Syllabus for Entrance Test

Subject: English

Q-1   Essay Writing

One topic will be given from the following: -
1. I want to be an army officer
2. Terrorism
3. Village / City life
4. Football / cricket/ basketball match
5. Swimming
6. Hazrat Muhammad (PBUH) / Quaid-e-Azam/ Allama Iqbal/ Abdul Sattar Edhi
7. My Ambition
8. A dream

Q-2   Story Writing

One topic will be given from the following: -
1. A sad / happy event of my life
2. A friend in need is a friend indeed
3. A big reward
4. The Muslim brotherhood
5. Honesty is the best policy
6. The foolish stag
7. Robbers turn good citizens

Q-3   Translate in to Urdu

Unseen paragraph will be given

Q-4   Pair of words   (Matric Level)

Four Pair of words will be given

Use of Parts of Speech (Matric Level)

Noun / Pronoun / Prepositions/ Verbs / adverb / Adjective / Article (Q 5, 6, 7, 8)

Q-5   Write the correct form of personal pronoun

e.g. It was Ali _____ called on you (who, whom)

Q-6   Use a, an or the where necessary

e.g. _____ apple has _____ sweet taste.

Q-7   Fill in the blanks with suitable prepositions

e.g.   I am glad _____ his success.

Q-8   Use the correct form of verb

e.g.- It _____ since morning   (rain)

Syllabus for Entrance Test

Subject: Mathematics

TITLE	TOPICS

Quadratic Equations	(i). Quadratic equation
	    a. Solution by factorization
	    b. Solution by completing square
	(ii). Quadratic formula
	(iii). Equations reducible to Quadratic form
	(iv). Radical equations

Partial Fractions	(i). Fraction (ii). Resolution of fraction into partial fractions (All Types of resolutions)
Sets and Functions	(i). Sets (types etc.) (ii). All operations on sets (iii). De Morgan's Laws (iv). Venn Diagram (v). Ordered pairs and Cartesian product
Introduction to Trigonometry	(i). Introduction (ii). Measurement of an angle (iii). Sector of a circle (iv). Trigonometric Ratios (v). Trigonometric Identities
Real and Complex Numbers	(i). Real numbers (Types) (ii). Properties of Real Numbers (iii). Radicals, Radicands (iv). Laws of Exponents / Indices (v). Complex numbers (vi). Basic operation on complex numbers
Factorization	(i). Factorization (ii). Remainder Theorem and factor theorem (iii). Factorization of a Cubic polynomial
Practical Geometry	(i). Construction of triangles (ii). Drawing angle bisectors / altitudes / perpendiculars / medians and verify their concurrency (iii). Figures with equal areas

Syllabus for Entrance Test

Subject: Physics

TITLE	TOPICS
Introduction	(i). Physics and Its Branches (ii). Physical Quantities (iii). International System of Units (iv). Prefixes (v). Scientific Notation
Kinematics	(i). Rest and Motion (Types also) (ii). Scalars and Vectors (iii). Terms Associated with Motion (iv). Equations of Motion (v). Motion of Freely falling Bodies

Dynamics	(vi). Force, Inertia and Momentum
	(vii). Newton's Laws of Motion
	(viii). Tension and Acceleration in a string
	(ix). Force and Momentum
	(x). Friction (Introduction)
	    a. Rolling Friction
	    b. Braking and skidding
	    c. Advantages and Disadvantages
	    d. Methods of Reducing Friction
	(xi). Uniform circular Motion

Gravitation	(vi). The force of Gravitation
	    a. Law of Gravitation
	    b. Law of Gravitation and Newton's third law of motion
	    c. Gravitational Field
	(vii). Mass of the Earth
	(viii). Variation of 'g' with altitude
	(ix). Artificial Satellites
	    a. Motion of Artificial Satellites

Properties of Matter	(i). Kinetic Molecular Model of Matter
	(ii). Density
	(iii). Pressure
	(iv). Atmospheric Pressure
	(v). Pressure in Liquids
	    a. Pascal's Law and its applications
	(vi). Archimedes Principle
	(vii). Density of an Orbit
	(viii). Principle of Floatation
	    a. Ships and Submarines
	(ix). Elasticity
	(x). Hooke's Law
	(xi). Young's Modules

Geometrical Optics	(iv). Reflection of Light (Laws) (v). Spherical Mirrors (Basic Definitions etc.) (vi). Image location by Spherical Mirror Formula

	(vii). Refraction of Light
	a. Laws of Refraction
	b. Speed of Light in a Medium
	c. Refractive Index
	(viii). Total Internal Reflection
	(ix). Applications of Total Internal Reflection
	a. Totally Internal Reflecting Prism
	b. Optical Fiber
	c. Light pipe
	d. Endoscope
	(x). Refraction through prism
	(xi). Lenses
	a. Types / Lens terminology
	(xii). Image formation by lenses
	(xiii). Image location by lens Equation
Current Electricity	(i). Electric Current
	a. Conventional Current
	b. The measurement of Current
	(ii). Potential difference
	(iii). Electromotive force (e. m. f) and the measurement of potential difference
	(iv). Ohm's Law
	(v). Factors affecting resistance
	(vi). Conductors / insulators
	(vii). Combination of resistors
	(viii). Electrical Energy and Joule's Law
	(ix). Electric Power
	(x). DC and AC
Information and Communication Technology	(i). Components of Computer Based information System (CBIS)
	(ii). Flow of information
	(iii). Transmission of Electrical Signal through wires
	(iv). Transmission of Radio waves through space
	(v). Transmission of Light Signals through Optical Fibers
	(vi). Information Storage Devices
	(vii). Applications of computer
	a. Word Processing
	b. Data Management
	(viii). Internet
	a. Services
	b. Browsers etc.
	(ix). Ricks of ICT to Society and Environment

Syllabus for Entrance Test

Subject: Chemistry

TITLE	TOPICS

Fundamentals of Chemistry	(v). Branches of Chemistry
	(vi). Basic definitions (e. g Elements / Compound/Matter/ Mass number etc.
	(vii). Chemical Species
	(viii). Avogadro's Number and Mole
	(ix). Chemical Calculations
	    a. Mole - Mass Calculations
	    b. Mole - Particle Calculation

Structure of Atoms	(vi). Theories and Experiments related to atomic structure (Rutherford / Bohr) (vii). Electronic Configuration (viii). Isotopes
Periodic Table and periodicity of properties	(xii). Periodic Table (xiii). Periodic Properties
Structure of Molecules	(x). Why do atoms react? (xi). Chemical Bonds (xii). Types of Bonds (xiii). Intermolecular Forces (xiv). Nature of Bonding and properties

Acids/ Bases and Salts	(vii). Concepts of Acids, Bases
	    a. Arrhenius / Bronsted-Lowry Concepts
	    b. Lewis Concept
	(viii). General properties of Acids
	(ix). General properties Bases
	(x). pH Scale
	    a. Indicators
	    b. Uses
	    c. Measuring of pH of a solution
	(xi). Salts
	    a. Preparation
	    b. Types of Salts
	    c. Uses of Salts

Organic Chemistry	(xiv). Organic Compounds a. Diversity / Magnitude / Characteristics (xv). Sources of Organic Compounds (xvi). Uses of Organic Compounds (xvii). Alkanes and Alkyl Radicals (xviii). Functional Groups

Atmosphere	(xi). Composition of Atmosphere
	(xii). Layers of Atmosphere
	(xiii). Pollutants
	    a. Types of Pollutants
	    b. Sources of Pollutants
	    c. Greenhouse Effect and Global Warming

	d. Sulphur Compounds
	e. Effect of SO_2
	(xiv). Acid Rain and its Effects
	(xv). Ozone Depletion and its Effects
Water	(x). Introduction (Occurrence)
	(xi). Properties of Water
	(xii). Water as solvent
	(xiii). Soft and hard water
	a. Types of Hardness of water
	b. Method of removing hardness
	(xiv). Disadvantages of Hard Water
	(xv). Water Pollution
	a. Industrial Effluents
	b. Domestics Effluents
	c. Agricultural Effluents
	d. Effects of water pollution
	(xvi). Water borne Infectious Diseases and prevention

سلیبس برائے داخلہ ٹیسٹ

مضمون: اردو

کل نمبر: 25

سوال نمبر 1	کسی ایک موضوع پر مضمون لکھنا (میٹرک لیول)	(15 نمبر)
سوال نمبر 2	کہانی / مکالمہ / درخواست / خط لکھنا (میٹرک لیول)	(5+5=10 نمبر)

Syllabus for Entrance Test

Subject: Biology

TITLE	TOPICS

Gaseous Exchange	(x). Gaseous Exchange in plants
	(xi). Gaseous Exchange in Humans
	    a. The air passageway
	    b. The lungs
	    c. The mechanism of Breathing
	(xii). Respiratory Disorders
	    (Bronchitis / Emphysema/ Pneumonia/Asthma/Lung Cancer)
	(xiii). Bad Effects of Smoking

Homeostasis	(ix). Homeostasis in plants (x). Homeostasis in humans (xi). Urinary system of Humans (xii). Disorders of kidney
Coordination and Control	(xiv). Types of Coordination (xv). Human Nervous System (xvi). Receptors in Humans (xvii). Endocrine System, (xviii). Disorders of Nervous System
Inheritance	(xv). Introduction to Genetics (xvi). Chromosomes and genes (xvii). Mendel's Law of inheritance (xviii). Co-Dominance and incomplete Dominance (xix). Variations and Evolution
Man and His Environment	(xii). Leaves of Ecological Organization (xiii). Flow of Materials and Energy in ecosystem (xiv). Interactions in ecosystem (xv). Ecosystem balance and human impact (xvi). Pollution: Consequences and Control (xvii). Conservation of nature
Biotechnology	(xix). Introduction to biotechnology (xx). Fermentation (xxi). Genetic Engineering (xxii). Single Cell protein
Pharmacology	(xvi). Medicinal Drugs (xvii). Addictive Drugs (xviii). Antibiotics and vaccines