SAMPLE PAPER - 1 : Group D (Grade 10-12)

1. What is the purpose of a rocket's nozzle? a) To stabilize the rocket during flight b) To generate thrust by accelerating exhaust gases c) To provide aerodynamic shape to the rocket d) To protect the payload during ascent
2. Which type of missile is designed to be guided towards its target? a) Ballistic missile b) Cruise missile c) Intercontinental ballistic missile d) Anti-aircraft missile
3. Which control surface of an aircraft is responsible for controlling its yaw (rotation around the vertical axis)? a) Ailerons b) Elevators c) Rudder d) Flaps
4. What type of material is commonly used in the construction of aircraft wings? a) Aluminum alloy b) Carbon fiber composite c) Steel d) Titanium
5. Which construction technique is commonly used in the fabrication of modern aircraft? a) Riveting b) Welding c) 3D printing d) Adhesive bonding
6. What is the primary objective of the Artemis program? a) To establish a sustainable human presence on the Moon b) To explore the outer planets of the solar system c) To study the atmospheres of exoplanets d) To search for signs of life on Mars
7. How are aircraft classified based on their design and purpose? a) By their size b) By their speed c) By their range d) By their aircraft type
8. Which layer of the Earth's atmosphere contains the ozone layer? a) Troposphere b) Stratosphere c) Mesosphere d) Thermosphere
9. Which space agency is responsible for the Chandrayaan-2 mission? a) ISRO (Indian Space Research Organisation) b) NASA (National Aeronautics and Space Administration) c) ESA (European Space Agency) d) Roscosmos (Russian Space Agency)
10. Which space agency successfully landed the Mars Perseverance rover in 2021? a) ISRO (Indian Space Research Organisation) b) NASA (National Aeronautics and Space Administration) c) ESA (European Space Agency) d) Roscosmos (Russian Space Agency)

SAMPLE PAPER - 2 : Group D (Grade 10-12)

1. Which part of a rocket engine is responsible for the ignition and combustion of propellant? a) Nozzle b) Thrust chamber c) Igniter d) Turbopump
2. What is the approximate speed of sound in the Earth's atmosphere at sea level? a) 343 meters per second b) 500 meters per second c) 1,000 meters per second d) 2,000 meters per second
3. Which mission successfully landed the Philae probe on a comet in 2014? a) Rosetta mission b) Stardust mission c) Deep Impact mission d) Hayabusa mission
4. Which type of aircraft is specifically designed for vertical takeoff and landing? a) Fighter jet b) Bomber c) Helicopter d) Cargo plane
5. What is the purpose of control surfaces on an aircraft? a) To provide stability and control during flight b) To generate lift c) To reduce drag d) To house the engines
6. Which of the following is NOT a type of aerospace material? a) Aluminum alloy b) Carbon fiber composite c) Titanium alloy d) Brass
7. What is the classification of an aircraft that uses both vertical and horizontal flight for lift? a) Fixed-wing aircraft b) Rotary-wing aircraft c) Airship d) Tiltrotor aircraft
8. Which of the following is NOT a type of missile? a) Ballistic missile b) Cruise missile c) Surface-to-air missile d) Space shuttle
9. What is the basic construction material used in most modern aircraft? a) Wood b) Steel c) Aluminum d) Concrete
10. What is the purpose of the Artemis program? a) To explore the outer planets of the solar system b) To study black holes c) To return humans to the Moon d) To search for extraterrestrial life
11. Which part of an aircraft helps to reduce drag during flight? a) Flaps b) Rudder c) Elevator d) Aileron
12. Which of the following is NOT a characteristic of a rocket engine? a) It operates in a vacuum b) It uses rocket propellant c) It relies on combustion for thrust d) It requires an external source of air