

Syllabus for the Final Examination
Session: 2018–19
Class: IX

SL.	Subjects	Teachers	Syllabus
1.	English Language	A.F.M. Mohiuddin	Paper-1: Section one: Directed writing, Letter (Formal and informal), Speech writing, School Magazine article, Report writing. Section two: Creative writing, Descriptive, Narrative, Argumentative
		Ahsanullah Zaheed	Paper-2: Section One : Reading for Ideas (Notes, Summary & Fact/Opinion) Section Two : Reading for Meaning (Comprehension) An insert of 2 unseen passages will be given as stimulus material Recommendation: a practice of CAIE past papers (10 years') for the preparation of examination.
2.	Bangla	Quazi Nazneen	Paper – 1 Sec-A : চিঠি : ব্যক্তিগত (বন্ধু, ভাই, বাবার কাছে) - বসন্ত উদ্‌যাপন, একুশের বইমেলা, তাজমহলের সৌন্দর্য, খেলাধুলা বিষয়ক ; সংলাপ : বন্ধুর সাথে (লেখাপড়া, স্কুলজীবন, খেলাধুলা বিষয়ক) ; প্রতিবেদন : রাজধানীর যানজট, অপসংস্কৃতির প্রভাব, খাদ্যে ভেজাল । Sec-B : রচনা : সংবাদপত্রের ভূমিকা, শীতকাল, বর্ষায় বাংলাদেশ, প্রিয় ব্যক্তি / ব্যক্তিত্ব, মুঠোফোন, আমার বিদ্যালয় । Paper – 2 সন্ধি, বাগধারা, বাক্য রূপান্তর, বন্ধ অনুচ্ছেদ, MCQ, Comprehension, শব্দার্থ, পরিভাষা, বিপরীত শব্দ। From question paper (2011-2014, both paper – 1 and 2) + related worksheet provided by subject teacher.
3.	Additional Mathematics	Debashish Saha Tanvir Asghar Kabir	1. Simultaneous Equations; 2. Co-ordinate Geometry; 3. Trigonometric Ratios and Equations; 4. Binomial Theorem 5. Arithmetic/Geometric Progressions; 6. Differentiation and Application of differentiation; 7. Differentiations of Trigonometric functions with applications; 8. Logarithmic and Exponential Functions and their differentiations.
4.	Mathematics D	Debashish Saha Tanvir Asghar Kabir	1. Arithmetic: Approximations, Standard form, Ratio and proportions, Percentages, Speed, distance and time, Map-Scale 2. Algebra: Linear equations, Simultaneous equations, Quadratic equations, Changing the subject of the formula, Variations, Inequalities 3. Geometry: Pythagora's theorem, Symmetry, Similarities, Circle theorem, Construction and loci, Nets 4. Mensurations: Perimeters, Areas/Surface Areas, Sectors of Segments, Volumes, Arclengths 5. Trigonometry: Right angled triangles, Scale drawing, 3-D problems, Sine Rule/Cosine Rule, Bearing 6. Graphs; 7. Sets; 8. Functions; 9. Vectors; 10. Statistics; 11. Matrix and Transformation; 12. Probability

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5.	Physics Paper-1 & 2	Ashraf Huda Tahmedul Hasan	<p><u>1. Mechanics</u> 1. Physical Quantities, Units and Measurement Content: 1.1 Scalars and vectors, 1.2 Measurement techniques, 1.3 Units and symbols</p> <p><u>2. Kinematics</u> Content 2.1 Speed, velocity and acceleration, 2.2 Graphical analysis of motion 2.3 Free-fall</p> <p><u>3. Dynamics</u> Content 3.1 Balanced and unbalanced forces, 3.2 Friction, 3.3 Circular motion</p> <p><u>4. Mass, Weight and Density</u> Content 4.1 Mass and weight, 4.2 Gravitational fields, 4.3 Density</p> <p><u>5. Turning Effect of Forces</u> Content 5.1 Moments, 5.2 Centre of mass, 5.3 Stability</p> <p><u>6. Deformation</u> Content 6.1 Elastic deformation</p> <p><u>7. Pressure</u> Content 7.1 Pressure, 7.2 Pressure changes</p> <p><u>8. Work, Power & Efficiency</u> Thermal Physics 9. Transfer of Thermal Energy Content 9.1 Conduction, 9.2 Convection, 9.3 Radiation</p> <p><u>10. Temperature</u> Content 10.1 Principles of thermometry, 10.2 Practical thermometers</p> <p><u>11. Thermal Properties of Matter</u> Content 11.1 Specific heat capacity, 11.2 Melting and boiling, 11.3 Thermal expansion of solids, liquids and gases</p> <p><u>12. Kinetic Model of Matter</u> Content 12.1 States of matter, 12.2 Molecular model, 12.3 Evaporation</p> <p><u>13. General Wave Properties</u> Content 13.1 Describing wave motion, 13.2 Wave terms, 13.3 Wave behavior</p> <p><u>14. Light</u> Content 14.1 Reflection of light, 14.2 Refraction of light, 14.3 Thin converging and diverging lenses</p> <p><u>15. Electromagnetic Spectrum</u> Content 15.1 Dispersion of light, 15.2 Properties of electromagnetic waves, 15.3 Applications of electromagnetic waves</p> <p><u>16. Sound</u> Content 16.1 Sound waves, 16.2 Speed of sound, 16.3 Ultrasound</p> <p><u>18. Static Electricity</u> Content 18.1 Laws of electrostatics, 18.2 Principles of electrostatics, 18.3 Applications of electrostatics</p>

	Physics Paper-1 & 2	Ashraf Huda Tahmedul Hasan	<p><u>19. Current Electricity</u> Content 19.1 Current, 19.2 Electromotive force, 19.3 Potential difference, 19.4 Resistance</p> <p><u>20. D.C. Circuits</u> Content 20.1 Current and potential difference in circuits, 20.2 Series and parallel circuits</p> <p><u>21. Practical Electricity</u> Content 21.1 Uses of electricity, 21.2 Dangers of electricity, 21.3 Safe use of electricity in the home</p> <p><u>Practical Syllabus</u> Topic: 1. Light, 2. Electricity</p>
6.	Chemistry Paper-1,2 & 3	Md. Ashikul Hoque	Rates of reaction; Chemical equilibrium; Oxygen and oxides; Acid and bases; Identification of cations, anions and gases; States of matter; Metals introduction; Extraction of metals; Industrial chemistry: HABER'S process, CONTACT process, Manufacture of H ₂ & Cl ₂ by electrolysis
		Shamim Siddiqui	Follow the Lab Book with different Activities
7.	Biology Paper-1,2 & 3	Rowshan Alam	<p><u>Paper-1 & 2:</u> Nutrition in Mammals, Blood and circulation, Teeth, Transport in Mammals, Coordination-I, Coordination-II, Coordination-III, Homeostasis and Excretion</p> <p><u>Paper-3:</u> Osmosis, Diffusion and active Transport, Enzymes, Animal Nutrition, Excretion and Homeostasis, Coordination-I, Coordination-II</p>
8.	Accounting Paper-1 & 2	Dr. Mohitur Rahman Shajedul Alam	<p>1. Capital expenditure and revenue expenditure, 2. Bad debt and provision for doubtful debt, 3. Depreciation, 4. Accruals and Prepaid: Financial Statements of Sole traders, 5. Bank reconciliation statements, 6. Control Accounts, 7. Manufacturing Account, 8. Errors not affecting trial balance agreement, 9. Suspense account, 10. Preparation of financial statements (Sole traders)</p> <p><u>Paper 1:</u> Will be based on the total syllabus of class IX <u>Paper 2:</u> Will be based on the topics covered in second term</p>
9.	Economics Paper-1 & 2	Iqbal Mahmood	<p>1. The allocation of resources: how the market works; market failure (Revision): demand and supply analysis, elasticity of demand and supply, relationship between price elasticity of demand and total revenue, consumer expenditure, taxation, etc.</p> <p>2. The private firm as producer and employer: costs and revenue, profit maximisation and other business goals, perfect competition, monopoly, advantages and disadvantages of increased scale.</p> <p>3. Role of government in economy: government as a producer and an employer, aims of government economic policy, fiscal, monetary and supply-side policies, types of taxation, possible policy conflicts, government's influence on private producers.</p> <p>4. Economic indicators: price indices, inflation and deflation, employment and unemployment, GDP, economic growth and recession, GDP and other measures of living standards.</p>
10.	Business Studies Paper-1 & 2	Dr. Mohitur Rahman	<p>People in business: 1. Motivating employees, 2. Recruitment, selection and training of employees.</p> <p>Marketing: 1. Marketing, competition and the customer, 2 Market research, 3 Marketing mix, 4 Marketing strategy.</p>

<p>11.</p>	<p>Computer Science Paper-1 & 2</p>	<p>Md. Masudul Hoque</p>	<p>Paper-1:</p> <p>1. 1 Data representation (1.1.1 Binary systems and 1.1.2 hexadecimal): The binary system, Converting from binary to denary, Converting from denary to binary, Examples use of binary, Measurement of the size of computer memories, The hexadecimal system, Converting from binary to hexadecimal and from hexadecimal to binary, Converting from hexadecimal to denary and from denary to hexadecimal, Use of the hexadecimal system:</p> <ul style="list-style-type: none"> - Memory dumps-when trouble shoot trace all information content in RAM and write it to a storable drive. - Hyper Text Mark-up Language(HTML) - Media Access Control(MAC) - Web addresses - Assembly code and machine code <p>1.2 Communication and Internet technologies: Introduction of Data transmission, Serial and parallel data transmission, Simplex, half-duplex and full-duplex, Asynchronous and synchronous data transmission, Universal Serial Bus(USB), IC, Error-checking & correction methods</p> <p>Logic gates: Introduction, Logic gates, The function of six logic gates, Truth tables, Logic Circuits, Produce a logic circuit to solve a given problem or to implement a given written logic statement</p> <p>1.3.6 Operating systems (part-1): Introduction, Operating systems, Functions of Operating systems, Interrupts and buffers, show understanding that sound (music), pictures, video, text and numbers are stored in different formats, show understanding of the concept of Musical Instrument Digital Interface (MIDI) files, JPEG, files, MP3 and MP4 files, show understanding of the principles of data compression (lossless and lossy) applied to music/video, photos and text files, Memory and storage, Primary memory (RAM/ROM), Secondary storage(HDD,SSD), Off-line storage(CD,DVD,Blu-ray,USB flash memory & etc, describe the principles of operation of a range of types of storage device and media including magnetic, optical and solid state</p> <p>Paper-2:</p> <p>2.1.1 Problem-solving and design: Tools and techniques(top-down design, structure diagrams, flowcharts, pseudocode), Producing algorithm, purpose of a given algorithm, Test data, Validation & Verification, Trace table (for finding the value of each variable & output from the algorithm) Identify the errors & correction</p> <p>2.1.2 Pseudocode and Flowchart: Assignment, Input & Output statements, Variables, Constant & Data types Conditional Statements: IF.....THEN....ELSE....ENDIF, CASE...OF....OTHERWISE....ENDCASE Loop structures: FOR . . . TO . . . NEXT REPEAT . . . UNTIL WHILE . . . DO . . . ENDWHILE Totaling (e.g. sum \leftarrow sum + number) Counting (e.g. count \leftarrow count + 1)</p> <p>2.3 Databases: Introduction & definition of single table database, Usages of databases, The Structure of Databases Table (Record, Field, primary key), Data types, Query (query-by-example)</p>
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