

NATIONAL UNIVERSITY



First Year Syllabus Department of Mathematics

Four Year B.Sc. Honours Course
Effective from the Session: 2013–2014

National University
Subject: Mathematics
Syllabus for Four Year B.Sc Honours Course
Effective from the Session: 2013-2014

Year wise Papers and marks distribution

FIRST YEAR

Paper Code	Paper Title	Marks	Credits
213701	Fundamentals of Mathematics	75	3
213703	Calculus – I	75	3
213705	Linear Algebra	75	3
213707	Analytic and Vector Geometry	75	3
Any TWO of the following:			
212807	Chemistry-I	100	4
212808		Chemistry-I Practical	50
213607	Introduction to Statistics	100	4
213608		Statistics Practical-I	50
212707	Physics-I (Mechanics, Properties of Matter, Waves & Optics)	100	4
212709		Physics-II (Heat, Thermodynamics and Radiation)	50
211501	History of the Emergence of Independent Bangladesh	100	4
Total =		700	28

Detailed Syllabus

Paper Code	213701	Marks: 75	Credits: 3	Class Hours: 45
Paper Title:	Fundamentals of Mathematics			

Elements of logic: Mathematical statements, Logical connectives, Conditional and bi-conditional statements, Truth tables and tautologies, Quantifiers, Logical implication and equivalence, Deductive reasoning.

Set Theory : Sets and subsets, Set operations, Cartesian product of two sets, Operations on family of sets, De Morgan's laws.

Relations and functions:. Relations. Order relation. Equivalence relations. Functions. Images and inverse images of sets. Injective, surjective, and bijective functions. Inverse functions. **Real Number System:** Field and order properties, Natural numbers, Integers and rational numbers, Absolute value and their properties, Basic inequalities. (Including inequalities of means, powers; inequalities of Cauchy, Chebyshev, Weierstrass).

Complex Number System: Field of Complex numbers, De Moivre's theorem and its applications. **Theory of Equations:** Relations between roots and coefficients, Symmetric functions of roots, Sum of the powers of roots, Synthetic' division, Des Cartes rule of signs, Multiplicity of roots, Transformation of equation.

Elementary number theory: Divisibility. Fundamental theorem of arithmetic. Congruences (basic properties only).

Summation of series: Summation of algebraic and trigonometric series.

Books Recommended :

Schaums Outline Series- *Theory and problems on set theory and related topics*. S. Bernard & J M Child- *Higher algebra*.

Md. Abdur Rahman - *Basic Algebra*.

Paper Code	213703	Marks: 75	Credits: 3	Class Hours: 45
Paper Title:	Calculus-I			

Functions & their graphs : Polynomial and rational functions, logarithmic and exponential functions, trigonometric functions & their inverses, hyperbolic functions & their inverses, combinations of such functions.

Limit and continuity: Definitions and basic theorems on limit and continuity. Limit at infinity & infinite limits, Computation of limits. Indeterminate form (L'Hospital's rule)

Differentiation: Tangent lines and rates of change. Definition of derivative. One-sided derivatives. Rules of differentiation (proofs and applications). Successive differentiation. Leibnitz's theorem (proof and application). Related rates. Linear approximations and differentials.

Applications of Differentiation: Mean value theorem. Maximum and minimum values of functions. Concavity and points of inflection. Optimization problems.

Integration: Antiderivatives and indefinite integrals. Techniques of integration. Definite integration using antiderivatives. Fundamental theorems of calculus (proofs and applications). Basic properties of integration. Integration by reduction.

Applications of Integration: Arc length. Plane areas. Surfaces of revolution. Volumes of solids of revolution. Volumes by cylindrical shells. Volumes by cross sections.

Graphing in polar coordinates: Tangents to polar curves. Arc length in polar coordinates. Areas in polar coordinates.

Improper integrals : Tests of convergence and their applications. Gamma and Beta functions.

Approximation and Series: Taylor polynomials and series. Convergence of series. Taylor's series. Taylor's theorem and remainders. Differentiation and integration of series. Validity of Taylor expansions and computations with series.

Books Recommended:

1. Howard Anton - *Calculus (7th and forward edition)*.
2. E.W. Swokowski - *Calculus with Analytic Geometry*.
3. Md. A Matin & B Chakraborty - *Differential Calculus*.
4. B.C Das & BN Mukharjee – *Differential Calculus*
5. B.C Das & BN Mukharjee – *Integral Calculus*
6. Rahman and Bhattacharjee - *Differential Calculus*
7. Rahman and Bhattacharjee - *Integral Calculus*
8. Fazlur Rahman & Hafiqur Rahman – *Calculus*

Paper Code	213705	Marks: 75	Credits: 3	Class Hours: 45
Paper Title:	Linear Algebra			

Matrices and Determinants:

Notion of matrix. Types of matrices. Algebra of matrices. Determinant function. Properties of determinants. Minors, Cofactors, expansion and evaluation of determinants. Elementary row and column operations and row-reduced echelon matrices. Invertible matrices. Different types of matrices, Rank of matrices.

Vectors in R_n and C_n : Review of geometric vectors in R_2 and R_3 spaces. Vectors in R_n and C_n . Inner product. Norm and distance in R_n and C_n .

System of Linear Equations: System of linear equations (homogeneous and non-homogeneous) and their solutions. Application of matrices and determinants for solving system of linear equations. Applications of system of equations in real life problems.

Vector Spaces: Notion of groups and fields. Vector spaces. Subspaces. Linear combination of vectors. Linear dependence of vectors. Basis and dimension of vector spaces. Row and column space of a matrix. Rank of matrices. Solution spaces of systems of linear equations.

Linear Transformation: Linear transformations. Kernel and image of a linear transformation and their properties. Matrix representation of linear transformations. Change of bases.

Eigenvalues and Eigenvectors: Eigenvalues and Eigenvectors. Diagonalization. Cayley-Hamilton theorem and its application.

Books Recommended :

1. Howard Anton & Chris Rorres – *Elementary Linear Algebra with Application*.
2. Seymour Lipschutz (Schaum's Outline Series)-*Linear Algebra*.
3. Md. Abdur Rahman- *Linear Algebra*.

Paper Code	213707	Marks: 75	Credits: 3	Class Hours: 45
Paper Title:	Analytic and Vector Geometry			

Two-dimensional Geometry: Transformation of coordinates, Pair of straight lines (homogeneous second degree equations, general second degree equations representing pair of straight lines, angle between pair of straight lines, bisectors of angle between pair of straight lines), General equations of second degree (reduction to standard forms, identifications, properties and tracing of conics).

Three-dimensional Geometry: Coordinates, Distance, Direction cosines and direction ratios, Planes (equation of plane, angle between two planes, distance of a point from a plane), Straight lines (equations of lines, relationship between planes and lines, shortest distance). Spheres. Conicoids (basic properties).

Vector Geometry: Vectors in plane and space. Algebra of vectors. Rectangular Components. Scalar and Vector products. Triple scalar product. Applications of vectors to geometry (vector equations of straight lines and planes, areas and volumes).

Books Recommended :

1. H.H. Askwith - *Analytic Geometry of Conic Section*.
2. J. A. Hummel- *Vector Geometry*.
3. S.K. Bhattacharjee – স্নাতক দ্বিমাত্রিক জ্যামিতি

Paper Code	212807	Marks: 100	Credits: 4	Class Hours:60
Paper Title:	Chemistry-I			

1. **Measurements and the Scientific Method:** Measurements, units, SI units, reliability of measurements – precision and accuracy, rounding off, significant figures, significant figures in calculation, mean and median, errors, sources of errors.
2. **Structure of atom:** Atom, isotopes, Atomic masses, Mass spectroscopy, Atomic nucleus, Nuclear binding energy, Nuclear reactions –fission and Fusion reactions, Bohr atom model, Spectrum of atomic hydrogen, Dual nature of electron, Heisenberg uncertainty principle, Quantum numbers, Atomic orbitals, Aufbau principle, Pauli exclusion principle, Hund's rule of maximum multiplicity, Electronic configuration of atoms.
3. **Periodic Table:** Periodic law, Periodic table, Electronic configurations from the periodic table, Periodic properties of the elements such as ionization energies, Electron affinity, Electro negativity, Atomic/ionic radius along a period and down a group, Diagonal relationship
4. **Chemical Bonds:** Chemical bond, Types of chemical bonds – ionic, Covalent coordination, Metallic, Hydrogen, Polar and non polar covalent bonds, Lewis dot structure, Shapes of molecules, VSEPR theory, Valence bond theory, Hybridization, σ - and δ -bonding in compounds, Molecular orbital theory.
5. **Oxidation and reduction:** Redox reactions, Writing and balancing Redox reactions,
6. **States of Matter:** Comparison between solids, Liquids and gases, Changes of state, m.p. and b.p, phase transition, Phase diagram of water.
7. **Gaseous and Their Properties:** The gas laws , The perfect gas equation, The kinetic theory of gases, Van der waals equations, Real gases, Graham's laws of diffusion and Effusion.
8. **Solutions:** Solubility and intermolecular forces, Solubility product, Types of concentration units, Colligative properties of solutions, Henry's law, Nernst distribution law.
9. **Acids and Bases:** Various concepts on acids and bases, Conjugate acids and bases, Neutralization reactions acid- base strength, p_H , Acid-base titrations, Acid-base indicators, Acid-base properties of salts, The common ion effect, Buffer solutions, Hard and soft acids and bases.
10. **Chemical Equilibrium:** Reversible reactions and the equilibrium state, The equilibrium law, Reaction quotients and equilibrium constants, Calculations using K_c , K_p . Homogeneous and heterogeneous equilibria, The principle of Le Chatelier and Brown.
11. **Hydrocarbons:** Hydrocarbons, Saturated and unsaturated hydrocarbons, Alkanes, Alkenes, And Alkynes, Nomenclature of organic compounds-the IUPAC system natural gas, Petroleum, Petrochemicals.
12. **Study of different classes of organic Compounds:** Alcohols, Aldehydes, Ketones, Carboxylic Acids, Esters, Amines and Amides.

Books recommended:

1. General Chemistry, D. D. Ebbing, Houghton Mifflin Co.
2. Chemistry – The Molecular Nature of Matter and Change, M. Silberberg. WCB /Mc Graw- Hill.
3. Introduction to Modern Inorganic Chemistry, S.Z. haider, Friends' International.
4. Principles of physical chemistry, M. M. Huque and M. A Nawab, students' publications.
5. Essentials of Physical chemistry, B.S Bahl, G.D Tuli and A Bahl, S. Chand & Co.Ltd.
6. Advanced Organic Chemistry, B.S. Bahl and A Bahl, S. Chand & Co. Ltd.
7. A Level chemistry by C.W. Ramsden
8. Organic Chemistry: T Morrison and R.N Boyed,
9. Fundamental of Organic Chemistry by W Solomons

Paper Code	212808	Marks: 50	Credits: 2	Class Hours: 30
Paper Title:	Chemistry-I Practical			

1. Preparation of $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$, Mohr's salt and potash alum.
2. Separation and identification of four radicals from a mixture of anions and cations The cations are Pb^{2+} , Cu^{2+} , Cd^{2+} , Al^{3+} , Fe^{2+} , Fe^{3+} , Co^{2+} , Ni^{2+} , Zn^{2+} , Ca^{2+} , Ba^{2+} , Na^+ , K^+ , and NH_4^+ . the anions are NO_3^- , CO_3^{2-} , SO_4^{2-} , Cl^- , Br^- and I^-
3. Standardization of NaOH solution using standard oxalic acid solution,
4. Determination of Fe^{2+} using standard permanganate solution 5. Iodometric determination of copper(II) using standard Na_2SO_3 solution.
6. Gravimetric determination of nickel as $\text{Ni}(\text{HDMG})_2$ complex 7. Determination of the enthalpy change for the decomposition sodium dicarbonate into sodium carbonate.
8. Determination of the pH - neutralization curves of a strong acid by a strong base.
9. Investigation of the conductance behaviour of electrolytic solution and applications (acetic acid)
10. Determination of the presence of nitrogen, halogen and sulphur in organic compounds.
11. Identification of the functional groups (unsaturation, alcohol, phenol, carbonyl, aldehyde, ketone, carboxylic acid, aromatic amine, amide and nitro- groups) in organic compound.

Books Recommended:

1. A Text Book of Quantitative Inorganic Analysis, A.I. Vogel, 3rd/4th edition, ELBS and Longman Green & Co. Ltd.
2. A Text Book of Quantitative Inorganic Analysis, A.I. Vogel 3rd/4th edition, ELBS and Longman Green & Co. Ltd.
3. Practical physical chemistry, A Faraday.
4. A Text Book of practical organic chemistry, A.I. Vogel, ELBS edition.

Paper Code	213607	Marks: 100	Credits: 4	Class Hours: 60
Paper Title:	Introduction to Statistics			

1. **Descriptive Statistics:** Statistics-Its nature and some important use, Qualitative and quantitative data, Classification, Tabulation and frequency distribution, Graphical representation of data, Measure of location, Measures of Dispersion, Skewness and Kurtosis, Mathematical relationship among different measures of location, dispersion, Skewness and kurtosis.
2. **Bivariate Data:** Correlation coefficient, Correlation analysis, The purpose and uses of regression analysis, Simple regression and methods of least squares and estimation of parameters Correlation ratio, Rank correlation, Partial and multiple correlation.
3. **Elementary Probability:** Meaning of probability, Classical and empirical definitions of Probability, Axiomatic approach of defining probability, Event, Sample space and simple problems of probability, Addition rule, Conditional probability, Multiplication rule and Bayes theorems, The concept of a random variables, Probability function and probability density function, Joint probability function. Marginal and conditional distributions, Statistical independence, Expected value and related theorems, Moment generating function, Common probability distributions, Binomial, Poisson and Normal.
4. **Index Number:** Concept of an index number and problems in the construction of index number, Types of indices (Price, Quantity, Value and cost of living indices) and their uses, Tests for index numbers.

- 5. Time Series analysis:** Elements of time-series analysis, Measurement of trend by moving average, By least square method, Trend curve, Determination of seasonal indices, Cyclical.
- 6. Numerical Mathematics:** Differences of a polynomial, Finite difference operator, Difference table, Newton's formula and starling's central difference formula, Inverse interpolation, Numerical integration.

Books Recommended:

1. Yule and Kendall : Introduction to Theory of Statistics.
2. Islam, M. Nurul. : An Introduction to Statistics and Probability.
3. Jalil A. and Ferdous R. : Basic Statistics.
4. Mostafa M.G. : Methods of Statistics.
5. David E.N. : Probability Theory for Statistical Methods.
6. Weatherburn C.F. : A First Paper in Mathematical statistics.
7. Mosteller, Roure and Thomas : Probability with Statistical Applications.
8. Ali A. : Theory of Statistics Vol. I
9. Mallick, S.A. : সাংখ্যিক গনিত
10. Freeman H. : Acturial, Mathematics Vols; I and II
11. Scarborough : Numerical Mathematics.
12. David F.N. : Probability theory for Statistical Methods.
13. Shil R.N. : Introduction to Theory of Statistics.
14. Feller, W : Introduction to Statistical Time Series (latest ed.).
15. Gupta and Kapoor : Applied Statistics.

Paper Code	213608	Marks: 100	Credits: 2	Class Hours: 30
Paper Title:	Statistics Practical-I			

Condensation and tabulation of data, Graphical representation of data, Frequency table, Measures of location, Dispersion, Moments, Skewness and Kurtosis, measures of correlation coefficient, Rank correlation, Fitting of simple regression lines, Fitting of Binomial, Normal and Poisson's distributions, Finding trend values and seasonal variation from time series data by different methods, Calculation of Index numbers and test of index number, Use of Newton's forward and backward formula, Solution of numerical integration.

Paper Code	212707	Marks: 100	Credits: 4	Class Hours: 60
Paper Title:	Physics-I (Mechanics, Properties of Matter, Waves & Optics)			

1. **Vector Analysis:** Vectors and scalars, Addition and multiplication of vectors, Triple scalar & vector products, Derivatives of vectors, Gradient, divergence and curl-their physical significance, Theorems of Gauss, Green & Stoke's.
2. **Work, Energy and Power:** Work energy theorem, Conservation of energy and linear momentum, Conservative and non-conservative forces and systems, Conservation of energy and momentum, Centre of mass, Collision problems.
3. **Rotational Motions:** Rotational variables, Rotation with constant angular acceleration, Relation between linear and angular kinematics, Torque on a particle, Angular momentum of a particle, kinetic energy of rotation and moment of inertia. Combined translational and rotational motion of a rigid body, Conservation of angular momentum.
4. **Gravitation:** Centre of gravity of extended bodies, Gravitational field and potential their calculations, Determination of gravitation constant and gravity, Compound and kater's pendulums, Motion of planets and satellites, Escape velocity.

6. **Surface Tension:** Surface tension as a molecular phenomenon, Surface tension and surface energy, Capillary rise or fall of liquids, Pressure on a curved membrane due to surface tension, Determination of surface tension of water, mercury and soap solution, Effect of temperature.
7. **Fluid Dynamics:** Viscosity and coefficient of viscosity, Poiseuille's equation, Determination of the coefficient of viscosity of liquid by Stoke's method, Bernoulli's theorem and its applications, Toricelli's theorem, Venturimeter.
8. **Waves:** Mechanical waves, types of waves, travelling waves. The superposition principle. Wave speed, Power and intensity in wave motion. Interference of waves, Standing Waves and resonance.
9. **Oscillatory Motions:** Simple harmonic motion, Combination of harmonic motions, Damped harmonic motion, Forced oscillations and resonance.
10. **Geometrical Optics:** Fermat's Principles, Theory of equivalent lenses, Defect of images, Optical instrument, Dispersion rainbow.
11. **Nature and Propagation of light:** Properties of light, Wave theory and Huygen's Principle, Theories of light.
12. **Interference:** Young's experiment: Bi-prism, Newton's ring.
13. **Diffraction:** Fresnel's and Fraunhofer types, Diffraction through single slit and double slit, diffraction grating, Dispersive and resolving powers of gratings.
14. **Polarization:** Plane, Elliptical and circular Polarizations, Optical, Rotatory dispersion, Polarimeters.

Books Recommended:

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| 1. Spiegel, M.R. | : | Vector Analysis |
| 2. R.S. Halliday, R. Resnick, and J.Walker | : | Fundamentals of Physics |
| 3. Halliday, D and Resnick, R. | : | Physics |
| 4. Sears, F.W., Zimansky, M.W. and Young, H.D. | : | University Physics |
| 5. Mathur, D.S. | : | Properties of Matter |
| 6. Newman, F.W. and Serale, V.H.L | : | General Properties of Matter. |
| 7. A text Book of Light | : | Choudhury, Saha & Pramanik |
| 8. Fundamentals of Optics | : | F.A. Jenking & H.E. White |
| 9. A Text Book of Light | : | K.G. Mazumder |
| 10. Principles of Optics | : | B.K. Mathur |

Paper Code	212709	Marks: 50	Credits: 2	Class Hours: 30
Paper Title:	Physics-II (Heat, Thermodynamics and Radiation)			

1. **Thermometry:** Temperature, Concepts of thermal equilibrium, measurement of low and high temperature: Gas thermometers, Resistance thermometer, Thermocouple, Pyrometry, International temperature scale.
2. **Calorimetry:** Specific heats of solids, liquids and gases by method of mixture with radiation corrections: Newton's Law of cooling, Variations of specific heats, Atomic and molecular heats.
3. **Transmission of Heat:** Thermal conductivity, Determination of thermal conductivities of good and bad conductors.
4. **Thermodynamic Systems:** Concept of internal energy: The first law of thermodynamics, Work and specific heats, Isothermal and adiabatic processes.
5. **The second law of thermodynamics:** Reversible and irreversible processes: Carnot cycle, Efficiency of reversible engines, Absolute thermodynamic temperature scale, Change of phase: Clausius and Clapeyron equation, Porous plug experiment.
6. **Entropy:** Entropy of an ideal gas, Temperature-entropy diagram, Increase of entropy.
7. **Thermodynamic Functions:** The Maxwell's relations, Specific heat equations.
8. **Radiation:** Concept of black body radiation, Kirchhoff's law, Stefan-Boltzmann law, Wien's dis-

Books Recommended:

1. R.S. Halliday, R. Resnick, and J.Walker : Fundamentals of Physics
2. Halliday, D and Resnick, R. : Physics
3. A Text Book of Heat : T. Hossain
4. Principles of Heat, Thermodynamics and Radiation : M.A. Haque
5. Text Book of Heat, Thermodynamics and Radiation : M. Ishaque & A.M.Z. Islam
6. Text Book of Heat, Thermodynamics and Radiation : Z.I. Bhuiyan & S. Rahman
7. Heat and Thermodynamics : N. Uddin & A Kalam
8. Tap O Tapagati Bijnan : M.A. Jabbar
9. Heat & Thermodynamics : M.W. Zemansky

Paper Code	211501	Marks: 100	Credits: 4	Class Hours: 60
Paper Title:	History of the Emergence of Independent Bangladesh			

স্বাধীন বাংলাদেশের অভ্যুদয়ের ইতিহাস

ভূমিকা: স্বাধীন বাংলাদেশের অভ্যুদয়ের ইতিহাস-পরিধি ও পরিচিতি

- ১। দেশ ও জনগোষ্ঠীর পরিচয়
 - ক) ভূ প্রকৃতির বৈশিষ্ট্য ও প্রভাব
 - খ) নৃতাত্ত্বিক গঠন
 - গ) ভাষা
 - ঘ) সংস্কৃতির সমন্বয়বাদিতা ও ধর্মীয় সহনশীলতা
 - ঙ) অভিন্ন বাংলার পরিপ্রেক্ষিতে তৎকালীন পূর্ববঙ্গ ও বর্তমান বাংলাদেশের স্বকীয় সত্তা
- ২। অখন্ড স্বাধীন বাংলা রাষ্ট্র গঠনের প্রয়াস ও উপমহাদেশের বিভক্তি, ১৯৪৭
 - ক) উপনিবেশিক শাসন আমলে সাম্প্রদায়িকতার উদ্ভব ও বিস্তার
 - খ) লাহোর প্রস্তাব, ১৯৪০
 - গ) অখন্ড স্বাধীন বাংলা রাষ্ট্র গঠনের উদ্যোগ, ১৯৪৭ ও পরিণতি
 - ঘ) পাকিস্তান সৃষ্টি, ১৯৪৭
- ৩। পাকিস্তান: রাষ্ট্রীয় কাঠামো ও বৈষম্য
 - ক) কেন্দ্রীয় ও প্রাদেশিক কাঠামো
 - খ) সামরিক ও বেসামরিক আমলাতন্ত্রের প্রভাব
 - গ) অর্থনৈতিক, সামাজিক ও সাংস্কৃতিক বৈষম্য
- ৪। ভাষা আন্দোলন ও বাঙালির আত্মপরিচয় প্রতিষ্ঠা
 - ক) মুসলিম লীগের শাসন ও গণতান্ত্রিক রাজনীতির সংগ্রাম
 - খ) আওয়ামী লীগের প্রতিষ্ঠা, ১৯৪৯

গ) ভাষা আন্দোলন: পটভূমি ও ঘটনা প্রবাহ
ঘ) হক-ভাসানী-সোহরাওয়ার্দীর যুক্তফ্রন্ট, ১৯৫৪ সালের নির্বাচন ও পরিণতি

৫। সামরিক শাসন: আইয়ুব খান ও ইয়াহিয়া খানের শাসনামল (১৯৫৮-৭১)

ক) সামরিক শাসনের সংজ্ঞা ও বৈশিষ্ট্য

খ) আইয়ুব খানের ক্ষমতা দখল ও শাসনের বৈশিষ্ট্য (রাজনৈতিক নিপীড়ন, মৌলিক গণতন্ত্র, ধর্মের রাজনৈতিক ব্যবহার)

গ) আইয়ুব খানের পতন ও ইয়াহিয়া খানের শাসন, এক ইউনিট বিলুপ্তিকরণ, সার্বজনীন ভোটাধিকার, এলএফও (Legal Framework Order)

৬। জাতীয়তাবাদের বিকাশ ও স্বাধিকার আন্দোলন

ক) সাংস্কৃতিক আগ্রাসনের বিরুদ্ধে প্রতিরোধ ও বাঙালি সংস্কৃতির উজ্জীবন

খ) শেখ মুজিবুর রহমানের ৬-দফা আন্দোলন

গ) ৬-দফা আন্দোলনের প্রতিক্রিয়া, গুরুত্ব ও তাৎপর্য

ঘ) আগরতলা মামলা, ১৯৬৮

৭। ১৯৬৯-এর গণঅভ্যুত্থান ও ১১-দফা আন্দোলন

ক) পটভূমি

খ) আন্দোলনের কর্মসূচী, গুরুত্ব ও পরিণতি

৮। ১৯৭০ এর নির্বাচন, অসহযোগ আন্দোলন ও বঙ্গবন্ধুর স্বাধীনতা ঘোষণা

ক) নির্বাচনের ফলাফল এবং তা মেনে নিতে কেন্দ্রের অস্বীকৃতি

খ) অসহযোগ আন্দোলন, বঙ্গবন্ধুর ৭ই মার্চের ভাষণ, অপারেশন সার্চলাইট

গ) বঙ্গবন্ধুর স্বাধীনতা ঘোষণা ও গ্রেফতার

৯। মুক্তিযুদ্ধ ১৯৭১

ক) গণহত্যা, নারী নির্যাতন, শরণার্থী

খ) বাংলাদেশ সরকার গঠন ও স্বাধীনতার ঘোষণাপত্র

গ) স্বতঃস্ফূর্ত প্রাথমিক প্রতিরোধ ও সংগঠিত প্রতিরোধ (মুক্তিফৌজ, মুক্তিবাহিনী, গেরিলা ও সম্মুখ যুদ্ধ)

ঘ) মুক্তিযুদ্ধে প্রচার মাধ্যম (স্বাধীন বাংলা বেতার কেন্দ্র, বিদেশী প্রচার মাধ্যম ও জনমত গঠন)

ঙ) ছাত্র, নারী ও সাধারণ মানুষের অবদান (গণযুদ্ধ)

চ) মুক্তিযুদ্ধে বৃহৎশক্তি ও মুসলিম রাষ্ট্র সমূহের ভূমিকা

ছ) দখলদার বাহিনী, শান্দিড়কমিটি, আলবদর, আলশামস, রাজাকার বাহিনী, রাজনৈতিক দল ও দেশীয়

অন্যান্য সহযোগীদের স্বাধীনতাবিরোধী কর্মকান্ড ও বুদ্ধিজীবী হত্যা

জ) পাকিস্তানে বন্দি অবস্থায় বঙ্গবন্ধুর বিচার ও বিশ্বপ্রতিক্রিয়া

ঝ) প্রবাসী বাঙালি ও বিশ্বের বিভিন্ন দেশের নাগরিক সমাজের ভূমিকা

ঞ) মুক্তিযুদ্ধে ভারতের অবদান

ট) যৌথ বাহিনী গঠন ও বিজয়

ঠ) স্বাধীনতা সংগ্রামে বঙ্গবন্ধুর নেতৃত্ব এবং অবদান

১০। বঙ্গবন্ধু শেখ মুজিবুর রহমানের শাসনকাল, ১৯৭২-১৯৭৫

ক) স্বদেশ প্রত্যাবর্তন

খ) সংবিধান প্রণয়ন

গ) যুদ্ধ বিধ্বস্ত দেশ পুনর্গঠন

ঘ) সপরিবারে বঙ্গবন্ধু হত্যা ও আদর্শিক পটপরিবর্তন

History of the Emergence of Independent Bangladesh

Introduction: Scope and description of the emergence of Independent Bangladesh.

1. Description of the country and its people.

- a. Geographical features and their influence.
- b. Ethnic composition.
- c. Language.
- d. Cultural syncretism and religious tolerance.
- e. Distinctive identity of Bangladesh in the context of undivided Bangladesh.

2. Proposal for undivided sovereign Bengal and the partition of the Sub Continent, 1947.

- a. Rise of communalism under the colonial rule,
- b. Lahore Resolution 1940.
- c. The proposal of Suhrawardi and Sarat Bose for undivided Bengal : consequences
- d. The creation of Pakistan 1947.

3. Pakistan: Structure of the state and disparity.

- a. Central and provincial structure.
- b. Influence of Military and Civil bureaucracy.
- c. Economic, social and cultural disparity

4. Language Movement and quest for Bengali identity

- a. Misrule by Muslim League and Struggle for democratic politics.
- b. Foundation of Awami league, 1949
- c. The Language Movement: context and phases.
- d. United front of Haque – Vasani – Suhrawardi: election of 1954, consequences.

5. Military rule: the regimes of Ayub Khan and Yahia Khan (1958-1971)

- a. Definition of military rules and its characteristics.
- b. Ayub Khan's rise to power and characteristics of his rule (Political repression, Basic democracy, Islamisation)
- c. Fall of Ayub Khan and Yahia Khan's rule (Abolition of one unit, universal suffrage, the Legal Framework Order)

6. Rise of nationalism and the Movement for self determination.

- a. Resistance against cultural aggression and resurgence of Bengali culture.
- b. The six point movement of Sheikh Mujibur Rahman
- c. Reactions; Importance and significance of the six Point movement.
- d. The Agortola Case 1968.

7. The mass-upsurge of 1969 and 11 point movement:

- a. background
- b. programme significance and consequences.

8. Election of 1970 Non-cooperation movement of March 1971 and the Declaration of Independence by Bangobondhu

- a. Election result and centres refusal to comply
- b. The non co-operation movement, the 7th March Address of Bangobondhu, Operation Searchlight
- c. Declaration of Independence by Bangobondhu and his arrest

9. The war of Liberation 1971

- a. Genocide, repression of women, refugees
- b. Formation of Bangladesh government and proclamation of Independence
- c. The spontaneous early resistance and subsequent organized resistance (Mukti Fouz, Mukti Bahini, guerillas and the frontal warfare)
- d. Publicity Campaign in the war of Liberation (Shadhin Bangla Betar Kendra, the Campaigns abroad and formation of public opinion)
- e. Contribution of students, women and the masses (Peoples war)
- f. The role of super powers and the Muslim states in the Liberation war.
- g. The Anti-liberation activities of the occupation army, the Peace Committee, Al-Badar, Al-Shams, Rajakars, pro Pakistan political parties and Pakistani Collaborators, killing of the intellectuals.
- h. Trial of Bangobondhu and reaction of the World Community.
- i. The contribution of India in the Liberation War
- j. Formation of joint command and the Victory
- k. The overall contribution of Bangobondhu and his leadership in the Independence struggle.

10. The Bangobondhu Regime 1972-1975

- a. Homecoming
- b. Making of the constitution
- c. Reconstruction of the war ravaged country
- d. The murder of Bangobondhu and his family and the ideological turn-around.

সহায়ক গ্রন্থ

১. নীহার রঞ্জন রায়, *বাঙালীর ইতিহাস*, দে' জ পাবলিশিং, কলকাতা ১৪০২ সাল।
২. সালাহ উদ্দিন আহমেদ ও অন্যান্য (সম্পাদিত), *বাংলাদেশের মুক্তি সংগ্রামের ইতিহাস ১৯৪৭-১৯৭১*, আগামী প্রকাশনী, ঢাকা ২০০২।

৩. সিরাজুল ইসলাম (সম্পাদিত), *বাংলাদেশের ইতিহাস ১৭০৪-১৯৭১*, ৩ খন্ড, এশিয়াটিক সোসাইটি অব বাংলাদেশ, ঢাকা ১৯৯২।
৪. ড. হারুন-অর-রশিদ, *বাংলাদেশ: রাজনীতি, সরকার ও শাসনতান্ত্রিক উন্নয়ন ১৭৫৭-২০০০*, নিউ এজ পাবলিকেশন্স, ঢাকা ২০০১।
৫. ড. হারুন-অর-রশিদ, *বাঙালির রাষ্ট্রচিন্তা ও স্বাধীন বাংলাদেশের অভ্যুদয়*, আগামী প্রকাশনী, ঢাকা ২০০৩।
৬. ড. হারুন-অর-রশিদ, *বঙ্গবন্ধুর অসমাপ্ত আত্মজীবনী পুনর্পাঠ*, দি ইউনিভার্সিটি প্রেস লিমিটেড, ঢাকা ২০১৩।
৭. ড. আতফুল হাই শিবলী ও ড.মোঃ মাহবুবুর রহমান, *বাংলাদেশের সাংবিধানিক ইতিহাস ১৭৭৩-১৯৭২*, সুবর্ণ প্রকাশন, ঢাকা ২০১৩।
৮. মুনতাসির মামুন ও জয়ন্ত কুমার রায়, *বাংলাদেশের সিভিল সমাজ প্রতিষ্ঠার সংগ্রাম*, অবসর, ঢাকা ২০০৬।
৯. আতিউর রহমান, *অসহযোগ আন্দোলনের দিনগুলি: মুক্তিযুদ্ধের প্রস্তুতি পর্ব*, সাহিত্য প্রকাশ, ঢাকা ১৯৯৮।
১০. ড. মোঃ মাহবুবুর রহমান, *বাংলাদেশের ইতিহাস, ১৯০৫-৪৭*, তাম্রলিপি, ঢাকা ২০১১।
১১. ড. মোঃ মাহবুবুর রহমান, *বাংলাদেশের ইতিহাস, ১৯৪৭-১৯৭১*, সময় প্রকাশন, ঢাকা ২০১২।
১২. সৈয়দ আনোয়ার হোসেন, *বাংলাদেশের স্বাধীনতা যুদ্ধে পরাজিতের ভূমিকা*, ডানা প্রকাশনী, ঢাকা ১৯৮২।
১৩. আবুল মাল আবদুল মুহিত, *বাংলাদেশ: জাতিরাষ্ট্রের উদ্ভব*, সাহিত্য প্রকাশ, ঢাকা ২০০০।
১৪. শেখ মুজিবুর রহমান, *অসমাপ্ত আত্মজীবনী*, দি ইউনিভার্সিটি প্রেস লিমিটেড, ঢাকা ২০১২।
১৫. সিরাজ উদ্দীন আহমেদ, *একাত্তরের মুক্তিযুদ্ধ: স্বাধীন বাংলাদেশের অভ্যুদয়*, ইসলামিক ফাউন্ডেশন, ঢাকা ২০১১।
১৬. জয়ন্ত কুমার রায়, *বাংলাদেশের রাজনৈতিক ইতিহাস*, সুবর্ণ প্রকাশন, ঢাকা ২০১০।
১৭. Harun-or-Roshid, *The Foreshadowing of Bangladesh: Bengal Muslim League and Muslim Politics, 1906-1947*, The University Press Limited, Dhaka 2012.
১৮. Rounaq Jahan, *Pakistan: Failure in National Integration*, The University Press Limited, Dhaka 1977.
১৯. Talukder Maniruzzaman, *Radical Politics and the Emergence of Bangladesh*, Mowla, Brothers, Dhaka 2003.
২০. মেসবাহ কামাল ও ঈশানী চক্রবর্তী, *নাচোলের কৃষক বিদ্রোহ, সমকালীন রাজনীতি ও ইলা মিত্র*, উত্তরণ, ঢাকা ২০০৮।
২১. মেসবাহ কামাল, *আসাদ ও উনসত্তরের গণঅভ্যুত্থান*, বিবর্তন, ঢাকা ১৯৮৬।