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**CLASS 8
SCIENCE
SYLLABUS
2022-23**



GENRES LEARNING

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SYLLABUS

CHAPTER-1: CROP PRODUCTION AND MANAGEMENT

- 1.1. Agricultural Practices
- 1.2. Basic Practices of Crop Production
- 1.3. Preparation of Soil
 - Agricultural Implements
- 1.4. Sowing
 - Selection of Seeds
- 1.5. Adding Manure and Fertilisers
- 1.6. Irrigation
 - Traditional Methods of Irrigation
 - Modern Methods of Irrigation
- 1.7. Protection from Weeds
- 1.8. Harvesting
- 1.9. Storage
- 1.10. Food from Animals

CHAPTER-2: MICROORGANISMS: FRIEND AND FOE

- 2.1 Microorganisms
- 2.2 Where Do Microorganisms Live?
- 2.3 Microorganisms and Us
 - Friendly Microorganisms
 - Making of Curd and Bread
 - Commercial Use of Microorganisms
 - Medicinal Use of Microorganisms
 - Vaccine
 - Increasing Soil Fertility
 - Cleaning the Environment
- 2.4 Harmful Microorganisms
 - Disease Causing Microorganisms in Humans
 - Disease Causing Microorganisms in Animals
 - Disease Causing Microorganisms in Plants
 - Food Poisoning
- 2.5 Food Preservation
 - Chemical Method
 - Preservation by Common Salt
 - Preservation by Sugar
 - Preservation by Oil and Vinegar
 - Heat and Cold Treatments
 - Storage and Packing
- 2.6 Nitrogen Fixation
- 2.7 Nitrogen Cycle

CHAPTER-3: SYNTHETIC FIBRES AND PLASTICS

- 3.1 What Are Synthetic Fibres?
- 3.2 Types of Synthetic Fibres
 - Rayon
 - Nylon
 - Polyester and Acrylic
- 3.3 Characteristics of Synthetic Fibres
- 3.4 Plastics
- 3.5 Plastics as Materials of Choice
 - Plastic Is Non-Reactive
 - Plastic Is Light, Strong and Durable
 - Plastics Are Poor Conductors
- 3.6 Plastics and The Environment

CHAPTER-4: MATERIALS: METALS AND NON-METALS

- 4.1 Physical Properties of Metals and Non-Metals
- 4.2 Chemical Properties of Metals and Non-Metals
 - Reaction with Oxygen
 - Reaction with Water
 - Reactions with Acids
 - Reactions with Bases
 - Displacement Reactions
- 4.3 Uses of Metals and Non-Metals

CHAPTER-5: COAL AND PETROLEUM

- 5.1 Coal
 - Story of Coal
 - Coke
 - Coal Tar
 - Coal Gas
- 5.2 Petroleum
 - Refining of Petroleum
- 5.3 Natural Gas
- 5.4 Some Natural Resources Are Limited

CHAPTER-6: COMBUSTION AND FLAME

- 6.1. What Is Combustion?
- 6.2. How Do We Control Fire?
- 6.3. Types of Combustion
- 6.4. Flame
- 6.5. Structure of A Flame
- 6.6. What Is A Fuel?
- 6.7. Fuel Efficiency
 - Burning of Fuels Leads to Harmful Products

CHAPTER-7: CONSERVATION OF PLANTS AND ANIMALS

- 7.1 Deforestation and Its Causes
- 7.2 Consequences of Deforestation
- 7.3 Conservation of Forest and Wildlife
- 7.4 Biosphere Reserve
- 7.5 Flora and Fauna
- 7.6 Endemic Species
- 7.7 Wildlife Sanctuary
- 7.8 National Park
- 7.9 Red Data Book
- 7.10 Migration
- 7.11 Recycling of Paper
- 7.12 Reforestation

CHAPTER-8: CELL — STRUCTURE AND FUNCTIONS

- 8.1 Discovery of The Cell
- 8.2 The Cell
- 8.3 Organisms Show Variety in Cell Number, Shape and Size
 - Number of Cells
 - Shape of Cells
 - Size of Cells
- 8.4 Cell Structure and Function
- 8.5 Parts of The Cell
 - Cell Membrane
 - Cytoplasm
 - Nucleus
- 8.6 Comparison of Plant and Animal Cells

CHAPTER-9: REPRODUCTION IN ANIMALS

- 9.1. Modes of Reproduction
- 9.2. Sexual Reproduction
 - Male Reproductive Organs
 - Female Reproductive Organs
 - Fertilisation
 - Development of Embryo
 - Viviparous and Oviparous Animals
 - Young Ones to Adults
- 9.3. Asexual Reproduction

CHAPTER-10: REACHING THE AGE OF ADOLESCENCE

- 10.1 Adolescence and Puberty
- 10.2 Changes at Puberty
 - Increase in Height
 - Change in Body Shape
 - Voice Change
 - Increased Activity of Sweat and Sebaceous Glands
 - Development of Sex Organs
 - Reaching Mental, Intellectual and Emotional Maturity
- 10.3 Secondary Sexual Characters
- 10.4 Role of Hormones in Initiating Reproductive Function
- 10.5 Reproductive Phase of Life in Humans
- 10.6 How Is the Sex of The Baby Determined?
 - Boy or Girl?
- 10.7 Hormones Other Than Sex Hormones
- 10.8 Role of Hormones in Completing the Life History of Insects and Frogs
- 10.9 Reproductive Health
 - Nutritional Needs of The Adolescents
 - Personal Hygiene
 - Physical Exercise
 - Say “NO” to Drugs

CHAPTER-11: FORCE AND PRESSURE

- 11.1. Force – A Push or A Pull
- 11.2. Forces Are Due to An Interaction
- 11.3. Exploring Forces
- 11.4. A Force Can Change the State of Motion
- 11.5. Force Can Change the Shape of An Object
- 11.6. Contact Forces
 - Muscular Force
 - Friction
- 11.7. Non-Contact Forces
 - Magnetic Force
 - Electrostatic Force
 - Gravitational Force
- 11.8. Pressure
- 11.9. Pressure Exerted by Liquids and Gases
- 11.10. Atmospheric Pressure

CHAPTER-12: FRICTION

- 12.1 Force of Friction
- 12.2 Factors Affecting Friction
- 12.3 Friction: A Necessary Evil
- 12.4 Increasing and Reducing Friction
- 12.5 Wheels Reduce Friction
- 12.6 Fluid Friction

CHAPTER-13: SOUND

- 13.1 Sound Is Produced by A Vibrating Body
- 13.2 Sound Produced by Humans
- 13.3 Sound Needs A Medium for Propagation
- 13.4 We Hear Sound Through Our Ears
- 13.5 Amplitude, Time Period and Frequency of a Vibration
 - Loudness and Pitch
- 13.6 Audible and Inaudible Sounds
- 13.7 Noise and Music
- 13.8 Noise Pollution
 - What Are the Harms of Noise Pollution?
 - Measures to Limit Noise Pollution

CHAPTER-14: CHEMICAL EFFECTS OF ELECTRIC CURRENT

- 14.1 Do Liquids Conduct Electricity?
- 14.2 Chemical Effects of Electric Current
- 14.3 Electroplating

CHAPTER-15: SOME NATURAL PHENOMENA

- 15.1. Lightning
 - The Sparks That the Greeks Knew About
- 15.2. Charging by Rubbing
- 15.3. Types of Charges and Their Interaction
- 15.4. Transfer of Charge
- 15.5. The Story of Lightning
- 15.6. Lightning Safety
 - Finding A Safe Place
 - Do's and Don'ts During A Thunderstorm
- 15.7. Earthquakes
 - What Is an Earthquake?
 - What Causes an Earthquake?
 - Protection Against Earthquakes

CHAPTER-16: LIGHT

- 16.1. What Makes Things Visible
- 16.2. Laws of Reflection
- 16.3. Regular and Diffused Reflection
- 16.4. Reflected Light Can Be Reflected Again
- 16.5. Multiple Images
 - Kaleidoscope
- 16.6. Sunlight — White or Coloured
- 16.7. What Is Inside Our Eyes?
- 16.8. Care of The Eyes
- 16.9. Visually Impaired Persons Can Read and Write
- 16.10. What Is the Braille System?

CHAPTER-17: STARS AND THE SOLAR SYSTEM

- 17.1. The Moon
 - The Moon's Surface
- 17.2. The Stars
- 17.3. Constellations
- 17.4. The Solar System
 - The Sun
 - The Planets
- 17.5. Some Other Members of The Solar System
 - Asteroids
 - Comets
 - Meteors and Meteorites
 - Artificial Satellites

CHAPTER-18: POLLUTION OF AIR AND WATER

- 18.1. Air Pollution
- 18.2. How Does Air Get Polluted?
- 18.3. Case Study— The Taj Mahal
- 18.4. Greenhouse Effect
- 18.5. What Can Be Done?
- 18.6. Water Pollution
- 18.7. How Does Water Get Polluted?
- 18.8. What Is Potable Water and How Is Water Purified?
- 18.9. What Can Be Done?



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