



## SAISAT SYLLABUS

From October - December (Every Sunday)

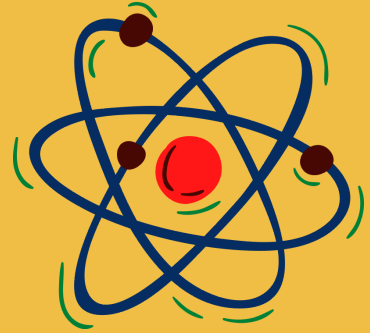


1 Year Program for students currently in Class 11 (JEE)

Time - 1 Hour 30 Minutes (Objective Type)

### PHYSICS

- Physical World and Measurement
- Kinematics
- Laws of Motion
- Work, Energy and Power
- Motion of System of Particles and Rigid Body
- Gravitation



15 Questions

### CHEMISTRY

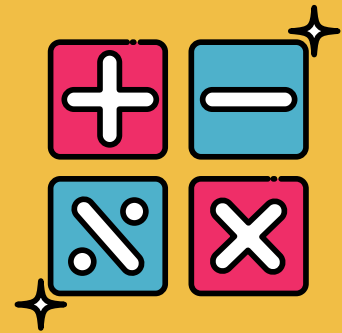
- Some Basic Concepts of Chemistry
- Structure of Atom
- Classification of Elements and Periodicity in Properties
- Chemical Bonding and Molecular Structure
- Redox Reactions
- Hydrogen
- Organic Chemistry: Some basic Principles and Techniques



15 Questions

### MATHEMATICS

- Basic Mathematics
- Trigonometry
- Algebra
- Coordinate Geometry
- Limits and Derivative



15 Questions



## Concept of Hyperloop

*A Hyperloop is a proposed high-speed transportation system for both passenger and freight transport. The term was coined by Elon Musk to describe the modern open-source project originally conceived in the 1900s. Hyperloop is described as a big vacuum sealed tube or a system of connected vacuum sealed tubes having very low air pressure through which a pod may travel substantially free of air resistance or friction.*

*Proposed hyperloop designs employ three essential components: tubes, pods, and terminals. Here, a tube is a large sealed, low-pressure system. A pressurized coach (at atmospheric pressure) runs inside this controlled low-pressure environment (which is usually a long tunnel). A coach is often called a pod. The pod may use aerodynamic or magnetic propulsion to glide along a fixed guideway, with terminals handling pod arrivals and departures.*



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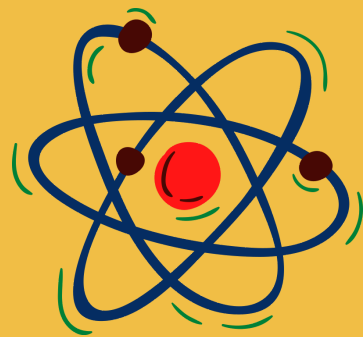


1 Year Program for students currently in Class 11 (NEET)

Time - 1 Hour 30 Minutes (Objective Type)

### PHYSICS

- Physical World and Measurement
- Kinematics
- Laws of Motion
- Work, Energy and Power
- Motion of System of Particles and Rigid Body
- Gravitation



15 Questions

### CHEMISTRY

- Some Basic Concepts of Chemistry
- Structure of Atom
- Classification of Elements and Periodicity in Properties
- Chemical Bonding and Molecular Structure
- Redox Reactions
- Hydrogen
- Organic Chemistry: Some basic Principles and Techniques



15 Questions

### BIOLOGY

- Diversity of Living Organisms
- Structural Organisation in Plants and Animals
- Cell: Structure and Function



15 Questions



## Concept of DNA

*DNA is the chemical name for the molecule that carries genetic instructions in all living things. The DNA molecule consists of two strands that wind around one another to form a shape known as a double helix. Each strand has a backbone made of alternating sugar (deoxyribose) and phosphate groups. Attached to each sugar is one of four bases--adenine (A), cytosine (C), guanine (G), and thymine (T). The two strands are held together by bonds between the bases; adenine bonds with thymine, and cytosine bonds with guanine. The sequence of the bases along the backbones serves as instructions for assembling protein and RNA molecules.*





## SAISAT SYLLABUS

From October - December (Every Sunday)



2 Year Program for students currently in Class 10 (JEE)

Time - 1 Hour 30 Minutes (Objective Type)

### Mental Ability Test

- Verbal Reasoning
- Non - Verbal Reasoning
- Logical Reasoning
- Analytical Reasoning



20 Questions

### PHYSICS AND CHEMISTRY

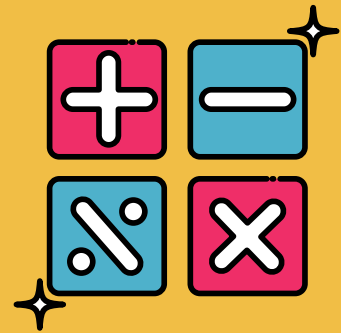
- Chemical Reactions and Equations
- Acids, Bases and Salts
- Metals and non-metals
- Light - Reflection and Refraction
- Human eye and colourful world



30 Questions

### MATHEMATICS

- NUMBER SYSTEMS
- ALGEBRA
- COORDINATE GEOMETRY
- GEOMETRY
- TRIGONOMETRY
- MENSURATION
- STATISTICS & PROBABILITY



30 Questions

## Concept of Suspension Bridge

*A suspension bridge is a type of bridge in which the deck is hung below suspension cables on vertical suspenders. The first modern examples of this type of bridge were built in the early 1800s.*

*The suspension cables must be anchored at each end of the bridge, since any load applied to the bridge is transformed into a tension in these main cables. The main cables continue beyond the pillars to deck-level supports, and further continue to connections with anchors in the ground. The roadway is supported by vertical suspender cables or rods, called hangers. In some circumstances, the towers may sit on a bluff or canyon edge where the road may proceed directly to the main span, otherwise the bridge will usually have two smaller spans, running between either pair of pillars and the highway, which may be supported by suspender cables on their own trusswork. In the latter case, there will be very little arc in the outboard main cables.*



## SAISAT SYLLABUS

From October - December (Every Sunday)



2 Year Program for students currently in Class 10 (NEET)

Time - 1 Hour 30 Minutes (Objective Type)

### Mental Ability Test

- Verbal Reasoning
- Non - Verbal Reasoning
- Logical Reasoning
- Analytical Reasoning



20 Questions

### PHYSICS AND CHEMISTRY

- Chemical Reactions and Equations
- Acids, Bases and Salts
- Metals and non-metals
- Light - Reflection and Refraction
- Human eye and colourful world



30 Questions

### BIOLOGY

- Life processes



30 Questions



## Concept of Designer Baby

*A designer baby is a baby whose genetic makeup has been selected or altered, often to include a particular gene or to remove genes associated with disease. This process usually involves analysing a wide range of human embryos to identify genes associated with particular diseases and characteristics, and selecting embryos that have the desired genetic makeup; a process known as preimplantation genetic diagnosis. Other potential methods by which a baby's genetic information can be altered involve directly editing the genome before birth. This process is not routinely performed and only one instance of this is known to have occurred as of 2019, where Chinese twins Lulu and Nana were edited as embryos, causing widespread criticism.*





## SAISAT SYLLABUS

From October - December (Every Sunday)



3 Year Program for students currently in Class 9 (JEE/NEET)

Time - 1 Hour 30 Minutes (Objective Type)

### Mental Ability Test

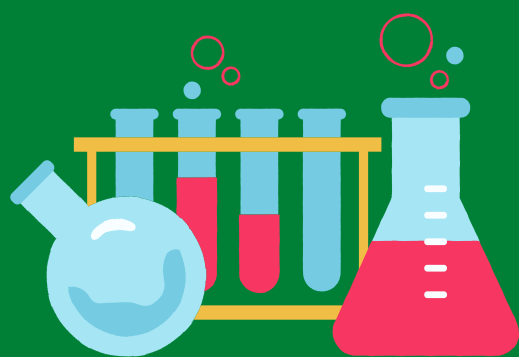
- Verbal Reasoning
- Non - Verbal Reasoning
- Logical Reasoning
- Analytical Reasoning



20 Questions

### SCIENCE

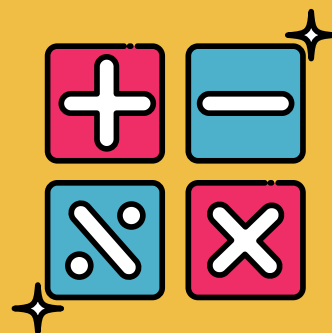
- Is matter around us Pure
- The Fundamental Unit of Life
- Tissues
- Motion
- Force and Laws of Motion



30 Questions

### MATHEMATICS

- NUMBER SYSTEMS
- ALGEBRA
- COORDINATE GEOMETRY
- GEOMETRY
- TRIGONOMETRY
- MENSURATION
- STATISTICS & PROBABILITY



30 Questions



## Chemistry of Carrot

*Raw carrots are 88% water, 9% carbohydrates, 0.9% protein, 2.8% dietary fiber, 1% ash and 0.2% fat. Carrot dietary fiber comprises mostly cellulose, with smaller proportions of hemicellulose, lignin and starch.[68] Free sugars in carrot include sucrose, glucose, and fructose.*

*Polyacetylenes can be found in Apiaceae vegetables like carrots where they show cytotoxic activities. Falcarinol and falcarindiol (cis-heptadeca-1,9-diene-4,6-diyne-3,8-diol) are such compounds. This latter compound shows antifungal activity towards *Mycocentrospora acerina* and *Cladosporium cladosporioides*. Falcarindiol is the main compound responsible for bitterness in carrots.*



## SAISAT SYLLABUS

From October - December (Every Sunday)



4 Year Program for students currently in Class 8 (JEE/NEET)

Time - 1 Hour 30 Minutes (Objective Type)

### Mental Ability Test

- Verbal Reasoning
- Non - Verbal Reasoning
- Logical Reasoning
- Analytical Reasoning



20 Questions

### SCIENCE

- Food
- Materials
- The World of the Living
- Moving things, People and Ideas
- How Things Work
- Natural Phenomena
- Natural Resources



30 Questions

### MATHEMATICS

- NUMBER SYSTEMS
- ALGEBRA
- COORDINATE GEOMETRY
- GEOMETRY
- TRIGONOMETRY
- MENSURATION
- STATISTICS & PROBABILITY



30 Questions



## Maths in Bermuda Triangle

*You are scientist & want to know what happens at BERMUDA Triangle - a place where (supposedly) all planes crash when they reach there.*

*You have a theory that there is some strong magnetic field there & you have a special plane equipped with instruments to measure that*

*Now, since you can not actually go to Bermuda Triangle, you approach it from different sides & measure readings.*

*If all reading match to say value A - You say, "The actual reading at Bermuda Triangle should be almost A."*

*If all reading are not same, You say "No exact value which can be determined exist at Bermuda triangle."*



## SAISAT SYLLABUS

From October - December (Every Sunday)



SAISAT Syllabus for students currently in Class 7th

Time - 1 Hour 30 Minutes (Objective Type)

### Mental Ability Test

- Verbal Reasoning
- Non - Verbal Reasoning
- Logical Reasoning
- Analytical Reasoning



20 Questions

### SCIENCE

- Physical World
- Our Environment
- Natural Phenomena
- Life Processes
- Resources and Development



30 Questions

### MATHEMATICS

- Whole Numbers
- Integers
- Fractions
- Decimals
- Data Handling
- Algebra
- Geometry



30 Questions



## History of Indian Space Mission

*The Indian space mission began in 1962 with the establishment of the Indian National Committee for Space Research (INCOSPAR). In 1969, INCOSPAR was reorganized and renamed the Indian Space Research Organization (ISRO). ISRO's first satellite, Aryabhata, was launched in 1975. Since then, ISRO has launched a variety of satellites for telecommunications, remote sensing, and scientific research. In 2013, ISRO launched the Mars Orbiter Mission (MOM), which became the first Indian spacecraft to reach Mars. ISRO is also developing a reusable launch vehicle called the Small Satellite Launch Vehicle (SSLV).*



## SAISAT SYLLABUS

From October - December (Every Sunday)



SAISAT Syllabus for students currently in Class 6th

Time - 1 Hour 30 Minutes (Objective Type)

### Mental Ability Test

- Verbal Reasoning
- Non - Verbal Reasoning
- Logical Reasoning
- Analytical Reasoning



20 Questions

### SCIENCE

- Components of Food
- Fibre to Fabric
- Sorting Materials into Groups
- Separation of Substances
- Changes Around Us



30 Questions

### MATHEMATICS

- Whole Numbers
- Playing with Numbers
- Integers
- Fractions
- Decimals



30 Questions



## Indian space telescope - Aditya L1

*Aditya L1 is a proposed Indian space telescope that will be placed in the Lagrange point 1 (L1) of the Sun-Earth system. L1 is a point in space where the gravitational forces of the Sun and Earth are balanced, which allows Aditya L1 to remain in a stable orbit. The telescope will be used to study the Sun's corona, the outermost layer of the Sun's atmosphere. Aditya L1 is scheduled to be launched in 2025.*

*Here are some of the key features of Aditya L1:*

- *It will be the first Indian space telescope to study the Sun's corona.*
- *It will be placed in the Lagrange point 1 (L1) of the Sun-Earth system, which will allow it to remain in a stable orbit.*
- *It will have a primary mirror with a diameter of 1 meter.*
- *It will be equipped with a variety of instruments to study the Sun's corona, including a coronagraph, a spectrograph, and an imager.*
- *The telescope is scheduled to be launched in 2025.*

*Aditya L1 is a significant project for the Indian space program. It will be the first Indian space telescope to study the Sun's corona.*





## SAISAT SYLLABUS

From October - December (Every Sunday)



SAISAT Syllabus for students currently in Class 5th

Time - 1 Hour 30 Minutes (Objective Type)

### Mental Ability Test

- Verbal Reasoning
- Non - Verbal Reasoning
- Logical Reasoning
- Analytical Reasoning



20 Questions

### SCIENCE

- Reproduction in Plants
- Solids, Liquids and Gases



30 Questions

### MATHEMATICS

- Operation on Large Numbers
- Fractions
- Order of Operations
- Decimals



30 Questions



## Lagrange Point in Space

*Lagrangian points, or L-points, are specific positions in space where the gravitational forces of two large celestial bodies (e.g., Earth and the Moon or Earth and the Sun) balance the centripetal force felt by a smaller object like a satellite. There are five such points, with L1, L2, L4, and L5 being commonly used for space missions. These points offer stable positions for satellites and observatories, enabling them to stay in fixed positions relative to celestial bodies, which is valuable for various scientific and exploratory purposes.*