



## Course Description

SI	Subject	Number of Lecture	Number of Exam
01	Physics	58	<ul style="list-style-type: none"> <li>• Daily Exam 139</li> <li>• Chapter Wise Exam 57</li> <li>• Evaluation Test 12</li> </ul>
02	Chemistry	46	
03	Mathematics	60	
04	Higher Mathematics	56	
05	Biology	48	
06	ICT	10	
<b>Total Number of Lectures</b>		<b>278</b>	

## All the chapters that will be taught in 9th class

SI	Subject	Chapter
01	Physics	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
02	Chemistry	1, 2, 3, 4, 5, 6, 7, 8,
03	Mathematics	1, 2.1, 2.2, 3.1, 3.2, 3.3, 3.4, 4.1, 4.2, 4.3, 5.1, 5.2, 6, 7, 8.1, 8.2, 8.3, 9.1, 9.2, 11.1, 11.2, 13.1, 16.1, 16.2, 17
04	Higher Mathematics	1.1, 1.2, 2, 3.1, 3.2, 4, 5.1, 5.2, 5.3, 5.4, 5.5, 8.1, 8.2, 9.1, 9.2, 11.1, 11.2, 13, 14
05	Biology	1, 2, 3, 4, 5, 6, 7, 8, 9, 10
06	ICT	1, 2, 3, 4

## Physics

Chapter	Lecture	Topics
<b>Chapter-01</b> (Physical Quantities and Their Measurements)	<b>Day-01</b>	<b>P-01</b> Development of Physics, Physical Quantities, Units of Measurement, Prefix, Dimension.
		<b>P-02</b> Vernier Scale, Screw Gauge, Error and Accuracy.
<b>Chapter-02</b> (Motion)	<b>Day-02</b>	<b>P-03</b> Rest and Motion, Different Types of Motion, Scalar and Vector quantities.
		<b>P-04</b> Distance and Displacement, Speed and Velocity, Acceleration and Deceleration or Retardation and Mathematical Problems.





Chapter	Lecture	Topics	
	Day-03	P-05	Derivation of Equations of Motion, Proof of Law of Motion.
		P-06	Mathematical Problems on the Equations of Motion.
	Day-04	P-07	Mathematical Problems on the Laws of Falling Bodies.
		P-08	Mathematical Problems on the formulas of thrown objects.
	Day-05	P-09	Distance-Time Graph, Velocity-Time Graph.
		P-10	Acceleration-Time Graph and Whole Chapter Revision.
Chapter-03 (Force)	Day-06	P-11	Inertia and Concept of Force- Newton's First Law, Nature of Fundamental Forces, Balanced and Unbalanced Forces.
		P-12	Impulse of a Force, Momentum and Mathematical Problems.
	Day-07	P-13	Collision (Conservation of Momentum and Energy) and its classification.
		P-14	Mathematical Problems on Conservation of Momentum and Energy, Safe Journey: Force and Motion.
	Day-08	P-15	Effect of Force on Motion: Newton's Second Law, Gravitational Force.
		P-16	Mathematical Problems on Newton's Second Law, Gravitational Force and Pulleys.
	Day-09	P-17	Newton's Third Law, Friction and Frictional Force (Types of Friction, Effect of Friction on Motion, Increase and Decrease of Friction), Friction: A necessary evil.
		P-18	Mathematical Problems on Frictional Force.
Chapter-04 (Work, Power, and Energy)	Day-10	P-19	Work, Energy, and different forms of Energy.
		P-20	Mathematical Problems on Kinetic Energy and introduction to Potential Energy.
	Day-11	P-21	Different forms of Energy (Potential Energy and Related Mathematical Problems), Spring.
		P-22	Sources of Energy: (Non-renewable Energy, Renewable Energy), Transformation of Energy and Impact on Environment, Conservation of Energy, Mathematical Problems on Conservation of Energy, Relation between Mass and Energy.
	Day-12	P-23	Power, Efficiency and Mathematical Problems.
		P-24	Mathematical Problems on Average Displacement (Well, Tank etc.)





Chapter	Lecture	Topics
<b>Chapter-05</b> (State of Matter and Pressure)	<b>Day-13</b>	<b>P-25</b> Pressure, Density, Uses of Density in our Daily Life, Pressure in Liquid.
		<b>P-26</b> Archimedes Law and Buoyancy and related Mathematical Problems.
	<b>Day-14</b>	<b>P-27</b> Flotation and Immersion of a Body, Causes of Accidents on Waterways in Bangladesh, Air Pressure (Experiment of Torricelli, Air Pressure and Weather).
		<b>P-28</b> Pascal's Law, Force Increment and Related Mathematical Problems.
	<b>Day-15</b>	<b>P-29</b> Elasticity (Strain and Stress) and Related Mathematical Problems.
		<b>P-30</b> Three States of Matter: Solid, Liquid and Gas, Molecular Kinetic Theory of Matter, Fourth state of Substance, Revision of Buoyancy.
<b>Chapter-06</b> (Effect of Heat on Matter)	<b>Day-16</b>	<b>P-31</b> Heat and Temperature, Internal Energy and Thermometric Properties of Matter.
		<b>P-32</b> Relation among different scales and Mathematical Problems.
	<b>Day-17</b>	<b>P-33</b> Thermal Expansion of Matter (Expansion of Solids, Expansion of Liquid).
		<b>P-34</b> Expansion of Gases, Effect of Temperature on Change of State, Dependence of Vaporization.
<b>Day-18</b>	<b>P-35</b> Latent Heat and Specific Heat, Fundamental Principles of Calorimetry.	
	<b>P-36</b> Latent Heat and Specific Heat, Fundamental Principles of Calorimetry and Related Mathematical Problems, Effect of Pressure on Melting Point and Boiling Point.	
<b>Chapter-07</b> (Waves and Sound)	<b>Day-19</b>	<b>P-37</b> Periodic Motion, Simple Harmonic Motion, Waves, Characteristics of Waves, Types of Waves, Wave Related Quantities.
		<b>P-38</b> Mathematical Problems on Waves, Sound Wave, Characteristics of Sound Wave.
	<b>Day-20</b>	<b>P-39</b> Echo and Related Mathematical Problems.
		<b>P-40</b> Mathematical Problems on Velocity of Sound Wave and Wavelength, Variation of Velocity of Sound, Characteristics of Musical Sound, Sound Pollution and Mathematical Problems.





Chapter	Lecture	Topics
<b>Chapter-08</b> (Reflection of Light)	<b>Day-21</b>	<b>P-41</b> Nature of Light, Reflection (Laws of Reflection, Absorption, Reflection from smooth and rough planes).
		<b>P-42</b> Mirror, Image, Plane Mirror, Length of a Plane Mirror to see a full-length Image.
	<b>Day-22</b>	<b>P-43</b> Spherical Mirror, Convex Mirror, Concave Mirror, Rules to draw Image Formation using Ray Diagram.
		<b>P-44</b> Image on Concave Mirror (At a distance less than Focal Length and at Focal Length).
	<b>Day-23</b>	<b>P-45</b> Image on Concave Mirror (At a distance greater than Focal Length and the Rest). Image on Convex Mirror.
		<b>P-46</b> Magnification and Related Problems, Use of Mirror, Safe Driving, Mathematical Problems.
<b>Chapter-09</b> (Refraction of Light)	<b>Day-24</b>	<b>P-47</b> Refraction of Light, Laws of Refraction, Relative and Absolute Refractive Index.
		<b>P-48</b> Critical Angle, Total Internal Reflection and Mathematical Problems.
	<b>Day-25</b>	<b>P-49</b> Rainbow, Mirage, Uses of Reflection, Optical Fiber, Periscope and Binocular, Prism.
		<b>P-50</b> Lens, Types of Lenses (Convex and Concave Lens), Expressions related to Lens, Sign Convention for Lens.
	<b>Day-26</b>	<b>P-51</b> Convex Lens (At a distance less than Focal Length, At Focal Length, Outside the Focal Length).
		<b>P-52</b> Power of Lens, Function of the Eye, Perception of Colored Objects.
<b>Chapter 10</b> (Static Electricity)	<b>Day-27</b>	<b>P-53</b> Charge, Static Electricity by Friction, Electrical Induction.
		<b>P-54</b> Electroscope and Electric Force.
	<b>Day-28</b>	<b>P-55</b> Mathematical Problems on Electric Force, Electric Field and Electric Potential.
		<b>P-56</b> Potential Difference and Mathematical Problems.
	<b>Day-29</b>	<b>P-57</b> Capacitor and related Problems, Uses of Static Electricity.
		<b>P-58</b> Revision of Electric Force, Electric Potential, Potential Difference and Capacitor.



## Chemistry

Chapter	Lecture	Topics
<b>Chapter-01</b> (Concepts of Chemistry)	<b>Day-01</b>	<b>C-01</b> Introduction to chemistry, the scopes of chemistry, Relationship between chemistry & other branches of science, the importance of studying chemistry
		<b>C-02</b> The process of research in chemistry, Steps in research in chemistry, Safety measures in chemistry laboratory and in use of chemicals
<b>Chapter-02</b> (States of Matter)	<b>Day-02</b>	<b>C-03</b> Matter & States of matter, *Intermolecular force & energy, atomic mass (chart) + molecular mass
		<b>C-04</b> Kinetic theory of particles & *postulates of kinetic theory, Diffusion, Effusion
	<b>Day-03</b>	<b>C-05</b> Burning of a candle & the three states of wax, Melting & Boiling, Distillation & Sublimation, Graph of applying heat & mathematical explanation
		<b>C-06</b> Heating & cooling curve due to application of heat, Sublimation curve, Diffusion, Effusion (Revision)
<b>Chapter-03</b> (Structure of Matter)	<b>Day-04</b>	<b>C-07</b> Elements & Compounds, Atoms & Molecules, Symbols of elements, Formula, The particles inside an atom, Atomic number & Mass number
		<b>C-08</b> Isotope, Isotone, Isobar, Atomic model, Rutherford's atomic model, Limitations of Rutherford's atomic model
	<b>Day-05</b>	<b>C-09</b> Bohr's atomic model, Success & Limitations of Bohr's atomic model
		<b>C-10</b> Orbital electronic configurations of atoms, Concept of energy sublevels, The principles of electronic configurations in atoms, Example
	<b>Day-05</b>	<b>C-09</b> Bohr's atomic model, Success & Limitations of Bohr's atomic model
		<b>C-10</b> Orbital electronic configurations of atoms, Concept of energy sublevels, The principles of electronic configurations in atoms, Example
	<b>Day-06</b>	<b>C-11</b> The principles of electronic configurations in atoms (Revision), Some exceptions in electronic configuration, Atomic mass or relative atomic mass
		<b>C-12</b> Determining the average relative mass of an element from the percentage of isotope, Getting the relative molecular mass from relative atomic mass, Radioactive isotopes & their uses, Impact of radioactive isotope





Chapter	Lecture	Topics
<b>Chapter-04</b> (Periodic Table)	<b>Day-07</b>	<b>C-13</b> Background of Periodic Table, Characteristics of the Periodic Table, Determination of position of elements in the periodic table from their electronic configuration, Electronic configurations of the element are the main basis of the periodic table
		<b>C-14</b> Some exceptions in the periodic table, Periodic properties of elements (Partial-Metallic & Nonmetallic properties, Size of atom)
	<b>Day-08</b>	<b>C-15</b> Periodic properties of elements, The special name of elements present in various groups (Alkali metals, Alkaline Earth metals, Coin metals, Halogen group, Inert Gas, Transition elements).
		<b>C-16</b> Advantages of the Periodic Table, Reactions occurring in the elements of the same group, Experiment of lime water and identifying carbon di oxide.
	<b>Day-09</b>	<b>C-17</b> Valence electron, Valency, Radicals & their valencies, Chemical formula of compounds.
		<b>C-18</b> Molecular formula & Structural formula, Octet & Duet rules.
<b>Chapter-05</b> (Chemical Bond)	<b>Day-10</b>	<b>C-19</b> Inert gases & their stability, Chemical bonds and the causes of their formation, Cation & Anion.
		<b>C-20</b> Ionic bond or Electrovalent Bond, Covalent bond, Revision.
	<b>Day-11</b>	<b>C-21</b> Characteristics of ionic and covalent bonds(melting and boiling point, solubility, electrical conductivity).
		<b>C-22</b> Metallic bonds, *Diamond, *Electrical conductivity of graphite, Identifying bonds in the compounds.
<b>Chapter-06</b> (Concept of Mole & Chemical Counting)	<b>Day-12</b>	<b>C-23</b> Mole, *Avogadro number, Molar volume of gas, Mole & molecular formula.
		<b>C-24</b> Molar solution, *Molarity & numerical problem.
	<b>Day-13</b>	<b>C-25</b> The percentage composition of elements in compounds, Percentage composition & empirical formula.
		<b>C-26</b> Determining the molecular formula of a compound from percent composition.
	<b>Day-14</b>	<b>C-27</b> Chemical reactions & chemical equations, Balancing chemical equations, Mole & chemical equation.
		<b>C-28</b> Calculation of the percentage of yield, Limiting reagent, Molarity & percentage composition (Revision).





Chapter	Lecture	Topics	
Chapter-07 (Chemical Reactions)	Day-15	C-29	Changes of matter, Classification of chemical reactions (Direction of Reaction, Heat change & reactions).
		C-30	Classification of chemical reactions (Oxidant, Reductant, Electron transfer: Redox reactions).
	Day-16	C-31	Oxidation number & Determining oxidation number, Oxidation reduction is a simultaneous process.
		C-32	Redox reactions (Addition, Decomposition, Substitution & Combustion reaction).
	Day -17	C-33	Non redox reactions (Precipitation reaction, Neutralization reaction), Special types of chemical reactions (Hydrolysis, Hydration).
		C-34	Special types of chemical reactions, Isomerization reaction & polymerization.
	Day-18	C-35	Examples of a few real-life chemical reactions, Ways of prevention of some harmful reactions, Rate of reaction.
		C-36	Le Chatelier 's Principle, explanation of Le Chatelier 's Principle and effect.
	Day-19	C-37	Source of chemical energy, Classification of chemical reaction according to change of heat (Exotheric & Endothermic Reaction), Calculation of heat change in chemical reactions using the bond energy.
	Chapter-08 (Chemistry & Energy)	Day-20	C-38
C-39			Appropriate use of chemical energy, Importance of purity of fuel, Negative effects of the use of chemical energy, uses of ethanol as fuel.
Day-21		C-40	Electrochemical cells, Conductor, Electronic conductors, Electrolyte & Electrode, Electrolytic cell, Electrolysis, Uses of electrolysis.
		C-41	Mechanism of electrolysis, Uses of electrolysis (Revision).
		C-42	Production of electricity by chemical reactions, Nuclear reaction & electricity generation.





Chapter	Lecture	Topics	
Chapter-09 (Acid- Base Balance)	Day-22	C-43	Acid, Demonstrating properties of dilute acids through experiments, The role of water in chemical properties of acids, Alkali & Base, Properties of dilute bases.
		C-44	Dilute base in reaction with metallic salts, The role of water in chemical properties of Alkali, Corrosive properties of concentrated acids and alkali.
	Day-23	C-45	Revision, The conception of pH , Measuring pH, Importance of pH, Neutralization Reaction (Importance of Neutralization Reaction in daily life, Salt), Acid rain.
		C-46	Hardness of water , Water pollution & pollution control, Testing the purity of water and water purification, BOD, COD, Concept of Molarity.

## Mathematics

Chapter	Lecture	Content	
Chapter-03 (Algebraic Expression)	Day-01	M-01	Algebraic Expressions, Algebraic Formulae, Examples of 3.1, Exercises – 3.1 (1, 2).
		M-02	Exercise 3.1 (3-15).
	Day-02	M-03	Formula of Cubes, Corollary, Works, Exercises - 3.2 (1, 2).
		M-04	Exercise – 3.2 (3-15).
	Day-03	M-05	Resolving into factors, Techniques for determining factors, work, Exercise-3.3 (1-15)
		M-06	Exercise-3.3 (16-25).
	Day-04	M-07	Exercise-3.3 (26-31), concept of remainder theorem, concept of factorization theorem, example, Work.
		M-08	Exercise-3.4 (1-16).
Chapter-01 (Real Numbers)	Day-05	M-09	Classification of Real Numbers, Proof of Irrational Numbers, Decimal Fractions, Exercise-1 (9, 10, 20).
		M-10	Repeating Decimals, Conversion into Common Fractions, Addition and Subtraction of repeated Decimal Fractions, Exercise-1 (12-16).
	Day-06	M-11	Multiplication, division of repeating decimal fractions, Exercise-1 (17, 18, 23).
		M-12	Square Roots, Infinite Decimal Fractions, Exercise-1 (11, 19, 21, 22).







Chapter	Lecture	Content
<b>Chapter-09</b> (Trigonometric Ratio)	<b>Day-07</b>	<b>M-13</b> Naming of sides of right-angled triangles, Constancy of ratios of sides of similar right angled triangles, Trigonometric ratios of acute angles, Relationship among trigonometric ratios, Trigonometric identity.
		<b>M-14</b> Examples (1-12), Work, Exercises - 9.1 (1-7, 19, 20).
	<b>Day-08</b>	<b>M-15</b> Exercise 9.1 (8-16).
		<b>M-16</b> Exercise 9.1 (17, 18, 21-25).
	<b>Day-09</b>	<b>M-17</b> Proof of Trigonometric Ratios of Angles $0^\circ, 30^\circ, 60^\circ, 45^\circ, 90^\circ$ , Example (13) Exercise 9.2 (1-17, 22, 27).
		<b>M-18</b> Example (14), Exercise-9.2 (18-21, 23-26, 28-32).
<b>Chapter-02</b> (Sets and Functions)	<b>Day-10</b>	<b>M-19</b> Sets, Methods for Expressing Ratios, All definitions and Examples (finite set, infinite set, empty set, subset, real subset, equality of sets, interval of sets, power set, universal set, complementary set, union set, intersection of sets, disjoint set), Exercise- 2.1 (1-6).
		<b>M-20</b> Ordered Pairs, Cartesian Product, Venn Diagram, Exercises – 2.1 (7-12).
	<b>Day-11</b>	<b>M-21</b> Relations, functions, examples.
		<b>M-22</b> Exercise – 2.2
<b>Chapter-06</b> (Lines, Angles and Triangles)	<b>Day-12</b>	<b>M-23</b> Concept of space, surface, plane, line and point, Exercise- 6.1, Line, Ray, Line Segment, Angle etc. Theorems- (1-4), Exercise- 6.2
		<b>M-24</b> Theorem- (5-16), Exercise- (1-11) of 6.3
	<b>Day-13</b>	<b>M-25</b> Exercise 6.3 of (12-17).
		<b>M-26</b> Exercise 6.3 of (18-23).
<b>Chapter-07</b> (Practical Geometry)	<b>Day-14</b>	<b>M-27</b> Construction (1, 2, 3) Exercise-7.1 (1, 2).
		<b>M-28</b> Exercise – 7.1 (3-7).
	<b>Day-15</b>	<b>M-29</b> Construction (4, 5), Examples (3, 4), Exercises- 7.2 (1-10).
		<b>M-30</b> Exercise 7.2 (11-19).
<b>Chapter-04</b> (Exponents and Logarithms)	<b>Day-16</b>	<b>M-31</b> Exponents, Laws of of Exponents, Proofs and Examples, Exercise-4.1 (1-8).
		<b>M-32</b> Exercise 4.1 (9-22), Basic concepts of Logarithms.
	<b>Day-17</b>	<b>M-33</b> Proof of Laws of Logarithms, Exercise – 4.2
		<b>M-34</b> Method of Logarithms (Normal Logarithm, Common Logarithm) Concepts of characteristics and mantissa of common logs, Exercise 4.3, Example.





Chapter	Lecture	Content	
Chapter-05 (Equations in One Variable)	Day-18	M-35	Variable, Equation and Identity, Solving Linear Equations, Exercise- 5.1 (1-14) Exercise- 5.2 (1-22).
		M-36	Exercise-5.1 (15-22, 25).
	Day-19	M-37	Quadratic Equations in One Variable, Usage of Quadratic Equations, Exercise-5.2 (23-31).
		M-38	Exercise – 5.1 (23, 24), Exercise – 5.2 (32, 33, 34).
Chapter-08 (Circle)	Day-20	M-39	Circle, interior and exterior of a circle, chord and diameter, Theorems (17, 18, 19), Exercise-8.1 (1-2).
		M-40	Exercise- 8.1 (3-8).
	Day-21	M-41	Arc of a Circle, Inscribed angle, Central angle, Theorem- 20, 21, 22
		M-42	Exercise – 8.2
	Day-22	M-43	Theorem related to quadrilateral inscribed in a circle (23, 24), Exercise-8.3 (1, 2).
		M-44	Exercise – 8.3 (3-7).
Chapter-11 (Algebraic Ratio and Proportion)	Day-23	M-45	Ratio and Proportion, Continued Proportion, Transformation of Proportions, Example (2), Exercise- 11.1 (6).
		M-46	Exercise-11.1 (1-5), Example (11), Exercise-11.1 (9, 10).
	Day-24	M-47	Examples (3-8), (7, 8) of Exercise 11.1
		M-48	Example (9, 10), (11-20) of Exercise 11.1
	Day-25	M-49	Continued Proportions, Ratio, Exercise-11.2 (1-14).
		M-50	Exercise-11.2 (15-25).
Chapter-13 (Finite series)	Day-26	M-51	Sequences, Series, Arithmetic series, Determination of general term of arithmetic series, Sum of n terms of arithmetic series, Examples (1-6), Exercise- 13.1(1-7, 9-18).
		M-52	Exercise 13.1(8, 19-24).
Chapter-16 (Mensuration)	Day-27	M-53	Proof of Area of different types of triangular region, Exercise 16.1 (1, 2, 3, 4, 6).
		M-54	Exercise 16.1 (5, 7-10), Proof of Area of Regular Polygons.
	Day-28	M-55	Proving Areas of Different Types of Quadrilaterals, Exercise 16.2 (1-8).
		M-56	Exercise – 16.2(9-16).





Chapter	Lecture	Content
	Day-27	M-53 Proof of Area of different types of triangular region, Exercise 16.1 (1, 2, 3, 4, 6).
		M-54 Exercise 16.1 (5, 7-10), Proof of Area of Regular Polygons.
Chapter-17 (Statistics)	Day-29	M-57 Cumulative frequency, frequency distribution table, Mass Polygons, Ogive curve.
		M-58 Determination of mean, Determination of arithmetic mean in short cut method.
	Day-30	M-59 Concept of median, Examples, Exercises- 17.
		M-60 Concept of mode, Examples, Exercises – 17.

## Higher Mathematics

Chapter	Lecture	Topics
Chapter-05 (Equation)	Day-01	HM-01 (Quadratic equations of one variable and their solutions) Exercise-5.1
		HM-02 (Equations with radicals, example) Exercise-5.2
	Day-02	HM-03 Indicial equations, examples (12-18), work.
		HM-04 Exercise-5.3
	Day-03	HM-05 (System of Quadratic Equations in Two Variables, Example) Exercise-5.4
		HM-06 (Applications of Quadratic Equations, Example) Exercise-5.5
Chapter-01 (Set and Function)	Day-04	HM-07 Sets, Different Types of Sets (Universal Set, Subsets, Empty Set, Equality of Sets, Proper subset, Difference of set, Complementary set, Power set), Union of sets, Proposition-9, Exercise 1.1 (7, 8, 9, 14, 15).
		HM-08 Venn Diagram, Exercise 1.1 (16-25, 27).
	Day-05	HM-09 Disjoint set, De Morgan's Law(Proposition-1), Cartesian Product Set, One-One Correspondence, Equivalent Set, Finite and infinite sets. Exercises- 1.1 (10, 11, 12,13)
		HM-10 Proposition-3, Practice-1.1 (26, 28, 29, 30).
	Day-06	HM-11 Relations, functions (difference between relations and functions), Ordered Pairs, Domain, Range, Concepts of Co-domain, solving problems related to Ordered Pairs, Exercise-1.2 (1-4, 6-9).
		HM-12 Concept of One- One functions, Concept of Onto functions, Inverse functions, Exercises- 1.2 (5, 10, 11, 12).





Chapter	Lecture	Topics
	Day-07	HM-13 Quadratic Functions, Graphs of Relations and Functions, Graphs of Circles, Exercise-1.2 (13, 14).
		HM-14 Exercise-1.2 (15, 16, 17), Activity.
Chapter-03 (Geometry)	Day-08	HM-15 Projection of a point, Orthogonal projection, Theorem- 1, 2, 3, 4
		HM-16 Exercise – 3.1 (1, 2, 3, 4, 6).
	Day-09	HM-17 All Theorems of Apollonius, Theorem-5, Relationship between Side-Median, Exercise-3.1 (5, 7).
		HM-18 Orthocenter, Circumcenter, Centroid, Nine Point Circle, Theorem- 6, 10, Exercise- 3.2 (8, 9), HW- 3.2 (16).
	Day-10	HM-19 Theorem- 7, 8, 9, 11, 12
		HM-20 Exercise-3.2 (7, 10-14), HW-3.2 (15)
Chapter-08 (Trigonometry)	Day-11	HM-21 Angles in Geometry and Trigonometry, Positive and Negative Angles, Units of Angle Measurement, Circular System of Measurement of Angles, Radian Angles, Relationship between Degree and Radian measure, Exercise- 8.1 (1, 2, 5, 6).
		HM-22 Exercise – 8.1 (3, 4, 7-13).
	Day-12	HM-23 Trigonometric Ratios, Signs of Trigonometric Ratios in Different Quadrants, Exercise-8.2 (1-6).
		HM-24 Exercise-8.2 (7-13), Example, Exercise-8.3 (10, 12).
Chapter-09 (Exponential and Logarithmic Function)	Day-13	HM-25 Rational and Irrational Exponents, Laws for Exponents, Explanation of Roots (Proof of Formula (7), Rational Fractional Exponents, Corollary, Exercise-9.1 Examples (9-12).
		HM-26 Exercise 9.1 Examples (13,14,15), Activity.
	Day-14	HM-27 Exercise-9.1 (1-6, 8).
		HM-28 Example (16, 17), Exercise-9.1 (7, 9).
Chapter-02 (Algebraic Expression)	Day-15	HM-29 Variables, Constant, Polynomials, Polynomials of One, Two and Three Variables, Functions, Cyclic, Symmetric and Homogenous Expressions, Activity on Page-40, Exercise-2 (1, 2), Example-22, Exercise-2 (d of 10).
		HM-30 Work (a) on Page-53, Work on Page-55, Exercise-2 (a, b, c of 10).





Chapter	Lecture	Topics
	Day-16	HM-31 Quotient and Product Theorem, Activity on Page-47, Exercise-2 (3-7), HW: Exercise-2 (15)
		HM-32 Page-52 Proposition-1, Activity on Page-53 (b, c), Example-18, Exercise-2 (8, 9, 12,13)
	Day-17	HM-33 Partial fractions, examples (23-29), Activity.
		HM-34 Exercise-2 (11, 14).
Chapter-11 (Coordinate Geometry)	Day-18	HM-35 Rectangular Cartesian Coordinates, Distance Between Two Points, Example, Exercise – 11.1
		HM-36 Area of a Triangle, Formula for Finding the Area of a Triangle, Example (7-11), Exercise- 11.2 (1-7).
	Day-19	HM-37 Vertices, finding area using coordinates, Exercise – 11.2 (8, 9).
		HM-38 Exercises – 11.2 (10), Examples (12, 13).
Chapter-13 (Solid geometry)	Day-20	HM-39 Some basic definitions, solids, volume and surface area of rectangular solids, cube, Exercise-13 (7-9), HW: Exercise-13 (31)
		HM-40 Exercise-13 (10, 21-23), Right circular cone, Exercise-13 (11-13, 24) HW: Exercise-13 (32).
	Day-21	HM-41 Sphere, Exercise-13 (14-20).
		HM-42 Prism, pyramid, example.
	Day-22	HM-43 Exercise-13 (25-28).
		HM-44 Rectangular Solids, Exercise-13 (1-6 and 29, 30).
Chapter-14 (probability)	Day-23	HM-45 Some Concepts related to Probability, Logic Based Probability, Data Based Probability, Examples, Activity, Exercise-14 (1-6).
		HM-46 Exercise-14 (7-12), Sample Space and Probability Determination of Probability by Probability Tree, Exercise-14 (13, 14).
	Day-24	HM-47 Mutually Exclusive Events, Mutually Non-Exclusive Events, Concept of Exclusive Events (When to Multiply / Add), Exercise-14 (15-18).
		HM-48 Chapter review and creative Problems related to Probabilities.





Chapter	Lecture	Topics
<b>Chapter-9</b> (Exponential and Logarithmic Function)	<b>Day-25</b>	<b>HM-49</b> Examples (18-29), Activity on page 211.
		<b>HM-50</b> Exercise-9.2 (a, b, c, d, e of 6 and 7).
	<b>Day-26</b>	<b>HM-51</b> Exercise-9.2 (f, g, h of 7), Examples (31, 33), Exercise-9.2 (10, 11, 12).
		<b>HM-52</b> Logarithmic and Absolute Value Functions, Graph of Functions, Exercise-9.2 (8, 9, 13, 14, 15).
<b>Chapter-4</b> (Geometric Constructions)	<b>Day-27</b>	<b>HM-53</b> Construction-(1, 2, 3, 4, 5, 6) Example-1, 2, 3
		<b>HM-54</b> Exercise-4 (12, 13, 14), Exercise-4 (1-6).
	<b>Day-28</b>	<b>HM-55</b> Exercise-4 (7-11).
		<b>HM-56</b> Exercise-4 (15-18).

## Biology

Chapter	Lecture	Contents
<b>Chapter-01</b> (Lessons of Life)	<b>Day-01</b>	<b>B-01</b> Concept of biology, Branches of biology, Physical biology, applied biology, Classification of living beings, aim of classification, Living world (Margulis + R.H. Whittaker's classification- Monera, Protista).
		<b>B-02</b> Living world (Margulis + R.H. Whittaker's classification- Fungi, Plantae, Animalia), Different steps of classification, System of Binomial Nomenclature, Binomial names.
<b>Chapter-02</b> (Cells and Tissues of Organisms)	<b>Day-02</b>	<b>B-03</b> Living cell, Types of cells, Plant cell and animal cell (With figure), Difference between plant cell and animal cell, Main organelles of plant and animal cells and their functions (Cell wall).
		<b>B-04</b> Main organelles of plant and animal cells and their functions (Cell wall) (Protoplasm, Plasmalemma, Cytoplasmic organelles, Mitochondria).
	<b>Day-03</b>	<b>B-05</b> Plastid, Chloroplast, Chromoplast, Leucoplast, Golgi body, Endoplasmic reticulum, Cell vacuole, Lysosome.
		<b>B-06</b> Non-membranous cytoplasmic organelles, Nucleus.





Chapter	Lecture	Contents	
	Day-04	B-07	Roles of different cells in proper functioning of plants and animals, Plant tissue (Simple tissue).
		B-08	Plant tissue (Complex tissue, Xylem, Phloem).
	Day-05	B-09	Animal tissues (Epithelial tissue, Connective tissue) Muscular tissue, Nerve tissue.
		B-10	Organ and system, Microscope, Electron microscope, Differentiations.
Chapter-03 (Cell Division)	Day-06	B-11	Cell division and its classification, Mitosis, Stages of mitosis.
		B-12	Significance of mitosis, Meiosis, Significance of meiosis, Difference between mitosis and meiosis, Discussion about haploid and diploid cells.
Chapter-04 (Bioenergetics)	Day-07	B-13	Bioenergetics, Structure and function of ATP, Photosynthesis, The process of photosynthesis (Light dependent phase and light independent phase).
		B-14	Calvin cycle, Hatch and Slack pathway, Role of Chlorophyll in photosynthesis, Role of light in photosynthesis, Factors affecting photosynthesis, Importance of photosynthesis in living world.
	Day-08	B-15	Respiration, Types of respiration, short description of aerobic respiration.
		B-16	Stages of anaerobic respiration, Factors affecting respiration, Significance of respiration.
Chapter-05 (Food, Nutrition and Digestion)	Day-09	B-17	Plant mineral nutrition, Source and role of nutrients, Symptoms of nutrient deficiencies.
		B-18	Food and nutrition of animal, Components of food and their sources (Protein, Carbohydrate, Fat and oils, Vitamins).
	Day-10	B-19	Components of food and their sources (Minerals, water and their source), An ideal food pyramid, Principles of food habit.
		B-20	Vitamin deficiency diseases, Energy in food ingredients.





Chapter	Lecture	Contents	
	Day-11	B-21	BMR and BMI, Exercise and rest, Use of chemicals in food preservation.
		B-22	Digestion, Alimentary system or alimentary canal, Digestive glands, Functions of liver.
	Day-12	B-23	Pancreas, Gastric glands, Intestinal glands etc., Absorption of digested food, Assimilation.
		B-24	Diseases caused by intestinal disorder, dyspepsia, Constipation, Gastric and peptic ulcer, Appendicitis, Worm related diseases, Diarrhea.
Chapter-06 (Transport in Organisms)	Day-13	B-25	Plant and water relationship, Imbibition, Diffusion, Osmosis.
		B-26	Absorption of water and mineral salts, Translocation in plants, Necessity of translocation in plants, Translocation of water and minerals, Ascent of sap, Translocation of the substances produced in photosynthesis, Phloem translocation.
	Day-14	B-27	Transpiration, Factors affecting transpiration, Transpiration is a necessary evil.
		B-28	Blood circulation in human body, Blood, Components of blood (Plasma, Blood corpuscles), Functions of blood.
	Day-15	B-29	Blood group, Donation of blood and social responsibilities, Stricture and function of heart.
		B-30	Circulation of blood through the heart, Blood vessels (artery, vein, capillaries).
	Day-16	B-31	Blood pressure, Ideal blood pressure, Hypertension, Cholesterol, Demerits of high cholesterol, Functions of cholesterol- Usefulness and its risk.
		B-32	Irregularities in blood and bone marrow-Leukemia, Circulatory diseases and their remedies (Heart attack, Rheumatic fever, Measures to keep the heart sound).
Chapter-07 (Exchange of Gases)	Day-17	B-33	Gas exchange in plants, Human respiratory system (Nasal cavity and nasal passage, Pharynx, Larynx, Trachea)
		B-34	Human respiratory system (Bronchus, Lungs, Diaphragm), Breathing







Chapter	Lecture	Contents
	Day-18	B-35 Gaseous exchange, $O_2$ absorption, $CO_2$ transport, Diseases of respiratory system (Asthma)
		B-36 Diseases of respiratory system (Bronchitis, Pneumonia, Tuberculosis, Lung cancer)
Chapter-08 (Excretory System)	Day-19	B-37 Excretory system, Excretory products, Kidney, Nephron
		B-38 Function of kidney, Role of kidneys in osmoregulation, Kidney stone, Kidney failure, Dialysis and kidney transplant, Precaution, Measures to keep the urinary tract healthy
Chapter-09 (Firmness and Locomotion)	Day-20	B-39 Introductions of human skeleton, Role of skeleton in firmness and locomotion
		B-40 Bone, Cartilage and Joint, Synovial joint, Types of joint
	Day-21	B-41 Muscles, Roles of bones and muscles in human locomotion, Tendon and ligament
		B-42 Diseases of bones (Osteoporosis, Rheumatoid arthritis) (Review of the chapter)
Chapter-10 (Co-ordination)	Day-22	B-43 Coordination in plants, Phytohormone (Auxin, Gibberellin, Cytokinin, Ethylene). Use of hormones (Growth, Movement, Phototropism)
		B-44 Coordination in animal (Influence of hormones, Influence of nerves), Nervous system, Central nervous system (Brain, spinal cord)
	Day-23	B-45 Nervous system, Reflex action
		B-46 Peripheral nervous system, Autonomic nervous system, Transmission of impulse
	Day-24	B-47 Hormone, Introduction of main endocrine gland, function and secreted hormones, Abnormalities due to hormone (Thyroid problem)
		B-48 Abnormalities due to hormone (Diabetes) Physical disabilities due to nerve disorder (Paralysis, Epilepsy, Parkinson disease), Influence of tobacco and drugs on co-ordination



## ICT

Chapter	Lecture		Topics
<b>Chapter-01</b> (Information & Communication Technology & Our Bangladesh)	<b>Day-01</b>	<b>ICT-01</b>	Great ICT personalities, E-learning and Bangladesh, E-Governance and Bangladesh.
		<b>ICT-02</b>	E-service and Bangladesh, E-commerce and Bangladesh, ICT in the Job Sector, Social Networking and ICT, Entertainment and ICT, Digital Bangladesh.
<b>Chapter-02</b> (Computer and the Security of the User)	<b>Day-02</b>	<b>ICT-03</b>	Importance of Software in the Maintenance of Computer, Installation and Uninstallation of Software, Software Deletion.
		<b>ICT-04</b>	Security of your Computer (Computer Virus and Antivirus, Probable damages from computer virus, Password).
	<b>Day-03</b>	<b>ICT-05</b>	Stay Secured in Web (General site, social site, Age Compatible site), Internet Addiction Disorder, Addiction to Computer Games, Addiction to Social Networking Site, The way out of Addiction.
		<b>ICT-06</b>	Piracy, The urgency of Copyright Law, right to information and Safety, General Troubleshooting.
<b>Chapter-03</b> (The Internet in my Education)	<b>Day-04</b>	<b>ICT-07</b>	Digital content, Types of Digital Content, E-Book, Benefits of using E-Books, Different types of E-books.
		<b>ICT-08</b>	The Internet in Education, The Internet and my Academic Subjects, My Future Career and ICT.
<b>Chapter-04</b> (My Writings and Accounts)	<b>Day-05</b>	<b>ICT-09</b>	My Writing on Word Processor.
		<b>ICT-10</b>	Spreadsheet and My Accounts.