, Noakhali-01713-236745, Feni-01713-236744, Cox's Bazar-01713-236766  
Chittagong (Chawkbazar)-01713-236714, Chittagong (Halisahar)-01713-236758 Sylhet-01713-236729, Habiganj-01713-236773, Moulvibazar-01713-23678  
Sunamganj-01713-236779.