RAJDHANI HIGHER SECONDARY SCHOOL OF SCIENCE ARTS & COMMERCE BHUBANESWAR

SYLLABUS FOR SUMMER COURSE

CONTENT

INTRODUCTION TO LANGUAGE SKILL (LRSW)

(I) LISTENING

- Listening and comprehension
- Listening to recollect and represent
- Understanding the context
- Practice active listening

(II) READING

- Reading comprehension (Question from unseen passage And vocabulary)
- Reading to get tone of the passage
- Reading different texts (story, newspaper, biography)
- Suffix and prefix
- Spelling
- Mood

(III) SELF INTRODUCTION AND DESCRIPTION

- Introducing friends, parents, teacher
- Role playing and reverse role playing ,dialogue exchange
- Casual encounter and formal talk
- Debating skills

(iv) WRITING

- Writing short stories and simple paragraphs
- Writing letter
- Application Writing

BASIC GRAMMAR (STRUCTURAL AND CONTEXTUAL)

- Sentence (Subject/predicate/kind of sentences)
- Noun
- Verb
- Pronoun
- Adjective
- Adverb
- Tenses

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BASIC COMPUTER EDUCATION

UNIT -I: COMPUTER FUNDAMENTALS:

- What is computer?
- Characteristics of computer
- Limitations of computer
- Organization of computer
- CPU
- Consequently, used terms, Input-Output devices
- Computer Memory, Main, Secondary memory

UNIT-II: MS-WORD BASICS:

- Steps to open ms-word, Access Toolbar, font style & clipboard, format paragraph, editing tools, basic tools, Insert /add media, page layout options
- Work in MS-Excel: Vocabulary, Formatting cells, Cell structure, Cell size, Building an equation
- MS POWEREPOINT-How to create a presentation
- MS ACCESS-How to create a database

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FOUNDATION OF SCIENCE

I- PHYSICAL WORLD AND MEASUREMENT

- Physics and its scope
- Physics, Technology and Society.
- Measurement, need for measurement,
- Units of measurement,
- Fundamental and derived units, Sl Units, accuracy and precision of measuring instruments,
- Errors in measurement,
- Significant figures

Application of Physics in daily Life

III-MOTION & ITS APPLICATION

- Rest Motion, Inertia, Newtons laws of Motion
- Friction(Application)
- Work energy Power

IV-LIGHTS AND ITS APPLICATION

- Reflection-Mirror Refraction-Lens TIR, Dipertion_ Prism, Optical Instrument (Microscope, Telescope)

V-HEAT AND ITS APPLICATION

- Temperature,Temperture scale,Thermal expansion,Conduction,Convection,Radiation,Black Body.

VI-GRAVITATION

- Gravitation And Gravity,Newtone laws of Gravitation,variation of g with altitude and depth.Keplers Laws of Planetary motion,satellite.

VII-ELECTOMAGENTISM

- Charges and field . Coulombs law in electrostatics, ohms law, Resistance, capacitance capacitor
- Magentic effect of current
- Solenoid toriod.
- Magentic field due to Circular coil

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CHEMISTRY

I-FUNDAMENTALS OF CHEMISTRY

- What is chemistry?
- Branch of Chemistry
- Application of Chemistry in Daily Life
- Atoms nad Molecules
- Atomic Mass and molecular Mass
- Radicals
- Formula
- Valency

II- SOME BASIC CONCEPTS OF CHEMISTRY AND ITS APPLICATION

- Acid Baes and salt
- Redox Reaction
- Balancing of Redox Reaction
- Application in Electrochemical Cell,corrosion,Biological process daily life Process

III- STRUCTURE OF ATOM

- Atom and sub atomic particle, e-configuration
- Isotopes, isobar, and isotones
- Discovery of electrons
- Discovery of Protons
- Thomson's Model
- Rutherford model

IV- ORGANIC CHEMISTRY AND ITS APPLICATON

- Introduction
- Application,daily Life
- Carbons and its Particles-catenation,Tetravalency
- Structure of Carbon molecules
- 1°,2°,3° carbon

V-HYDROCARBONS AND ITS APPLICATION

- Alkane,Alkene,Alkyne
- General formula
- Name of Different Alkane, Alkene, Alkyne(elementary idea)
- Application in Petrochemicals, fuels, Industries

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MATHEMATICS

I- **INTRODUCTION TO MATHEMATICS**

- Basic concepts
- Basic Formula
- Algebra and its Formula
- Logarithm and exponential function

II- **SOLUTION OF QUADRATIC EQUATION**

- Root
- Nature Of Root
- Real Roots
- Complex root different method of solution

III- **TRIGONOMETRY**

- Positive and negative angles.
- Measuring angles in radians and in degrees and conversion from one measure to another.
- Trigonometric functions
- Trigonometric values
- ASTC Rules
- Deducing identities,identities related to sin2x,cos2x,tan2x,sin3x,cos3x and tan3x

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BIOLOGY

I-STRUCTUES OF CELL (EUKARYOTES AND PROKARYOTES)

- Difference between Prokaryotic and Eukaryotic Cell
- Difference between plant Cell and Animal cell
- Cell wall And Plasma lemma
- Cytoplasm and vacuole
- Nucleus
- Endomembrane system
- Chloroplast and mitochondria
- Chloroplast And Mitochondria
- Ribosome lysosome, centrosome
- Cilia and Flagella

II-CELL CYCLE

- Mitosis
- Meiosis
- Significance of Mitosis and Meiosis

III-MORPHOLOGY OF LIVING SYSTEM

- Morphology of different parts of animal And Plants
- Description of Family solanaceae/Malvaceae

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