

Robotics Syllabus

1. Introduction of Robotics

- What is Robotics?
- What is a Robot?
- Advantages and Disadvantages of Robots.
- Laws of Robots.
- Types of Robots.
- Kit explanation (also tell about kit quality and rate).
- Components explanation (only structural components).
- Model explanation – Simple humanoid.

2. Hand Powered Car

- Components explanation (Electronic components).
- About Motor.
- About Generator.
- Difference between Motor and Generator.
- Motor as generator.
- Uses of Motors.
- Model explanation – Single Motor Car.

3. Windmill

- Energy.
- Forms of energy.
- Renewable and Non Renewable energy.
- Importance of Renewable energy.
- Model building – Windmill

4. Simple Machines

- Explain Simple Machines.
- Types of Simple Machines.
- Explain each type.
- Model Building – Pulley, Wheel & Axle and Inclined plane.

5. Scooby Robot

- Dogs explanation.
- Uses of dogs.
- Scooby doo explanation.
- Model explanation – Scooby.
- Explain about Touch Sensor.

6. Remote Controlled Car

- Remote Control.
- Example of Wired and Wireless remote.
- Explain how TV remote works.
- Model Explanation – Remote Controlled Car.

7. Weighing Balance

- Weight of an object.
- Units of weight.
- Uses of weighing balance.
- Model building – Weighing Balance.

8. ID Crane

- Dimensions.
- Explain Point and Lines.
- Brief One dimension.
- About and Uses of Cranes.
- Model Explanation – ID Crane.

9. Castor Bot

- Detail about Castor Wheel.
- Uses and examples of Castor wheel.
- Model building – Castor.

10. Top Spinner

- What is Top Spinner?
- Explain Kinetic energy and Potential energy.
- Detail explanation about Gear Mechanism.
- Model building – Top Spinner.

11. Robot Batsman

- Detail the game of Cricket.
- Explain measurement system (yards, meter, centimeter, inches, feet).
- Model building – Robot Batsman.
- Play Cricket with model build.

12. Sumo Wrestling

- Sumo Sport.
- Force, Weight, Friction and Power.
- Model building – Sumo Wrestler.