

ARMY PUBLIC SCHOOL BINNAGURI
ENTRANCE TEST SYLLABUS FOR CLASS XI-(2024-2025)

ENGLISH:

1. Unseen Comprehension
2. Integrated Grammar (Tenses/Reported Speech/Determiners)
3. Writing Tasks-
 - a. Formal/Informal Letter
 - b. Article writing
 - c. Dialogue writing
 - d. Description/ Paragraph Writing
 - e. Notice Writing
 - f. Speech

MATHEMATICS:

1. Mensuration
2. Quadratic equations
3. Arithmetic progressions
4. Co-ordinate geometry
5. Probability
6. Trigonometry and application of trigonometry
7. Linear equation in two variables
8. Polynomials

CHEMISTRY:

Chemical Substances - Nature and Behaviour

Chemical reactions: Chemical equation, Balanced chemical equation, implications of a balanced chemical equation, types of chemical reactions: combination, decomposition, displacement, double displacement, precipitation, neutralization, oxidation and reduction.

Acids, bases and salts: Their definitions in terms of furnishing of H^+ and OH^- ions, General properties, examples and uses, concept of pH scale (Definition relating to logarithm not required), importance of pH in everyday life; preparation and uses of Sodium Hydroxide, Bleaching powder, Baking soda, Washing soda and Plaster of Paris.

Metals and nonmetals: Properties of metals and non-metals; Reactivity series; Formation and properties of ionic compounds.

Carbon compounds: Covalent bonding in carbon compounds. Versatile nature of carbon. Homologous series.

Atoms and molecules: Mole concept and stoichiometry, laws of chemical combination, relative atomic mass and gram atomic mass (RMM and GMM), valencies, ions, writing chemical formulae.

Structure of atom

Bohr's atomic model, atomic number, atomic mass, average atomic mass, isotopes and isobars.

PHYSICS:

Refraction; Laws of refraction, refractive index.

Refraction of light by spherical lens; Image formed by spherical lenses; Lens formula (Derivation not required); Magnification. Power of a lens.

Refraction of light through a prism, dispersion of light, scattering of light, applications in daily Life.

Theme: How Things Work

Effects of Current: Electric current, potential difference and electric current. Ohm's law; Resistance, Resistivity, Factors on which the resistance of a conductor depends. Series combination of resistors, parallel combination of resistors and its applications in daily life. Heating effect of electric current and its applications in daily life. Electric power, Interrelation between P, V, I and R.

Magnetic effects of current: Magnetic field, field lines, field due to a current carrying conductor, field due to current carrying coil or solenoid; Force on current carrying conductor, Fleming's Left Hand Rule.

Effects of Current:

Electric current, potential difference and electric current. Ohm's law; Resistance, Resistivity, Factors on which the resistance of a conductor depends. Series combination of resistors, Parallel combination of resistors and its applications in daily life. Heating effect of electric Current and its applications in daily life. Electric power, Interrelation between P, V, I and R Magnetic effects of current : Magnetic field, field lines, field due to a current carrying conductor, Field due to current carrying coil or solenoid; Force on current carrying conductor, Fleming's Left hand rule, Direct current. Alternating current: frequency of AC. Advantage of AC over DC. Domestic electric circuits. Force and Newton's laws : Force and Motion, Newton's Laws of Motion, Action and Reaction force, inertia of a body, Inertia and mass, Momentum, Force and Acceleration.

Work,

Energy and Power: Work done by a Force, Energy, power; Kinetic and Potential energy; Law of conservation of energy (excluding commercial unit of Energy).

BIOLOGY

1. Life processes: Living Being'. Basic concept of nutrition, respiration, transport and excretion in plants and animals.

2. Reproduction: Reproduction in animals and plants (asexual and sexual) reproductive health-need and methods of family planning. Safe sex vs HIV / AIDS. Child bearing and women's health.

3. Heredity and Evolution: Heredity; Mendel's contribution - Laws for inheritance of traits: Sex determination: brief introduction.

4. Our environment: Eco-system, Environmental problems, Ozone depletion, waste production and their solutions. Biodegradable and non-biodegradable substances.

5. Cell - Basic Unit of life: Cell as a basic unit of life; prokaryotic and eukaryotic cells, multicellular organisms; cell membrane and cell wall, cell organelles and cell inclusions; chloroplast, mitochondria, vacuoles, endoplasmic reticulum, Golgi apparatus; nucleus, chromosomes - basic structure, number.

6. Control & coordinating- Nervous system, Endocrine system, plant hormones.

HISTORY:

1. The Indus Valley Civilization
2. The Mughal Empire
3. The Revolt of 1857
4. The Nationalist Movement from 1885-1947
5. The Contemporary world
 - The First World War
 - Rise of Dictatorship
 - The Second World War
 - United Nations
6. Understanding Partition (Indo-Pak)

MAP:

1. Major places associated with the revolt of 1857.
2. Major places associated with the nationalist movement in India.
3. Major Harappan sites

GEOGRAPHY:

- 1) Resources and development
- 2) Agriculture
- 3) Manufacturing Industry
- 4) Lifeline of National Economy
- 5) Climate
- 6) Physical Features of India
- 7) Natural Vegetation
- 8) Population

DEMOCRATIC POLITICS

- 1) Power Sharing
- 2) Federalism
- 3) Political Party
- 4) Outcomes of democracy
- 5) Constitutional Design

MAP:

Mountain Ranges: The Karakoram, The Zasker, The Shivalik, The Aravali, The Vindhya, The Satpura, Western & Eastern Ghats

Mountain Peaks K2, Kanchan Junga, Anai Mudi

Plateau- Deccan Plateau, Chotta Nagpur Plateau, Malwa Plateau

Major Rivers of India, water bodies

Standard Meridian Direction of winds-south west (Bay of Bengal and Arabian sea branch) north east monsoon.