



UNIFIED CYBER OLYMPIAD

S Y L L A B U S

CLASS - 2

Mental ability

Shapes, Numbers, Concept of 0, Order of numbers, Addition, Subtraction, Understanding of multiplication and division, Measurement, Time, Money

Reasoning

Odd One Out, Embedded Figures, Series, Similar shapes, Analogies, Mathematical reasoning, Analytical reasoning

Computers

Introduction to computers, Uses of computers, Parts of a computer, Mouse and Keyboard

General English

Vocabulary, Grammar and Correct usage

CLASS - 3

Mental ability

Numbers upto 10000, Place value, Round off numbers, Expanded notation, Sum or difference of two numbers between 0 and 10000, Inverse relationship of multiplication and division, Solve simple problems involving multiplication and division, Special properties of 0 and 1 in multiplication and division, Identifying fractions, Simple unit conversions, Simple problems, Involving a functional relationship between two quantities, estimate and measure the length, liquid volume, and weight/mass of given objects, Identifying the geometrical shapes, Pictographs, Solid shapes, Open and closed figures, Time, Money.

Reasoning

Analogy, Series completion, Simple coding, Alphabet test, Adding figures, Grouping of identical figures, Odd one out, Incomplete pattern, Inserting missing numbers, Analytical reasoning

Computers

Introduction to Computers, Keyboard, Operating Systems

General English

Vocabulary, Grammar and Correct usage

CLASS - 4

Mental ability

Numbers (Indian & International), Place value, Round off numbers, Compare whole numbers and decimals to two decimal places, Different interpretations of fractions, Write tenths and hundredths in decimal and fraction notations, Applications on addition, Subtraction, multiplication and division, Concept of factors and multiples, Visualize and describe the geometric figures, Basic geometrical concepts, Measurement, Time, Money, Data handling

Reasoning

Analogy, Series completion, Simple coding, Alphabet test, Subtracting figures, Grouping of identical figures, Odd one out, Incomplete pattern, Inserting missing numbers, Analytical reasoning



Computers

Introduction to computers, More about Windows, Drawing in Paint, Notepad, Introduction to Logo, Logo Commands, Writing and Arithmetic with Logo, Introduction to Microsoft Word

General English

Vocabulary, grammar and correct usage.

CLASS - 5

Mental ability

Estimate, round, and manipulate very large (e.g., millions) and very small (e.g., thousandths) numbers, Finding HCF & LCM, Identify and represent on a number line, add, subtract, multiply, and divide with decimals, Solve simple problems, including ones arising in concrete situations, involving the addition and subtraction of fractions and mixed numbers, Basics of geometry, Lines and angles, Circumference of circle, Symmetry, Reflection and rotation, Measurement, Time, Money, Reading simple graphs

Reasoning

Analogy, Series completion, Simple coding, Alphabet test, Mirror images, Folded in, Grouping of identical figures, Odd one out, Embedded figures, Mathematical reasoning, Analytical reasoning, Jumbled words, Forming new words

Computers

Introduction to Computers, Data Storage Devices, More about Windows, More Logo Commands, More Commands in Logo, Editing Text in MS Word, Formatting in MS Word, Introduction to MS Power Point, Working with text in MS Power Point, Multimedia

General English

Vocabulary, grammar and correct usage

CLASS - 6

Mental ability

Integers, Comparison of fractions, decimals, and mixed numbers and place them on a number line, Interpret and use ratios in different contexts, Application of proportions, solve problems involving addition, subtraction, multiplication, and division, Determine the LCM and HCF of whole numbers; use them to solve problems with fractions, Write and evaluate an algebraic expression for a given situation, Understanding elementary shapes, Measurement, Perimeter and area, Volume of cube and cuboid, Temperature, Time, Money, Collecting and representing data

Reasoning

Analogy, series completion, simple coding, alphabet test, mirror images, formation of figures, opened out, grouping of identical figures, odd one out, mathematical reasoning, analytical reasoning, Jumbled words, Forming new words

Computers

Introduction to Computers, Computer Generations, Computer Peripherals, MS Word: Features, Creating Table Working with objects in MS Word, Advanced features, MS Power point Presentations: Introduction, creating a presentation, Backgrounds and slide organization, Adding Graphics and organization charts, Enlivening a Presentation, Microsoft Excel, Internet, Flowcharting

General English

Vocabulary, Grammar and Correct usage

CLASS - 7

Mental ability

Rational numbers, Convert fractions to decimals and percents and use these representations in estimations, computations, and applications, Calculate the percentage of increases and decreases of a quantity, commissions, profit and loss, Compute simple interest, Express quantitative relationships by using algebraic terminology, expressions, Simple equations, Ratio and proportion, Data handling, Lines and angles, Triangles and its properties, Congruence of triangles, Perimeter and area, Symmetry, Practical geometry.

Reasoning

Analogy, series completion, coding and decoding, alphabet test, mirror images, formation of figures, paper cutting, grouping of identical figures, odd one out, analytical reasoning, direction sense test, mathematical reasoning, Jumbled words, Forming new words

Computers

Introduction to computers, Microsoft Excel Editing cell contents in MS Excel, Formatting Data in MS Excel, Formulae in MS Excel, Advanced features of MS Excel, Creating Charts, Internet, Macromedia Flash, Drawing in Flash, Q Basics, Q Basic statements

General English

Vocabulary, Grammar and Correct usage.

CLASS - 8

Mental ability

Identify and use the properties of integers, Rational, Irrational and Real numbers, Concept of polynomials, add, subtract, multiply, and divide monomials and polynomials, Basic factoring techniques to second degree polynomials, Solve problems that involve discounts, Commissions, profit and loss, Compute simple and compound interest, Exponents and powers, Squares and square roots, Cubes and cube roots, Algebraic identities, Linear equations in one variable, Data handling, Understanding quadrilaterals, Symmetry, Visualising solid shapes, Perimeter and area

Reasoning

Analogy, Series completion, Coding and decoding, Alphabet test, Mirror images, Paper folding, Grouping of identical figures, Odd one out, Analytical reasoning, Direction sense test, Mathematical reasoning, Cubes and dice, Locating hidden words, Jumbled letters, Formation of new words

Computers

Review of computer basics, Computer Viruse - Types, Prevention, Antivirus, Updating virus definitions, Q Basic - Looping statements, Graphics and Sound, Internet - Searching Information, Communication on the Internet, Flash - Tools, Understanding timeline, Frames and Key frames, Layers and Animation, HTML Basics - Introduction to HTML, HTML Elements - Tags and Attributes, Structure of an HTML Document, Creating an HTML Document, Line Break
 Tag, Paragraph <P> Element, Horizontal Rule <HR> Element, Comment Element, HTML Text - Text Elements, Address Tag, Pre Tag, Center Tag, Heading Tag, Font Tag, Base Font Tag Structure, Commands, (Tables and Linking), MS Access - Database and Fields, Modifying table designs.

General English

Vocabulary, Grammar and Correct usage.



CLASS - 9

Mental ability

Number systems, Concept of polynomials, add, subtract, multiply, and divide monomials and polynomials, Remainder theorem, Factoring techniques, Solve a system of two linear equations in two variables algebraically and interpret the answer graphically, Basics of coordinate geometry, Properties of lines and angles, Triangles and quadrilaterals, Areas of parallelograms and triangles, Visualising solid shapes, Mensuration, Exponents and powers, Direct and inverse proportion, Factorisation, Introduction to graphs.

Reasoning

Analogy, Series completion, Coding and decoding, Alphabet test, Mirror images, Blood relations, Grouping of identical figures, Odd one out, Analytical reasoning, Direction sense test, Mathematical reasoning, Cubes and dice, Locating hidden words, Jumbled letters, Formation of new words

Computers

Review of Computer basics, Computer System - Evolution and History of computers, Generation, Electronic Computers, Hardware and Software, Language, Terms related to open and non-open source software, Operating system - Windows XP, MS Word, MS Front Page, Visual Basic - GUI, VB Window, Form object, Common controls, Photoshop - Tools, Layers, Filters, Networking and E-commerce

General English

Vocabulary, Grammar and Correct usage.

CLASS - 10

Mental ability

Real numbers, Concept of polynomials, Application of remainder and factor theorems, Solve a system of two linear equations in two variables, Use the quadratic formula to find the roots of a second-degree polynomial and to solve quadratic equations, Use the quadratic formula or factoring techniques or both determine the graph a quadratic function that intersects the X-axis in 0, 1 or 2 points, Concept of arithmetic progressions, Coordinate geometry, Various forms of equation of a straight line, Trigonometric identities, Theorems on circles, Cyclic quadrilateral, Construction of triangles, Heron's formula, Surface area and volume, Statistics, Introduction to probability.

Reasoning

Analogy, Series completion, Coding and decoding, Alphabet test, Mirror images, Blood relations, Grouping of identical figures, Odd one out, Embedded figures, Problems based on figures, Analytical reasoning, Direction sense test, Mathematical reasoning, Cubes and dice, Locating hidden words, Jumbled letters, Formation of new words

Computers

Review of Computer basics, MS Powerpoint, MS Excel, Visual basic - Tool box, Working with data, Selection and looping, C++ - Structure, Variable, Constants, Standard I/O. Operators, Control structure, Internet - History, Internet services, Web - browsers, MS Access - Creating new Database, Tables, Forms, Queries and reports, Societal Impact of Information Technology - Security and Integrity of information, HTML - Creating Lists and Inserting Images, Linking - Creating Hyperlinks using <A> Tag, Link Within a Single Page, Creating Images as Link.

General English

Vocabulary, Grammar and Correct usage.