UPPSC LT Assistant Teacher Written Exam

Syllabus : General Studies

(1) History of India and Indian National movement: - In History of India emphasis should be on broad understanding of social, economic and politic aspects of Indian history. In the Indian National movement, the candidates are expected to have synoptic view of the freedom movement, growth of nationalist and attainment of Independence.

(2) Indian and World Geography- Physical, Social, Economic Geography of India and the World:-Questions on the Geography of India will relate to Physical, Social & Economic Geography of India. In World Geography only general understanding of the subject will be expected.

(3) Indian Polity and Governance, Constitution, Political system, Panchayati Raj & Public Policy, rights-issues etc :- Indian polity and Governance questions will test knowledge of country's Constitution, political system including Panchayati Raj and Community Development.

(4) Indian Economy and Social Development: - The candidates will be tested with- respect to problems and relationship between population, Environment, Urbanisation.. broad features of economic policy in India and Indian Culture.

(5) Current Events of National and International Importance: This will also include questions on Games & Sports.

(6) Indian Agriculture: - The candidates will be expected to have general Understanding of agriculture in India, agricultural produce and its marketing.

(7) General Science:-Questions On General Science will cover general appreciation and Understanding of science including matters of everyday observation and special study of any scientific discipline. This will also include questions on role of science and technology in the development of India.

(8) Elementary Mathematics up to class 10th level:-Arithmetic, Algebra and Geometry.

Syllabus Subject : Biology

(A) ZOOLOGY

1. Principles of Taxonomy; concept of species and sub-species; Binomialnomenclature.

2. Classification and general characteristics of following Phyla: Protozoa, Porifera, Cnidaria, Ctenophora, Platyhelminthes, Aschelminthes, Annelida,Mollusca, Echinodemata and Chordata

3. General organization and life history of representative of various Phyla: **(i) Protozoa-** Entamoeba, Euglena, Plasmodium and Paramecium **(ii) Porifera-** Leucosolenia and Sycon **(iii) Cnidaria-** Hydra, Aurelia and Obelia **(iv) Ctenophora-** Pleurobrachia **(v) Platyhelminthes-** Fasciola andTaenia **(Vi) Aschelminthes –** Ascaris **(Vii) Annelida-** Prawn **(ix) Mollusca-** Unio and Pila **(x) Echinodermata-** Star fish **(xi) Chordata-** Herdmania, Amphioxus; Scoliodon, Rana, Uromastrix, Columba, Rabbit.

4. Brief knowledge of (i) Protozoa and diseases (ii) Polymorphism in Cnidarians (iii) Helminthes and diseases (iv) Harmful and beneficial insects (v) Poisonous and non-poisonous snakes (Vi) Economic importance ofmammals.

5. Prokaryotic and eukaryotic cells; Ultra-structure of animal cell; Function of cell organelles; Types of chromosomes; structure of genes and genetic code, Mitosis and meiosis.

6. Mendel's laws of inheritance, Linkage and crossing over, Eugenics; Organic evolution. Evidences of organic evolution, Theories of organic evolution, Lamarckism, Neo-Lamarckism, Darwinism, Neo-Darwinism, Processes of Evolution, Mutation, Evolution Through ages, Evolution man

7. Ecology, Components of ecosystem and najor Ecosystems; Environmentalpollution.

8. Elementary knowledge of (i) digestion (ii) respiration (iii) blood and Circulation (iv) excretion (v) nerve conduction (vi) muscle contraction (vii)Endocrine glands and their function

9. Characteristics and classification of (i) carbohydrates, (ii) proteins, (iii)lipids, (iv) enzymes and (v) hormones

10. Gametogenesis; types of eggs and cleavage, Embryonic developmentof Amphioxus, Frog and Chick, Placenta in mammals,

11. Biogeography, Zoogeographical realms and their characteristic fauna.

(B) Botany

Viruses- Definition, Nature, Transmission Structure of TMV, Bacteriophage, Viroids and Prions, Economic Importance of viruses.

Bacteria- Structure of Bacterial Cell, Nutrition, Reproduction and Economic Importance.

Fungi- General characters, structure, nutrition, reproduction and economic importance of fungi, Classification (Alexoppolus and Mims), characteristic features of different classes. Structure and life cycle of Rhizopus, Pythium, Albugo, Aspergillus, Agaricus, Puccinia, Ustilago and Altemaria.

Algae: General characters, Classification, characteristic features of different classes, Algal pigments, Economic Importance of algae, Structute and life cycle of Chlamydomonas, Volvox, Oedogonium, Vaucharia, Chara, Ectocarpus, Batrachospermurm, Polysiphonia and Blue Green Algae(Nostoc and Anabaena),

Lichens- Nature, Types, Structure, Reproduction and EconomicImportance

Bryophytes- General character, Classification, characteristic features ofdifferent classes, Reproduction and Economic Importance of bryophytesStructure and life cycle of Riccia, Marchantia, Anthoceros and Funaria.

Pteridophytes- General characters, Classification, characteristic features of different classes, steler system and ecomomic importance of pteridophytes

Structure and life Cycle of Lycopodium, Selaginella, Equisetum andMarsilea. Heterospory and seed habit.

Gymnosperm- General Character and affinities, Life cycle, classification characteristic features of different classes, Distribution and Economic importance.Structure and life cycle of Cycas, Pinus and Ephedra

Paleobotany – Fossils types, Fossilization, geological time scale and its importance. Structure and Reproduction of Rhynia

Taxonomy Of Angiosperms- Binomial nomenclature, Bentham and Hookers System of Classification, Important Botanical Garden and Herbaria

Distinguishing features Of Ranunculaceae, Papavaraceae, Brassiaceae, Malvaceae, Fabaceae, Rosaceae, Cucurbitaceae, Apiaceae, Asteracease, Rubiaceae, Apocynaceae, Solanaceae, Acanthaceae, Lamiaaceae, Euphorbiaceae, Liliaceae and Poaceae.

Anatomy of Angiosperms- Tiissue and tissue system, Anomaloussecondary growth, anatomy of root, stem

Anatomy of Tinospora root, Dracaena stem, Bignonia stem, Boerhavia stemand Nyctanthes stem

Economic botany- Timber, fibers, oils, Medicinal, Beverages, Spices andcondiments yielding Plants.

Embryology-: Structure of anther, microsporogenesis and development of male gametophyte, Structure of ovule, megasporogenesis, Development and organization of embryo Sac, pollination, fertilization, development of Endosperm, Embryo development, Parthenocarph, Apomixis and polyembryony

Cytology- Ultra Structure of plant cell with their typical cell organelles,Cell division and cell cycle.

Genetics- Chromosome structure, chromosome aberrations, Law of inheritance, gene interaction, Linkage and crossing over, Mutation andPolyploidy.

Plant Physiology- Water absorption, ascent of sap. Transpiration, Mineral nutrition and deficiency, Photosynthesis, Respiration, Phytohomones

Vemelization, seed germination and dormancy, nitrogen cycle,Photoperiodis.

Biochemistry-: Classification, properties and biological role of carbohydrates, proteins, lipids, nucleic acid and enzymes.

Environmental Botany- Environmental factors, soil conservation, Ecological adaptations in plants, ecological pyramids, food chain and foodwebs, Ecosystem, plant succession, pollution, plant communities and biodiversity, in Situ and ex situ conservation.

Pant Pathology- General symptoms of bacterial, fungal-and viral disease.Different methods of plant disease control.

Symptoms, disease cycle and control measures of late blight of potato, early blight of potato, white rust of crucifers, black rust of wheat, loosesmut of wheat, citurs canker, little leaf of brinjal, yellow vein mosaic ofbhindi.

Biotechnology and genetic engineering- Importance in human welfare, vactors, recombinant DNA technology, transgenic plants, tissue culture,biopesticides and biofertilizers

Molecular Biology: Gene Concept, genetic code, Nucleic acids, replicationof DNAm gene expression and Regulation.

Subject	Syllabus
Math	**Algebra**-radicals, polynomials and their factors, logarithms, linear equations of two unknown quantities, the greatest common polynomial of polynomials and the least common multiple of an exponential simultaneous equation of three unknown quantities, the factors of quadratic polynomials, quadratic equations, ratios and proportions, set of numbers operations. , Mapping.
	Tabular-Definition, Subsystems and Sub-junctions, Citizen Extensions up to 3×3 Sections General Properties of Arithmetic With the help of Yammer's law Solve the body of n linear equations (n = 3), type of matrix, sum of matrices up to 3×3 order. The solution of the simultaneous equation of three unknown sums with the inverse matrix of the product, the transform matrix, symmetric and odd symmetric matrix. Equation theory, symmetric functions of roots, arithmetic, geometric, harmonic, ranges, and the sum of the squares of natural numbers and the series of cubes. Sum of permutation and accumulation, binomial theorem, exponential and logarithmic series
	Principles of probability-sum and multiplication.
	Real analysis – Receipts of real numbers, Calculations of sets of distances, Macroeconomics, Variable sets, Condensed sets, Derivative sets, Dense sets, Compact sets, The complete set including the Bolgens-Wistras theorem. Sequence theory on the sequence-sequence limit of real numbers, official sequence, divergence, sequence bounded sequence, unified sequence, concepts of convergent sequences, Koshi sequence, boundary-related Koshi theorem and convergence of real sequence. The boundary and continuum are the boundary values of the real-valued function, the left-side and south-side boundary, the continuum of the function, the characteristics of the continuous function, the discontinuity and its variants.
	Trigonometric-circular measurements and trigonometric ratios of specific angles, the sum and difference of two angles and the trigonometric ratios of the refractive and refractive angles of an angle, Trigonometric bests, trigonometric equations, solution of triangles, radii and properties of perimeter end and external circles, general properties of inverse circular functions.
	Composite numbers – their sum and product, the demise theorem and its use of height and distance. Arithmetic function of summation loop, circular function and hyper. **Bolik function –** Separation into actual and hypothetical parts.
	Geometry-Bodhayan Pythagoras theory and its extension, the circle and the segment, the tangent of the arc and the chord of the circle, the alternating segment and its angle, the chord of the chord and the rectangles formed from them, the symmetry of the linear plane planes.
	Coordinate geometry – simple line pair denoted by the terrestrial plane, line, the second-degree massively quadratic equation. The equation between the angle between them and the pair of bisectors, standard equations and parameter equations of conic (circles, parabola, ellipse and hyperbola) in right-angled coordinates. Constraints to represent line pairs, circles, parabola ellipse and hyperbola by quadratic mass equation, derive equations of circle, parabola, ellipse and hyperbola with the help of transfer of origin and axes, tangent and longitudinal at any point of conic. The intersection of the line with the conic, the marginal position, the restriction of its tangent,Parameter equation of tangents, tangent pair on conic from waha point. Restriction of the equation of tangent to or tangent at a point of a conic, the standard equation of conic in polar coordinates (two-dimensional), the three-dimensional geometry of the sphere, cone and cylinder.