

SST SCIENCE CHALLENGE SYLLABUS

CLASS -7
1. HUMAN ORGAN SYSTEM
- MAJOR HUMAN ORGAN SYSTEMS (SKELETAL, MUSCULAR, CIRCULATORY, ETC.)
- FUNCTIONS OF EACH ORGAN SYSTEM
- INTER RELATIONSHIPS BETWEEN ORGAN SYSTEMS
2. TRANSPORT SYSTEM IN HUMANS AND PLANTS
- HUMAN CIRCULATORY SYSTEM (HEART, BLOOD VESSELS, BLOOD)
- PLANT TRANSPORT SYSTEM (XYLEM, PHLOEM, TRANSPIRATION)
- COMPARISON OF HUMAN AND PLANT TRANSPORT SYSTEMS
3. REPRODUCTION IN PLANTS
- TYPES OF PLANT REPRODUCTION (SEXUAL, ASEXUAL)
- PARTS OF A FLOWER (PETALS, SEPALS, STAMEN, PISTIL)
- PROCESS OF POLLINATION AND FERTILIZATION
4. WATER
- WATER CYCLE (EVAPORATION, CONDENSATION, PRECIPITATION)
- WATER CONSERVATION METHODS
- IMPORTANCE OF WATER IN LIVING ORGANISMS
5. ENVIRONMENT AND FEEDING RELATIONSHIPS
- ECOSYSTEM COMPONENTS (PRODUCERS, CONSUMERS, DECOMPOSERS)
- FOOD CHAINS AND FOOD WEBS
- ENERGY FLOW IN ECOSYSTEMS
6. STRUCTURE OF ATOM
- SUBATOMIC PARTICLES (PROTONS, NEUTRONS, ELECTRONS)
- ATOMIC NUMBER AND MASS NUMBER
- ELECTRON ARRANGEMENT
7. TRANSMISSION OF HEAT
- TYPES OF HEAT TRANSFER (CONDUCTION, CONVECTION, RADIATION)
- EXAMPLES OF HEAT TRANSFER IN DAILY LIFE
- HEAT TRANSFER IN LIVING ORGANISMS
8. DISPERSION OF LIGHT
- PRISM AND ITS USES
- COLOR SPECTRUM
- APPLICATIONS OF DISPERSION
9. SOUND WAVES
- PROPERTIES OF SOUND WAVES (FREQUENCY, AMPLITUDE, SPEED)
- TYPES OF SOUND WAVES (MECHANICAL, ELECTROMAGNETIC)
- SOUND WAVE PROPAGATION
10. CIRCUIT AND ELECTRIC CURRENT
- COMPONENTS OF A CIRCUIT (CONDUCTORS, INSULATORS, SWITCHES)
- FLOW OF ELECTRIC CURRENT
- TYPES OF ELECTRIC CIRCUITS
11. INVESTIGATING THE SPACE
- SOLAR SYSTEM (PLANETS, SUN, MOON)
- STARS AND GALAXIES
- SPACE EXPLORATION

CLASS-8

1. HUMAN ORGAN SYSTEM

- ORGANS AND THEIR FUNCTIONS
- SYSTEMS OF THE BODY (SKELETAL, MUSCULAR, ETC.)
- INTER RELATIONSHIPS BETWEEN SYSTEMS
- HUMAN BODY COORDINATION

2. HEREDITY IN ORGANISMS

- INTRODUCTION TO HEREDITY
- TRAITS AND CHARACTERISTICS
- INHERITANCE PATTERNS
- GENETIC VARIATION

3. BIOTECHNOLOGY

- BASIC CONCEPTS OF BIOTECHNOLOGY
- APPLICATIONS OF BIOTECHNOLOGY
- GENETIC ENGINEERING
- BIOTECHNOLOGY ETHICS

4. POLLUTANTS AND THEIR EFFECTS ON THE ENVIRONMENT

- TYPES OF POLLUTANTS (AIR, WATER, SOIL)
- EFFECTS OF POLLUTION ON LIVING ORGANISMS
- CONSERVATION METHODS
- ENVIRONMENTAL LAWS

5. CHEMICAL REACTIONS

- INTRODUCTION TO CHEMICAL REACTIONS
- TYPES OF CHEMICAL REACTIONS
- CHEMICAL EQUATIONS
- BALANCING CHEMICAL EQUATIONS

6. FORCE AND PRESSURE

- INTRODUCTION TO FORCE AND PRESSURE
- TYPES OF FORCES (FRICTION, GRAVITY, ETC.)
- PRESSURE CALCULATIONS
- NEWTON'S LAWS OF MOTION

7. ACID, ALKALIS, AND SALTS

- INTRODUCTION TO ACIDS, ALKALIS, AND SALTS
- PROPERTIES AND USES
- PH SCALE
- NEUTRALIZATION REACTIONS

8. MEASUREMENTS OF PHYSICAL QUANTITIES

- UNITS OF MEASUREMENT
- MEASURING INSTRUMENTS
- ERROR ANALYSIS
- GRAPHICAL REPRESENTATION

9. LENSES

- TYPES OF LENSES (CONVEX, CONCAVE)
- LENS PROPERTIES
- APPLICATIONS OF LENSES
- OPTICAL INSTRUMENTS

10. SOURCE AND EFFECTS OF HEAT ENERGY

- SOURCES OF ENERGY
- EFFECTS OF HEAT ON MATTER
- HEAT TRANSFER METHODS
- HEAT ENERGY APPLICATIONS

11. ELECTRICITY IN ACTION

- INTRODUCTION TO ELECTRICITY

- ELECTRIC CIRCUITS
- ELECTRIC SAFETY
- ELECTRICAL DEVICES
12. EXPLORING SPACE
- INTRODUCTION TO ASTRONOMY
- SOLAR SYSTEM
- STARS AND GALAXIES