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*भारतीय मानक मसौदा*

**वैमानिक और खगोलीय शब्दों की शब्दावली  
भाग 6 अंतरिक्ष शर्तें**

*( पहला पुनरीक्षण )*

**Draft Indian Standard**

**GLOSSARY OF AERONAUTICAL AND ASTRONAUTICAL TERMS  
PART 6 SPACE TERMS**

*( First Revision )*

ICS 49.020

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**Air and Space Vehicles Sectional Committee, TED 14**      **Last date for receipt of comments is  
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**FOREWORD**

*(Formal clauses to be added later)*

Provides standard definitions of technical terms peculiar to aeronautics, astronautics and related subjects. Terms in general use in other branches of engineering are also included where they have some special relevance to aeronautics or astronautics.

This standard consists of a series of parts, each part covering terms specific to a particular feature, type of aircraft, equipment, service, etc.

IS 7879 (Part 1) : 1975	Glossary of Aeronautical and Astronautical Terms Part 1 general
IS 7879 (Part 2) : 1975	Glossary Of Aeronautical and Astronautical Terms Part 2 Motion of Aircraft
IS 7879 (Part 3) : 1975	Glossary of Aeronautical and Astronautical Terms Part 3 Structure

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**IS 7879 (Part 6) : 2023**

IS 7879 (Part 4) : 1980	Glossary of Aeronautical and Astronautical Terms Part 4 Aerodynamics
IS 7879 (Part 5) : 1982	Glossary of Aeronautical and Astronautical Terms Part 5 Aerodynes (Heavier - Than - Air - Aircraft)
IS 7879 (Part 7) : 1984	Glossary of Aeronautical and Astronautical Terms Part 7 Air Traffic and Ground Services
IS 7879 (Part 8) : 1987	Glossary of Aeronautical and Astronautical Terms Part 8 Power Plant

Each term has been assigned a 4-digit or 5-digit number. The first one (or two) digit, in the thousandth place, represents the part number. This part number with the following digit in the hundredth place represents the section. The last two digits represent the position of the definition within a section. Thus the term 6204 is the 4th definition of section 62, which is in Part 6.

This standard was first published in 1978. The present revision has been taken up with a view to incorporating the modifications found necessary as a result of experience gained on the use of this standard. Also, in this revision, the standard has been brought into the latest style and format of Indian Standard, and references to Indian Standards, wherever applicable have been updated.

The following International Standards available on the subject have been referred by the technical committee in the course of preparation of this standard:

- a) NASA SP-1 'Short glossary of space terms' issued by the National Aeronautics and Space Administration, USA; and
- b) BS 185 'Aeronautical and Astronautical Terms'.

The composition of the Committee responsible for the formulation of this standard is given at Annex A.

In reporting the result of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off it shall be done in accordance with IS 2: 2022 'Rules for rounding off numerical values (*second revision*)'

*Draft Indian Standard*

GLOSSARY OF AERONAUTICAL AND ASTRONAUTICAL TERMS  
**PART 6 SPACE TERMS**

( *First Revision* )

**1 SCOPE**

This part covers the standard definitions for space terms.

**2 TERMINOLOGY**

**SECTION 61**

No.	Term	Definition
6101	Aberration	In astronomy, the apparent displacement of the position of a celestial body in the direction of motion of the observer, caused by the combination of the velocity of the observer and the velocity of light.
6102	Ablating Material	A material designed to dissipate heat by vaporizing or melting.
6103	Ablation	The removal of surface material from a body by vaporization, melting or other process; specifically the intentional removal of material from a nose cone or spacecraft during high-speed movement through a planetary atmosphere to provide thermal protection to the underlying structure.
6104	Abort	To cancel or cut short a flight. It also applies to cancelling of events preceding flight but preparatory to it.
6105	Absorption	The process in which incident electromagnetic radiation is retained by a substance. A further process always results from absorption: that is, the irreversible conversion of the absorbed radiation into some other form of energy within and according to the nature of the absorbing medium. The absorbing medium itself may emit radiation, but only after an energy conversion has occurred.
6106	Acceleration	The rate of change of velocity. Decrease in velocity is called 'Negative Acceleration'
6107	Accelerometer	An instrument, which measures acceleration or gravitational forces capable of imparting acceleration.
6108	Accumulator	A device or apparatus that accumulates or stores up, as: a) A contrivance in a hydraulic system that stores fluid under pressure; and b) A device sometimes incorporated in the fuel system of a gas turbine engine to store up and release fuel

No.	Term	Definition
		under pressure as an aid in starting. It also applies to storage battery.
6109	Acoustic Velocity	The speed of propagation of sound waves. Also called 'Speed of Sound'.
6110	Acquisition	The process of locating an object having a relative motion with respect to the observation post; commonly applied to locating a rocket or missile in flight or a satellite in orbit.
6111	Acquisition and Tracking Radar	A radar set that locks on to the desired signal and tracks the object, which is the source of the signal.
6112	Active	Here the satellite or rocket acts not merely as a geometric body but processes the signal that comes to it. The rocket or satellite transmitting can be made 'active' by placing a transponder in it.
6113	Additive	A substance added to a propellant to achieve some purpose such as more even rate of combustion.
6114	Aerobiology	The study of the distribution of living organisms freely suspended in the atmosphere.
6115	Aeroduct	A ramjet type of engine designed to scoop up ions and electrons freely available in the outer reaches of the atmosphere or in the atmospheres of other spatial bodies, and by a chemical process within the duct of this engine, expel particles derived from the ions and electrons as a propulsive jet stream.
6116	Aerodynamic Heating	The heating of a body produced by passage of air or other gases over the body, significant chiefly at high speeds, caused by friction and by compression processes.
6117	Aerodynamics	The science that deals with the motion of air and other gaseous fluids, and of the forces acting on bodies when the bodies move through such fluids, or when, such fluids move against or around the bodies.
6118	Aerodynamic Vehicle	A device, such as an airplane, glider, etc, capable of flight only within a sensible atmosphere and relying on aerodynamic forces to maintain flight. This term is used when the context calls for discrimination from 'space vehicle',
6119	Aeroelasticity	The study of the effect of aerodynamic forces on structurally elastic bodies.
6120	Aeroembolism	<ul style="list-style-type: none"> <li>a) The formation or liberation of gases in the blood vessels of the body, as brought on by too rapid a change from a high, or relatively high, atmospheric pressure to a lower one; and</li> <li>b) The disease or condition caused by the formation or liberation of gases in the body. The disease is characterized principally by neuralgic pains, cramps and swelling, and sometimes results in death. Also called 'decompression sickness'.</li> </ul>
6121	Aerolite	A meteorite composed principally of stoney material.

No.	Term	Definition
6122	Aeronomy	The study of the upper regions of the atmosphere where physical and chemical reactions due to solar radiation take place.
6123	Aeropause	A region of indeterminate limits in the upper atmosphere, considered as a boundary or transition region between the denser portion of the atmosphere and space.
6124	Aerospace	Of or pertaining to both the earth's atmosphere and space, as in 'aerospace industries'.
6125	Aerospace Medicine	That branch of medicine dealing with the effects of flight through the atmosphere or in space upon the human body, and with the prevention or cure of physiological or psychological malfunctions arising from these effects.
6126	Aerothermodynamic Border	An altitude at about 160 km, above which the atmosphere is so rarefied that the motion of an object through it at high speeds generates no significant surface heat.
6127	Aerothermodynamics	The study of the aerodynamic and thermodynamic problems connected with aerodynamic heating.
6128	Agravio	Of or pertaining to a condition of no gravitation. ( <i>see</i> 6576).
6129	Air Breakup	The breakup of a vehicle after re-entry into the atmosphere.
6130	Airglow	A relatively steady emission from the upper atmosphere, as distinguished from the sporadic emission of aurorae.
6131	Air Shower	A grouping of cosmic-ray particles observed in the atmosphere.
6132	Air Sounding	The act of measuring atmospheric phenomena or determining atmospheric conditions at altitude, especially by means of apparatus carried by balloons or rockets.
6133	Albedo	The ratio of the amount of electromagnetic radiation reflected by a body to the amount falling upon it, commonly expressed as a percentage.
6134	Amplidyne	A special type of dc generator used as a power amplifier, in which the output voltage responds to changes in field excitation; used extensively in servo systems.
6135	Anomalistic Period	A special type of dc generator used as a power amplifier, in which the output voltage responds to changes in field excitation; used extensively in servo systems.
6136	Anoxia	A complete lack of oxygen available for physiological use within the body.
6137	Aphelion	The point at which a planet or other celestial object in orbit about the sun is farthest from the sun.
6138	Apogee	The point at which a planet or other celestial object in orbit about the sun is farthest from the sun.
6139	Apogee Rocket	A rocket attached to a satellite or spacecraft designed to fire when the craft is at apogee. The effect of the apogee rocket is to establish a new orbit farther from the celestial body or to allow the craft to escape from its orbit.

No.	Term	Definition
6140	Arc-jet Engine	A type of electrical rocket engine in which the propellant gas is heated by passing through an electric arc.
6141	Artificial Gravity	A simulated gravity established within a space vehicle, as by rotating a cabin about an axis of a spacecraft, the centrifugal force generated being similar to the force of gravity.
6142	Asteroid	One of the many small celestial bodies revolving around the sun, most of the orbits being between those of Mars and Jupiter. Also called 'planetoid', 'minor planet'.
6143	Astro	A prefix meaning 'star' or 'stars' and, by extension, sometimes used as the equivalent of 'celestial', as in 'astronautics'.
6144	Astroballistics	The study of the phenomena arising out of the motion of a solid through a gas at speeds high enough to cause ablation, for example, the interaction of a meteoroid with the atmosphere.
6145	Astrobiology	The study of living organisms on celestial bodies other than the earth.
6146	Astrodynamics	The practical application of celestial mechanics, astroballistics, propulsion theory, and allied fields to the problem of planning and directing the trajectories of space vehicles.
6147	Astronaut	A person who occupies a space vehicle.
6148	Astronautics	The art, skill, or activity of operating space vehicles.
6149	Astronomical Unit	In a broader sense, the science of space flight.
6150	Atmosphere	In the astronomical system of measures, a unit of length usually defined as the distance from the earth to the sun, approximately 92 900 000 statute miles or 149 600 000 km.
6151	Atomic Clock	The envelope of air surrounding the earth: also the body of gases surrounding or comprising any planet or other celestial body.
6152	Attitude	A precision clock that depends for its operation on an electrical oscillator (as a quartz crystal) regulated by the natural vibration frequencies of an atomic system (as a beam of cesium atoms or ammonia molecules).
6153	Azimuth	The position or orientation of an aircraft, spacecraft, etc, either in motion or at rest, as determined by the relationship between its axes and some reference line or plane, such as the horizon. Horizontal direction or bearing.
6154	Azusa	A short range tracking system which gives space position and velocity of the object being tracked.
6155	Backout	An undoing of things already done during a countdown, usually in reverse order.
6156	Backup	a) An item kept available to replace an item which fails to perform satisfactorily; and

No.	Term	Definition
		b) An item under development intended to perform the same general function performed by another item also under development.
6157	Baker-Nunn Camera	A large camera used in tracking satellites.
6158	Ballistics	The science that deals with the motion, behaviour and effects of projectiles, especially bullets, aerial bombs, rockets, or the like; the science or art of designing and hurling projectiles so as to achieve a desired performance.
6159	Ballistic Trajectory	The trajectory followed by a body being acted upon only by gravitational forces and the resistance of the medium through which it passes.
6160	Ballon-Type Rocket	A rocket that requires the pressure of its propellants (or other gases) within it to give it structural integrity.
6161	Beam	A ray or collection of focused rays of radiated energy. Radio waves used as a navigation aid.
6162	Beam Rider	A craft following a beam, particularly one which does so automatically, the beam providing the guidance.
6163	Bionics	The study of systems, which function after the manner of, or in a manner characteristic of, or resembling, living systems.
6164	Bipropellant	A rocket propellant consisting of two unmixed or uncombined chemicals (fuel and oxidizer) fed to the combustion chamber separately.
6165	Black Box	Colloquially, any unit, usually an electronic device, such as an amplifier, which can be mounted in a rocket, spacecraft, or the like as a single package.
6166	Black Out	<p>a) A fade out of radio communications due to environmental factors such as ionospheric disturbances, or a plasma sheath surrounding a reentry vehicle; and</p> <p>b) A condition in which vision is temporarily observed by a blackness, accompanied by a dullness of certain of the other senses, brought on by decreased blood pressure in the head and a consequent lack of oxygen, as may occur in piling out of a high-speed dive in an airplane.</p>
6167	Block House	(Also written 'Block House'). A reinforced concrete structure, often built underground or partly underground, and sometimes dome-shaped, to provide protection against blast, heat, or explosion during rocket launchings or related activities: specifically, such a structure at a launch site that houses electronic control instruments used in launching a rocket.
6168	Boiler Plate	As in 'Boiler Plate Capsule', a metal copy of the flight model, the structure or components of which are heavier than the flight model.
6169	Boil Off	The vaporization of a cold propellant, such as liquid oxygen or liquid hydrogen, as the temperature of the propellant

No.	Term	Definition
		mass rises as in the tank of a rocket being readied for launch.
6170	Booster	Short for 'Booster Engine' or 'Booster Rocket'.
6171	Booster Engine	An engine that provides thrust during initial stage of launch either on its own or in addition to the thrust of sustainer engine.
6172	Booster Rocket	<p>a) A rocket engine that assists the normal propulsive system or sustainer engine of a rocket or aeronautical vehicle in some phase of its flight; and</p> <p>b) A rocket used to set a missile vehicle in motion before another engine takes over.</p> <p>In sense, the term 'Launch Vehicle' is more commonly used.</p>
6173	Boost Glide Vehicle	A vehicle (half aircraft, half spacecraft) designed to fly to the limits of the sensible atmosphere, then be boosted by rockets into the space above, returning to earth by gliding under aerodynamic control.
6174	Breaking Ellipses	<p>A series of ellipses, decreasing in size due to aerodynamic drag, followed by a spacecraft in entering a planetary atmosphere.</p> <p>In theory, this manoeuvre will allow a spacecraft to dissipate energy through aerodynamic heating without burning up.</p>
6175	Break Off Phenomenon-non	The feeling which sometimes occurs to human beings high-altitude flight of being totally separated and detached from the earth and human society. Also called the 'breakaway phenomenon'.
6176	Bremsstrahlung	Electromagnetic radiation produced by the rapid change in the velocity of an electron or another fast, charged particle as it approaches and atomic nucleus and is deflected by it.
6177	Burn	A period during which a rocket engine is firing as in 'second burn', the second period during a flight in which the engine is firing.
6178	Burnout	<p>a) An act or instance of the end of fuel and oxidizer burning in a rocket; the time at which this burnout occurs. Compare cutoff; and</p> <p>b) An act or instance of something burning out or of overheating; specifically, an act or instance of a rocket combustion chamber, nozzle, or other part overheating so as to result in damage or destruction.</p>
6179	Capsule	<p>a) A boxlike component or unit, often sealed; and</p> <p>b) A small sealed, pressurized cabin with an internal environment, which will support life in a man or animal during extremely high altitude flight, space flight, or emergency escape.</p>



No.	Term	Definition
6180	Cascade Shower	A group occurrence of cosmic rays. Also called 'air shower'.

## SECTION 62

No.	Term	Definition
6201	Celestial Mechanics	The study of the theory of the motions of celestial bodies under the influence of gravitational fields.
6202	Celestial Sphere	An imaginary sphere of infinite radius concentric with the earth, on which all celestial bodies except the earth are assumed to be projected.
6203	Centrifuge	Specifically, a large motor-driven apparatus with a long arm at the end of which human and animal subjects or equipment can be revolved and rotated at various speeds to simulate very closely the prolonged accelerations encountered in high-performance aircraft, rockets, and spacecraft.
6204	Checkout	A sequence of actions taken to test or examine a launch vehicle or spacecraft as to its readiness to perform its intended function.
6205	Chemical Fuel	<ul style="list-style-type: none"> <li>a) A fuel that depends upon an oxidizer for combustion or for development of thrust, such as liquid or solid rocket fuel or internal combustion engine fuel; distinguished from nuclear fuel; and</li> <li>b) A fuel that uses special chemicals, such as a boron-based fuel.</li> </ul>
6206	Chemical Rocket	A rocket using chemical fuel, fuel which requires an oxidizer for combustion, such as liquid or solid rocket fuel.
6207	Chemisphere	The vaguely defined region of the upper atmosphere in which photochemical reactions take place.
6208	Chuffing	<i>See 6209.</i>
6209	Chugging	A form of combustion instability, especially in a liquid propellant rocket engine, characterized by a pulsing operation at a fairly low frequency sometimes defined as occurring between particular frequency limits; the noise made in this kind of combustion. Also called 'chuffing'.
6210	Cislunar	(Latin <i>cis</i> 'on this side'), of or pertaining to phenomena, projects, or activity in the space between the earth and moon, or between the earth and the moon's orbit.
6211	Closed Ecological System	A system that provides for the maintenance of life in an isolated living chamber such as a spacecraft cabin by means of a cycle wherein exhaled carbon dioxide, urine, and other waste matter are converted chemically or by photosynthesis into oxygen, water, and food.
6212	Cold Flow Test	A test of a liquid rocket without firing it to check or verify the efficiency of a propulsion sub-system, providing for the conditioning and flow of propellants (including tank

No.	Term	Definition
		pressurization, propellant loading, and propellant feeding); also called water calibration test.
6213	Comet	A luminous member of the solar system composed of a head or coma at the centre of which a presumably solid nucleus is sometimes situated, and often with a spectacular gaseous tail extending a great distance from the head. The orbits of comets are highly elliptical.
6214	Command	A signal which initiates or triggers an action in the device which receives the signal commonly called 'telecommand'.
6215	Communications Satellite	A satellite designed to reflect, process, relay radio or other magnetic waves. A satellite that is used for the purpose of broadcast communication, data relaying, etc.
6216	Companion Body	A nose cone, last-stage rocket, or other body that orbits along with an earth satellite.
6217	Composite Materials	Structural materials of metal alloys or plastics with built-in strengthening agents, which may be in the form of filaments, foils, or flakes of strong materials.
6218	Composite Propellant	A solid rocket propellant consisting of a fuel and an oxidizer.
6219	Configuration	A particular type of a specific aircraft, rocket, etc. which differs from others of the same model by virtue of the arrangement of its components or by the addition or omission of auxiliary equipment as 'long-range configuration', 'cargo configuration'.
6220	Console	An array of controls and indicators for the monitoring and control of a particular sequency of actions, as in the checkout of a rocket, a countdown action, or a launch procedure.
6221	Contravane	A vane that reverses or neutralizes a rotation of flow. Also called a 'countervane'.
6222	Control	Specifically, to direct the movements of an aircraft, rocket, or spacecraft with particular reference to changes in altitude and speed.
6223	Control Rocket	A Vernier engine, retrorocket, or other such rocket, used to guide or make small changes in the velocity of a rocket, spacecraft, or the like.
6224	Corona	The faintly luminous outer envelope of the sun. Also called 'solar corona'.
6225	Cosmic Dust	Small meteoroids of a size similar to dust.
6226	Cosmic Rays	The extremely high-energy sub-atomic particles, which bombard the atmosphere from outer space. Cosmic-ray primaries seem to be mostly protons, hydrogen nuclei, but also comprise heavier nuclei. On colliding with atmospheric particles, they produce many different kinds of lower-energy secondary cosmic radiation.
6227	Cospar	Abbreviation for 'Committee on Space Research', International Council of Scientific Unions.

No.	Term	Definition
6228	Countdown	The time-period in which a sequence of event is carried out to launch a rocket; the sequence of events.
6229	Cryogenic Propellant	A rocket fuel, oxidizer, or propulsion fluid, which is liquid only at very low temperatures.
6230	Cryogenic Temperature	In general, a temperature range below about -50 °C; more particularly, temperatures within a few degrees of absolute zero.
6231	Cutoff	An act or instance of shutting something off; specifically in rocketry, an act or instance of shutting off the propellant flow in a rocket, or of stopping the combustion of the propellant.
6232	Data Reduction	Transformation of observed values into useful, ordered, or simplified information.
6233	Debug	<ul style="list-style-type: none"> <li>a) To isolate and remove malfunctions from a device, or mistakes from a computer routine or programme; and</li> <li>b) Specifically, in electronic manufacturing, to operate equipment under specified environmental and test conditions in order to eliminate early failures and to stabilize equipment prior to actual use.</li> </ul>
6234	Deceleration	The act of process of moving, or of causing speed; the state of so moving.
6235	Deep Space Probes	Spacecraft designed for exploring space to the vicinity of the moon and beyond. Deep space probes with specific missions may be referred to as 'lunar probe', 'Mars probe', 'solar probe' etc.
6236	Destruct	The deliberate action of destroying a rocket vehicle after it has been launched, but before it has completed its course.
6237	Diplexer	A device enabling an antenna system to be used simultaneously at two frequencies for transmission, reception or combination of transmission and reception.
6238	Dish	A parabolic type of radio or radar antenna, roughly the shape of a soup bowl.
6239	Display	The graphic presentation of the output data of a device or system as, for example, a radar scope.
6240	Docking	The process of bringing two spacecraft together while in space.
6241	Dosimeter	A device, worn by persons working around radioactive material, which indicates the amount (dose) of radiation to which they have been exposed.
6242	Dovap	From Doppler, velocity and position, a tracking system which uses the Doppler shift caused by a target moving relative to a ground transmitter to obtain velocity and position information.
6243	Drogue Parachute	A type of parachute attached to a body, used to slow it down; also called 'deceleration parachute' or 'drag parachute'.

<b>No.</b>	<b>Term</b>	<b>Definition</b>
6244	Duplexer	A device, which permits a single antenna system to be used for both transmitting and receiving.
6245	Dynamic Pressure	<ul style="list-style-type: none"> <li>a) The pressure exerted by a fluid, such as air, by virtue of its motion; and</li> <li>b) The pressure exerted on a body, by virtue of its motion through a fluid, for example, the pressure exerted on a rocket moving through the atmosphere.</li> </ul>
6246	Dysbarism	A general term, which includes a complex group of a wide variety of symptoms within the body caused by changes in ambient pressure, exclusive of hypoxia.
6247	Ebullism	The formation of bubbles, with particular reference to water vapour bubbles in biological fluids, caused by reduced ambient pressure.
6248	Ecliptic	The apparent annual path of the sun among the stars; the intersection of the plane of the earth's orbit with the celestial sphere.
6249	Ecological System	A habitable environment, either created artificially, such as in a manned space vehicle, or occurring naturally, such as the environment on the surface of the earth, in which man, animals, or other organism can live in mutual relationship with each other.
6250	Ejection Capsule	<ul style="list-style-type: none"> <li>a) In an aircraft or manned spacecraft, a detachable compartment serving as a cockpit or cabin, which may be ejected as a unit and parachuted to the ground; and</li> <li>b) In an artificial satellite, probe, or unmanned spacecraft, a boxlike unit usually containing recording instruments or records of observed data, which may be ejected and returned to earth by a parachute or other deceleration device.</li> </ul>
6251	Elasticize	An elastic substance or fuel used in a solid rocket propellant to prevent cracking of the propellant grain and to bind it to the combustion-chamber case.
6252	Electric Propulsion	The general of thrust for a rocket engine involving acceleration of a propellant by some electrical device, such as an arc jet, ion engine, or magneto hydrodynamic accelerator.
6253	Electromagnetic Radiation	Energy propagated through space or through material media in the form of an advancing disturbance in electrical and magnetic fields existing in space or in the media. Also called simply 'radiation'.
6254	Electronic Data Processing	The use of electronic devices and systems in the processing of data so as to interpret the data and put it into usable form.
6255	Environment	An external condition or the sum of such conditions, in which a piece of equipment or a system operates, as in 'temperature environment', 'vibration environment', or 'space environment'.

No.	Term	Definition
6256	Escape Velocity	The radial speed which a particle or larger body must attain in order to escape from the gravitational field of a planet or star.
6257	Exobiology	The study of living organisms existing on celestial bodies other than the earth.
6258	Exospheres	The outermost, topmost portion of the atmosphere.
6259	Exotic Fuel	Any fuel considered to be unusual, as a boron based fuel.
6260	Explosive Bolt	A bolt incorporating an explosive, which can be detonated on command, thus destroying the bolt. Explosive bolts are used, for example, in separating a satellite from a rocket.
6261	Extraterrestrial	From outside the earth.
6262	Eyeballs In, Eyeballs out	Terminology used by test pilots to describe the acceleration out experienced by the persons being accelerated. Thus the acceleration experienced by an astronaut at lift-off is 'eyeballs in' (positive $g$ in terms of vehicle acceleration), and the acceleration experienced when retrorockets fire is 'eyeballs out' (negative $g$ in terms of vehicle acceleration).
6263	Fall away Section	A section of rocket vehicle that is cast off and separates from the vehicle during flight, especially such a section that falls back to the earth.
6264	Fatigue	A <b>weckening</b> or deterioration of metal or other material, or of a member, occurring under load, especially under repeated, cyclic, or continued loading.
6265	Field	A region of space at each point of which a given physical quantity has some definite value, thus a 'gravitational field', an 'electric field', a 'magnetic field', etc.
6266	Film Cooling	The cooling of a body or surface, such as the inner surface of a rocket combustion chamber, by maintaining a thin fluid layer over the affected area.
6267	Fixed Satellite	A synchronous satellite in a circular, equatorial orbit, moving in the direction of rotation of the primary body.
6268	Flare	A bright eruption from the sun's chromosphere.
6269	Flashback	A reversal of flame propagation in a system, counter to the usual flow of the combustible mixture.
6270	Flux	The rate of flow of some quantity, often used in reference to the flow of some form of energy.
6271	Flying Test Bed	An aircraft, rocket, or other flying vehicle used to carry objects or devices being flight tested.
6272	Free Fall	a) The fall or drop of a body, such as a rocket, not guided, not under thrust, and not retarded by a parachute or other breaking device; and b) Weightlessness.
6273	$g$ or $G$	An acceleration equal to the acceleration of gravity, approximately 980.6 centimetre per second at sea level; used as a unit of stress measurement for bodies undergoing acceleration.
6274	Garbage	Miscellaneous objects in orbit, usually material ejected or broken away from a launch vehicle or satellite.

No.	Term	Definition
6275	Gas Cap	The gas immediately in front of a meteoroid or re-entry body as it. Travels through the atmosphere; the leading portion of a meteor. This gas is compressed and adiabatically heated to incandescence.
6276	Generation	In any technical or technological development, as of a missile jet engine, or the like, a stage or period that is marked by features or performances not marked, or existent, in a previous period of development or production, as in 'second generation rocket'.
6277	Geo	A prefix meaning 'earth', as in 'geology', 'geophysics'.
6278	Geocentric	Relative to the earth as a centre measured from the centre of the earth.
6279	Geodetic	Pertaining to geodesy, the science which deals with the size and shape of the earth.
6280	Geomagnetism	The magnetic phenomena, collectively considered, exhibited by the earth and its atmosphere; by extension, the magnetic phenomena in interplanetary space.

### SECTION 63

No.	Term	Definition
6301	Geophysics	The physics of the earth and its environment, that is, earth, air, and (by extension), space.
6302	Geopotential	The potential energy of a unit mass relative to sea level, numerically equal to the work that would be done in lifting the unit mass from sea level to the height at which the mass is located; commonly expressed in terms of dynamic height or geopotential height.
6303	Giga	A prefix meaning multiplied by one billion.
6304	Gimbal	a) A device with two mutually perpendicular and intersecting <b>ares</b> of rotation, thus giving free angular movement in two directions, on which an engine or other object may be mounted; and b) In a gyro, a support which provides the spin axis with a degree-of-freedom.
6305	Gose	Gaseous oxygen.
6306	Grain	An elongated molding or extrusion of solid propellant for a rocket, regardless of size.
6307	Gravity	The force imparted by the earth to a mass on, or close to the earth. Since the earth is rotating, the force observed as gravity is the resultant of the force of gravitation and the centrifugal force arising from this rotation.
6308	Suit or G-Suit	A suit that exerts pressure on the abdomen and lower parts of the body to prevent or retard the collection of blood below the chest under positive acceleration.
6309	g-tolerance	A tolerance in a person or other animal, or in a piece of equipment, to an acceleration of a particular value.

<b>No.</b>	<b>Term</b>	<b>Definition</b>
<b>6310</b>	Guidance	A tolerance in a person or other animal, or in a piece of equipment, to an acceleration of a particular value.
<b>6311</b>	Gyro	A device, which utilizes the angular momentum of a spinning rotor to sense angular motion of its base about one or two axes at right angles to the spin axes. Also called 'gyroscope'.
<b>6312</b>	Heat Shield	Any device that protects something from heat.
<b>6313</b>	Heat Sink	A material capable of absorbing heat; a device utilizing such a material and used as a thermal protection device on a spacecraft or re-entry vehicle.
<b>6314</b>	Hot Test	A propulsion system test conducted by actually firing the propellants.
<b>6315</b>	Human Engineering	The art of science of designing, building, or equipping mechanical devices or artificial environments to the anthropometric, physiological, or psychological requirements of the men who with use them.
<b>6316</b>	Hunting	Fluctuation about a midpoint due to instability, as oscillations of the needle of an instrument about a median value.
<b>6317</b>	Hypersonic	a) Pertaining to hypersonic flow; and b) Pertaining to speeds of Mach 5 or greater.
<b>6318</b>	Hypersonic Flow	In aerodynamics, flow of a fluid over a body at speeds much greater than the speed of sound and in which the shock waves start at a finite distance from the surface of the body.
<b>6319</b>	Hypoxia	Oxygen deficiency in the blood, cells or tissues of the body in such degree as to cause psychological and physiological disturbances.
<b>6320</b>	Igniter	Any device used to begin combustion, such as a spark plug in the combustion chamber of a jet engine, or a squib used to ignite fuel in a rocket.
<b>6321</b>	Impact Area	The area in which a rocket strikes the earth's surface.
<b>6322</b>	Impact Bag	An inflatable bag attached to a spacecraft or re-entry capsule to absorb part of the shock of landing.
<b>6323</b>	Inertial Guidance	Guidance by means of acceleration measured and integrated or position of velocity information within the craft.
<b>6324</b>	Injection	The process of putting an artificial satellite into orbit or on a trajectory leading to some celestial body.
<b>6325</b>	Interferometer	An apparatus used to produce and measure interference from two or more coherent wave trains from the same source.
<b>6326</b>	Ionosphere	The part of the earth's outer atmosphere where ions and electrons are present in quantities sufficient to effect the propagation of radio waves.
<b>6327</b>	Jerk	A vector that specifies the time rate of change of an acceleration; the third derivative of displacement with respect to time.

No.	Term	Definition
6328	Launch Pad	The load-bearing base or platform from which a rocket vehicle is launched. Usually called 'pad'.
6329	Launch Ring	The metal ring on the launch pad on which a missile stands before launch.
6330	Launch Vehicles	Any device, which propels and guides a spacecraft into orbit about the earth or into a trajectory to another celestial body. Often called 'booster'.
6331	Launch Window	An interval of time during which a rocket can be launched to accomplish a particular purpose as 'lift-off occurred 5 minutes after the beginning of the 82 minute launch window'.
6332	Liberation	A real or apparent oscillatory motion, particularly the apparent oscillation of the moon.
6333	Lift-off	The action of rocket vehicle as it separates from its launch pad in a vertical ascent.
6334	Line of Position	In navigation, line representing all possible locations of a draft at a given instant.
6335	Liquid-Propellant Rocket Engine	A rocket engine fueled with a propellant or propellants in liquid form. Also called 'liquid-propellant rocket'.
6336	Local Vertical	At a particular point, the direction in which the force of gravity acts.
6337	Longitudinal Axis	The fore-and-aft line through the centre of gravity of a draft.
6338	Lox	a) Liquid oxygen. Used attributively as in 'lox tank', 'lox unit', also called 'loxing'; and b) To load the fuel tanks of a rocket vehicle with liquid oxygen. Hence, 'loxing'.
6339	Mach Number	A number expressing the ratio of the speed of a body or of a point on a body with respect to the surrounding air or other fluid, or the speed of a flow, to the speed of sound in the medium; the speed represented by this number.
6340	Magnetic Storm	A worldwide disturbance of the earth's magnetic field.
6341	Magnetohydrodynamics	The study of the interaction that exists between a magnetic field and an electrically conducting fluid. Also called 'magnetoplasma-dynamics', 'hydromagnetics', 'MHD'.
6342	Magnetometer	An instrument used in the study of geomagnetism for measuring any magnetic element.
6343	Magnitude	Relative brightness of a celestial body. The smaller the magnitude number, the brighter the body.
6344	Main Bang	Within a radar system, the transmitted pulse.
6345	Main Stage	a) In a multistage rocket, the stage that develops the greatest amount of thrust, with or without booster engines;



No.	Term	Definition
		<p>b) In a single stage rocket vehicle powered by one or more engines, the period when full thrust (at or above 90 percent) is attained; and</p> <p>c) A sustainer engine, considered as a stage after booster engines have fallen away, as in 'the main stage of the Atlas'.</p>
6346	Manometer	An instrument for measuring pressure of gases and vapours both above and below atmospheric pressure.
6347	Mass	The measure of the amount of matter in a body, thus its inertia.
6348	Mass Ratio	The ratio of the mass of the propellant charge of a rocket to the total mass of the rocket charged with the propellant.
6349	Mechanoreceptor	A nerve ending that reacts to mechanical stimuli, as touch, tension, and acceleration.
6350	Meteor	In particular, the light phenomenon, which results from the entry into the earth's atmosphere of a solid particle from space, more generally, any physical object or phenomenon associated with such an event.
6351	Meteoric	Of or pertaining to meteors, or meteoroids.
6352	Meteorite	A meteoroid, which has reached the surface of the earth without being completely vaporized.
6353	Meteoroid	A solid object moving in interplanetary space, of a size considerably smaller than an asteroid and considerably larger than an atom or molecule.
6354	Meteorological Rocket	A rocket designed primarily for routine upper-air observation (as opposed to research) in the lower 75 000 metres of the atmosphere, especially that portion inaccessible to balloons, i.e.; above 30 000 metres. Also called 'rocketsonde'.
6355	Micrometeorite	A very small meteorite or meteoritic particle with a diameter in general less than a millimetre.
6356	Microwave Region	Commonly that region of the radio spectrum between approximately 1 000 megacycles and 300 000 megacycles.
6357	Mini	A contraction of 'miniature' used in combination, as in 'minicomponent', 'miniradio', 'minitransistor'.
6358	Miniaturize	To construct a functioning miniature of a part or instrument. Said of telemetering instruments or parts used in an earth satellite or rocket vehicle, where room is at a premium. Hence, 'miniaturized', 'miniaturization'.
6359	Minitrack	A satellite tracking system consisting of a field of separate antennas and associated receiving equipment interconnected so as to form interferometers which track a transmitting beacon in the payload itself.
6360	Missile	Any object thrown, dropped, fired, launched, or otherwise projected with the purpose of striking a target. Short for 'ballistic missile', 'guided missile'.

No.	Term	Definition
6361	Mock-up	A full-sized replica or dummy of something, such as a spacecraft, often made of some substitute material, such as wood, and sometimes incorporating functioning pieces of equipment, such as engines.
6362	Modulation	Specifically, variation of some characteristic of radio wave, called the 'carrier wave', in accordance with instantaneous values of another wave, called the 'modulating wave'.
6363	Module	<ul style="list-style-type: none"> <li>a) A self-contained unit of a launch vehicle or spacecraft which serves as a building block for the overall structure. The module is usually designated by its primary function as 'command Module', 'landing module', etc; and</li> <li>b) A one-package assembly of functionally associated electronic parts; usually a plug-in unit.</li> </ul>
6364	Monopropellant	A rocket propellant consisting of a single substance, especially a liquid, capable of producing a heated jet without the addition of a second substance.
6365	Multiplexer	A mechanical or electrical device for sharing of a circuit by two or more coincident signals. A device that allows a cable/antenna system to be used by various frequencies for reception of transmission.
6366	Multiplexing	The simultaneous transmission of two or more signals within a single channel.
6367	Multipropellant	A rocket propellant consisting of two or more substances fed separately to the combustion chamber.
6368	Multistage Rocket	A vehicle having two or more rocket units, each unit firing after the one in back of it has exhausted its propellant. Normally, each unit, or stage, is jettisoned after completing its firing. Also called a 'multiple-stage rocket' or, infrequently, a 'step rocket'.
6369	Noise	Any undesired sound. By extension, noise is any unwanted disturbance within a useful frequency band, such as undesired electric waves in a transmission channel or device. When caused by natural electrical discharges in the atmosphere noise may be called 'static'.
6370	Normal Shock Wave	A shock wave perpendicular, or substantially so, to the direction of flow in a supersonic flow field. Sometimes shortened to 'normal shock'.
6371	Nosecone	<p>The cone-shaped leading end of a rocket vehicle consisting:</p> <ul style="list-style-type: none"> <li>a) Of a chamber or chambers in which a satellite, instruments, animals, plants, or auxiliary equipment may be carried; and</li> <li>b) Of an outer surface built to withstand high temperatures generated by aerodynamic heating.</li> </ul>
6372	Nova	A star, which suddenly becomes many times brighter than previously and then gradually, fades.

No.	Term	Definition
<b>6373</b>	Nozzle	Specifically, the part of a rocket thrust chamber assembly in which the gases produced in the chamber are accelerate to high velocities.
<b>6374</b>	Nuclear Fuel	Specifically, the part of a rocket thrust chamber assembly in which the gases produced in the chamber are accelerated to high velocities
<b>6375</b>	Nuclear Radiation	The emission of neutrons and other particles from an atomic nucleus as the result of nuclear fission or nuclear fusion.
<b>6376</b>	Nuclear Reactor	An apparatus in which nuclear fission may be sustain in a self-supporting chain reaction. Commonly called 'reactor'.
<b>6377</b>	Occultation	The disappearance of a body behind another body of larger apparent size.
<b>6378</b>	Octave	The interval between any two frequencies having the ratio of 1 : 2.
<b>6379</b>	Oculogravie Illusion	The apparent displacement of an object in space caused by the difference which may exist between the directions of the vertical and that resultant g.

#### SECTION 64

No.	Term	Definition
<b>6401</b>	Oculogyral Illusion	The apparent movement of an object in the same direction which one seems to be turning when the semicircular the inner ear are stimulated canals of the inner ear are stimulated.
<b>6402</b>	Orbit	<ul style="list-style-type: none"> <li>a) The path of a body or particle under the influence of a gravitational or other force. For instance, the orbit of a celestial body is its path relative to another body around which it revolves; and</li> <li>b) To go around the earth or other body in an orbit.</li> </ul>
<b>6403</b>	Orbital Elements	A set of seven parameters defining the orbit of a satellite.
<b>6404</b>	Orbital Period	The interval between successive passages of a satellite.
<b>6405</b>	Orbital Velocity	<ul style="list-style-type: none"> <li>a) The average velocity at which an earth satellite or other orbiting body travels around its primary; and</li> <li>b) The velocity of such a body at any given point in its orbit, as in 'its orbital velocity at the apogee is less than at the perigee'.</li> </ul>
<b>6406</b>	Otolith	A small calcareous concretion located in the inner ear which plays a part in the mechanism of orientation.
<b>6407</b>	Outgassing	The evolution of gas from a solid in a vacuum.
<b>6408</b>	Oxidizer	Specifically, a substance (not necessarily containing oxygen) that supports the combustion of a fuel or propellant.

No.	Term	Definition
6409	Paraglider	A flexible-winged, kite-like vehicle designed for use in recovery system for launch vehicles or as a re-entry vehicle.
6410	Passive	Reflecting a signal without transmission, contrasted with active.
6411	Payload	<ul style="list-style-type: none"> <li>a) Originally, the revenue producing portion of an aircraft's load, for example, passengers, cargo, mail, etc; and</li> <li>b) By extension that which an aircraft, rocket, or the like carries over and above what is necessary for the operation of the vehicle during its flight.</li> </ul>
6412	Pori	A prefix meaning near, as in 'porigeo'.
6413	Porigeo	That orbital point nearest to the earth when the earth is the centre of attraction.
6414	Perturbation	Specifically, a disturbance in the regular motion of a celestial body, the result of a force additional to those which cause the regular motion.
6415	Photon Engine	A projected type of reaction engine in which thrust would be obtained from a stream of electromagnetic radiation.
6416	Photosphere	The intensely bright portion of the sun visible to the unaided eye.
6417	Physiological Acceleration	The acceleration experienced by a human or an animal test subject in an accelerating vehicle.
6418	Pickoff	A sensing device, used in combination with a gyroscope in an automatic pilot or other automatic or robot apparatus, that responds to angular movement to create a signal or to effect some type of control.
6419	Pickup	A device that converts a sound, view, or other form of intelligence into corresponding electric signals (for example, a microphone, a television camera, or a phonograph pickup).
6420	Pip	Signal indication on the scope of an electronic instrument, produced by a short, sharply peaked pulse of voltage. Also called 'blip'.
6421	Pitch over	The programmed turn from the vertical that a rocket under power takes as it describes an arc and points in a direction other than vertical.
6422	Plages	Clouds of calcium or hydrogen vapour that show up as bright patches on the visible surface of the sun.
6423	Planet	A celestial body of the solar system, revolving around the sun in a nearly circular orbit, or a similar body revolving around a star.
6424	Plasma	An electrically conductive gas comprised of neutral particles, ionized particles, and free electrons but which, taken, as a whole, is electrically neutral.
6425	Plasma Engine	A reaction engine using magnetically accelerated plasma as propellant.

No.	Term	Definition
<b>6426</b>	Plasma Jet	A magnetohydrodynamic rocket engine in which the ejection of plasma generates thrust.
<b>6427</b>	Plasma Sheath	An envelope of ionized gas that surrounds a body moving through an atmosphere at hypersonic velocities.
<b>6428</b>	Polarization	A state of electromagnetic radiation in which transverse vibrations take place in some regular manner, for example, all in one plane, in a circle, in an ellipse, or in some other definite curve.
<b>6429</b>	Posigrade Rocket	An auxiliary rocket which fires in the direction in which the vehicle is pointed, used, for example, in separating two stages of a vehicle.
<b>6430</b>	Precession	The change in the direction of the axis of rotation of a spinning body or of the plane of the orbit of an orbiting body when acted upon by an outside force.
<b>6431</b>	Precession of the equinoxes	The conical motion of the earth's axis about the vertical to the plane of the ecliptic, caused by the attractive force of the sun, moon, and other planets on the, equatorial protuberance of the earth
<b>6432</b>	Pressure Suit	A garment designed to provide the human body an environment above ambient pressure so that respiratory and circulatory functions may continue normally, or nearly so, under low-pressure conditions, such as occur at high altitudes or in space without benefit of a pressurized cabin
<b>6433</b>	Pressurized	Containing air, or other gas, at a pressure that is higher than the pressure outside the container.
<b>6434</b>	Prestage	A step in the action of igniting a large liquid rocket taken prior to the ignition of the full flow, and consisting of igniting a partial flow, of propellants into the thrust chamber.
<b>6435</b>	Primary Body	The spatial body about which a satellite or other body orbits, or from which it is escaping, or towards which it is falling.
<b>6436</b>	Primary Cosmic Rays	High-energy particles originating outside the earth's atmosphere.
<b>6437</b>	Probe	Any device inserted in an environment for the purpose of obtaining information about the environment, specifically, an instrumented vehicle moving through the upper atmosphere or space, or landing upon another celestial body in order to obtain information about the specific environment.
<b>6438</b>	Prominence	A filament-like protuberance from the visible portion of the sun.
<b>6439</b>	Propellant	Short for 'rocket propellant'.
<b>6440</b>	Proving Stand	A test stand for reaction engines, especially rocket engines.

No.	Term	Definition
6441	Purge	To rid a line or tank of residual fluid, especially of fuel or oxygen in the tanks or lines of a rocket after a test firing or simulated test firing.
6442	Radar Astronomy	The study of celestial bodies within the solar system by means of radiation originating on earth but reflected from the body under observation.
6443	Radiation	Short for 'Electromagnetic Radiation', 'Nuclear Radiation'.
6444	Radiation Pressure	Pressure exerted upon a body by electromagnetic radiation incident upon body.
6445	Radiation Shield	<ul style="list-style-type: none"> <li>a) A device used on certain types of instruments to prevent unwanted radiation from biasing the measurement of a quantity; and</li> <li>b) A device used to protect bodies from the harmful effects of nuclear radiation, cosmic radiation, or the like.</li> </ul>
6446	Radiator	<ul style="list-style-type: none"> <li>a) Any source of radiant energy, especially electromagnetic radiation; and</li> <li>b) A device that dissipates heat from something, as from water or oil, not necessarily by radiation only.</li> </ul>
6447	Radio Astronomy	The study of celestial objects through observation of radio frequency waves emitted or reflected by these objects.
6448	Radio Meteor	A meteor detected by the reflection of radio signal from the meteor trail of relatively high ion density (ion column).
6449	Ridiosonde	A balloon-borne instrument for the simultaneous measurement and transmission of meteorological data.
6450	Radio Telescope	A device for receiving, amplifying, and measuring the intensity of radio waves originating outside the earth's atmosphere.
6451	Rarefied Gas Dynamics	The study of the phenomena related to the molecular or <b>noncontinuum</b> nature of gas flow at low densities.
6452	Reaction Control System	A system of controlling the attitude of a craft by using jets of gas in lieu of aerodynamic control surfaces.
6453	Reaction Engine	An engine that develops thrust by its reaction to ejection of a substance from it; specifically, such an engine that ejects a jet or stream of gases created by the burning of fuel within the engine.
6454	Readout	The action of a radio transmitter transmitting data either instantaneously with the acquisition of the data or by play of a magnetic tape upon which the data have been recorded.
6455	Readout Station	A recording or receiving radio station at which data are receive from a transmitter in a probe, satellite, or other spacecraft.

No.	Term	Definition
6456	Real Time	Time in which reporting on events or recording of events is simultaneous with the events.
6457	Recovery	The procedure or action that obtains when the whole of a satellite, or a section, instrumentation package, or other part of a rocket vehicle is recovered after a launch, the result of this procedure.
6458	Recycle	In a countdown: To stop the count and to return to an earlier point in the countdown, as in 'we have recycled, now at T minus 80 and counting'.
6459	Red Shift	In astronomy, the displacement of observed spectral lines toward the longer wavelengths of the red end of the spectrum.
6460	Re-entry	The event occurring when a spacecraft or other object comes back into the sensible atmosphere after being rocketed to altitudes above the sensible atmosphere; the action involved in this event.
6461	Re-entry Vehicle	A space vehicle designed to return with its payload to earth through the sensible atmosphere.
6462	Re-entry Window	The area at the limits of the earth's atmosphere through which a spacecraft in a given trajectory can pass to accomplish a successful re-entry.
6463	Regenerative Cooling	The cooling of a part of an engine by the propellant being delivered to the combustion chamber; specifically, the cooling of a rocket-engine combustion chamber or nozzle by circulating the fuel or oxidizer, or both, around the part to be cooled.
6464	Rendezvou	The event of two or more objects meeting at a preconceived time and place.
6465	Retrocket	A rocket fitted on or in a spacecraft, satellite, or the like to produce thrust opposed to forward motion.
6466	Rocket	<ul style="list-style-type: none"> <li>a) A projectile, pyrotechnic device, or flying vehicle propelled by a rocket engine; and</li> <li>b) A rocket engine.</li> </ul>
6467	Rocket Engine	A reaction engine that contains within itself, or carries along with itself, all the substances necessary for its operation or for the consumption or combustion of its fuel, not requiring intake of any outside substance and hence capable of operation in outer space. Also called 'Rocket Motor'.
6468	Rocket Propellant	Any agent used for consumption or combustion in a rocket and from which the rocket derives its thrust, such as a fuel, oxidizer, additive, catalyst, or any compound or mixture of these. 'Rocket Propellant' is often shortened to 'Propellant'.
6469	Rocketsonde	Meteorological rocket
6470	Rockoon	A high-altitude sounding system consisting of a small solid-propellant research rocket launched from a large plastic balloon.

No.	Term	Definition
6471	Roll	The rotational or oscillatory movement of an aircraft or similar body which takes place about a longitudinal axis through the body - called 'roll' for any amount of such rotation
6472	Rotation	Turning of a body about an axis within the body, as the daily rotation of the earth.
6473	Rumble	A form of combustion instability, especially in a liquid-propellant rocket engine, characterized by a low-pitched, low frequency rumbling noise; the noise made in this kind of combustion.
6474	Satellite	<ul style="list-style-type: none"> <li>a) An attendant body that revolves about another body, the primary; especially in the solar system, a secondary body, or moon, that revolves about a planet; and</li> <li>b) A manmade object that revolves about a spatial body, such as 'Explorer I' orbiting about the earth.</li> </ul>
6475	Scale Height	A measure of the relationship between density and temperature at any point in an atmosphere; the thickness of a homogeneous atmosphere, which would give the observed temperature or pressure.
6476	Schlieren	<ul style="list-style-type: none"> <li>a) Regions of different density in a fluid, especially as shown by special apparatus; and</li> <li>b) A method or apparatus for visualizing or photographing regions of varying density in a field of flow.</li> </ul>
6477	Screaming	A form of combustion instability, especially in a liquid-propellant rocket engine, or relatively high frequency and characterized by a high-pitched noise.
6478	Scrub	To cancel a scheduled rocket firing, either before or during countdown.
6479	Secondary Cosmic Rays	Secondary emission in the atmosphere stimulated by a primary cosmic rays.
6480	Seeing	A blanket term long used by astronomers for the disturbing effects produced by the atmosphere upon the image quality of an observed astronomical body.
6481	Selenocentric	Relating to the centre of the moon; referring to the moon as a centre.

## SECTION 65

No.	Term	Definition
6501	Selenographic	Of or pertaining to the physical geography of the moon; and Specifically, referring to positions on the moon measured in latitude from the moon's equator and in longitude from a reference meridian.
6502	Semicircular Canals	Tubes located in the inner ear, which play a part in the mechanism of balance and orientation.



No.	Term	Definition
6503	Sensor	The component of an instrument that converts an input signal into a quantity, which is measured, by another part of the instrument. Also called 'Sensing Element'.
6504	Shadowgraph	A picture or image in which steep density gradients in the flow about a body are made visible, the body itself being presented in silhouette.
6505	Shield	Short for 'Radiation Shield', 'Heat Shield'.
6506	Shock Tube	A relatively long tube or pipe in which very brief high-speed gas flows are produced by the sudden release of gas at very high pressure into a low-pressure portion of the tube; the high-speed flow moves into the region of low pressure behind a shock wave.
6507	Shoran	A precision electronic position fixing system using a pulse transmitter and receiver and two receiver and two transponder beacons at fixed points.
6508	Shot	An act or instance of firing a rocket, especially from the earth's surface, as 'The shot carried the rocket 300 kilometres'.
6509	Sidereal	Of or pertaining to the stars.
6510	Sloshing	The back-and-forth splashing of a liquid fuel in its tanks, creating problems of stability and control in the vehicle.
6511	Slurry	A suspension of fine solid particles in a liquid.
6512	Soft Radiation	Radiation, which is absorbed by an absorber equivalent to 10 centimetres of lead or less.
6513	Solar Atmospheric Tide	Vertical motion of the atmosphere due to thermal or gravitational action of the sun.
6514	Solar Cell	A photovoltaic device that converts sunlight directly into electrical energy.
6515	Solar Constant	The rate at which solar radiation is received on a surface perpendicular to the incident radiation and at the earth's mean distance from the sun; but outside the earth's atmosphere.
6516	Solar Radiation	The total electromagnetic radiation emitted by the sun.
6517	Solid Propellant	Specifically, a rocket propellant in solid form, usually containing both fuel and oxidizer combined or mixed and formed into grain.
6518	Solid Propellant Rocket Engine	A rocket engine using a solid propellant. Such engines consist essentially of a combustion chamber containing the propellant, and a nozzle for the exhaust jet, although they often contain other components, as grids, liners, etc.
6519	Sonic	Aerodynamics: of or pertaining to the speed of sound; that moves at the speed of sound, as in 'Sonic Flow'; designed to operate or perform at the speed of sound, as in 'Sonic Leading Edge'; and Of or pertaining to sound, as in 'Sonic Amplifier'.
6520	Solar Wind	A stream of elementary charged particles constantly moving outward from the sun.
6521	Sonic Boom	A noise caused by the shock wave that emanates from an aircraft or other object travelling in the atmosphere at or above the speed of sound.
6522	Sonic Speed	The speed of sound; by extension, the speed of a body travelling at Mach 1.
6523	Sounding	In geophysics, any penetration of the natural environment for scientific observation; and

No.	Term	Definition
		In metrology, same as upper-air observation. However, a common connotation is that of a single complete radiosonde observation.
6524	Sounding Rocket	A rocket designed to explore the atmosphere within 6 400 kilometres of the earth's surface.
6525	Space	<ul style="list-style-type: none"> <li>a) Specifically, the part of the universe lying outside the limits of the earth's atmosphere; and</li> <li>b) More generally, the volume in which all spatial bodies, including the earth, move.</li> </ul>
6526	Space-air Vehicle	A vehicle that may be operated either within or above the sensible atmosphere.
6527	Spacecraft	Devices, manned and unmanned, which are designed to be placed into an orbit about the earth or into a trajectory to another celestial body.
6528	Space Equivalent	A condition within the earth's atmosphere that is virtually identical, in terms of a particular function, with a condition in outer space.
6529	Space <b>fv</b> medicine	A branch of aerospace medicine concerned specifically with the health to persons who make, or expect to make, flights into space beyond the sensible atmosphere.
6530	Space Reddening	The observed reddening or absorption of shorter wavelengths, of the light from distant celestial bodies caused by scattering by small particles in interstellar space.
6531	Space Simulator	A device, which simulates some condition or conditions existing in space and used for testing equipment, or in training programmes.
6532	Spatial	Pertaining to space.
6533	Spatio	A combining form meaning 'Space'.
6534	Specific Impulse	A performance parameter of a rocket propellant, expressed in seconds, and equal to thrust divided by weight flow rate. ( <i>see</i> 'Thrust' <b>6556</b> ).
6535	Spectrometer	An instrument, which measures some characteristics, such as intensity, of electromagnetic radiation as a function of wavelength or frequency.
6536	Sputtering	Dislocation of surface atoms of a material bombarded by high-energy atomic particles
6537	Stage	A propulsion unit of a rocket, especially one unit of a multistage rocket, including its own fuel and tanks.
6538	Stage-and-a-Half	A liquid-rocket propulsion unit of which only part falls away from the rocket vehicle during flight, as in the case of booster rockets falling away to leave the sustainer engine to consume remaining fuel.
6539	Standard Atmosphere	A hypothetical vertical distribution of atmosphere temperature, pressure, and density which, by agreement, is taken to be representative of the atmosphere for purposes of pressure altimeter calibrations, aircraft performance calculations, aircraft and rocket design, ballistic tables, etc.
6540	Stationary Orbit	An orbit in which an equatorial satellite revolves about the primary at the same angular rate as the primary rotates on its axis. From the primary, the satellite thus appears to be stationary over a point on the primary.

No.	Term	Definition
6541	Stoichiometric	Of a combustible mixture, having the exact proportions required for complete combustion.
6542	Subsonic	In aerodynamics, dealing with speeds less than the speed of sound ( <i>see</i> sonic speed <b>6522</b> ), as in 'Subsonic Aerodynamics'.
6543	Sudden Ionospheric Disturbance	A complex combination of sudden changes in the condition of the ionosphere, and the effects of these changes, often abbreviated SID.
6544	Sunspot	A relatively dark area on the surface of the sun, consisting of a dark central umbra and a surrounding penumbra that is intermediate in brightness between the umbra and the surrounding photosphere.
6545	Sunspot Cycle	A periodic variation in the number and area of sunspots with an average length of 11.1 years, but varying between about 7 and 17 years.
6546	Supersonic	Pertaining to speeds greater than the speed of sound.
6547	Sustainer Engine	An engine that maintains the velocity of a missile or rocket vehicle, once it has achieved its programmed velocity through use of a booster engine.
6548	Synchronous Satellite	An equatorial west-to-east satellite orbiting the earth at an altitude of 41 000 kilometres at which altitude it makes one revolution in 24 hours, synchronous with the earth's rotation.
6549	Synergic Curve	A curve plotted for the ascent of a rocket, space-air vehicle, or space vehicle calculated to give the vehicle an optimum economy in fuel with an optimum velocity
6550	Tektite	A small glassy body containing no crystals, probably of meteoritic origin, and bearing no antecedent relation to the geological formation in which it occurs.
6551	Telemetry	The science of measuring a quantity or quantities, transmitting the measured value to a distant station, and there interpreting, indicating, or recording the quantities measured.
6552	Terminator	The line separating illuminated and dark portions of a nonluminous body, as the moon.
6553	Terrestrial	Pertaining to the earth.
6554	Thermodynamics	The study of the relationships between heat and mechanical energy.
6555	Thermonuclear	Pertaining to a nuclear reaction that is triggered by particles of high thermal energy.
6556	Thrust	The pushing force developed by an aircraft engine or a rocket engine; and Specifically, in rocketry, the product of propellant mass flow rate and exhaust velocity relative to the vehicle.
6557	Topside Sounder	A satellite designed to measure ion concentration in the ionosphere from above the ionosphere.
6558	Tracking	The process of following the movement of a satellite or rocket by radar, radio, and photographic observations.
6559	Trajectory	In general, the path traced by any body, as a rocket, moving as a result of externally applied forces.
6560	Transducer	A device capable of being actuated by energy from one or more transmission systems or media and of supply related energy to one or more other transmission systems or media, as a microphone, a thermocouple, etc.
6561	Transfer Orbit	In interplanetary travel an elliptical trajectory tangent to the orbits of both the departure planet and the target planet.

<b>No.</b>	<b>Term</b>	<b>Definition</b>
6562	Transit	a) The passage of a celestial body across a celestial meridian; usually called ‘Meridian Transit’; and b) The apparent passage of a celestial body across the face of another celestial body or across any point, area, or line.
6563	Translunar	Of or pertaining to space outside the moon’s orbit about the earth.
6564	Transponder	A combined receiver and transmitter whose function is to transmit signals automatically when triggered by an interrogating signal.
6565	T-time	A combined receiver and transmitter whose function is to transmit signals automatically when triggered by an interrogating signal.
6566	Ullage	The volume of a container, such as a fuel tank, which remains unfilled by the contents.
6567	Ultrasonic	Of or pertaining to frequencies above those that effect the human ear, more than 20 000 vibrations per second.
6568	Ultraviolet Radiation	Electromagnetic radiation shorter on wavelength than visible radiation but longer than X-rays, roughly, radiation in the wavelength interval between 10 and 4 000 angstroms.
6569	Umbilical Cord	Any of the servicing electrical or fluid lines between the ground or a tower and an upright rocket missile or vehicle before the launch, often shortened to ‘Umbilical’.
6570	Upper-Air Observation	A measurement of atmospheric conditions above the effective range of a surface weather observation. Also called ‘bounding’ ‘upper air sounding’.
6571	Alien Belt, Van Allen Radiation Belt	The zone of high-intensity radiation surrounding the earth beginning at altitudes of approximately 800 kilometres.
6572	Vehicle	Specifically, a structure, machine, or device, such as an aircraft or rocket, designed to carry a burden through air or space; more restrictively, a rocket craft.
6573	Vernier Engine	A rocket engine of small thrust used primarily to obtain a fine adjustment in the velocity and trajectory of a ballistic missile or space vehicle just after the thrust cutoff of the last propulsion engine, and used secondarily to add thrust to a booster or sustainer engine. Also called ‘Vernier Rocket’.
6574	Visible Radiation	Electromagnetic radiation lying within the wavelength interval to which the human eye is sensitive, which is from approximately 0.4 to 0.7 micron (4 000 to 7 000 angstroms). This portion of the electromagnetic spectrum is bounded on the short-wavelength end by ultraviolet radiation, and on the long-wavelength end by infrared radiation
6575	Waveguide	A system of material boundaries capable of guiding electromagnetic waves.
6576	Weightlessness	A condition in which no acceleration, whether of gravity or other force, can be detect by an observer within the system in question.
6577	Whistler	A radio-frequency electromagnetic signal sometimes generated by lightning discharges and during nuclear explosion.
6578	Yaw	a) The lateral rotational or oscillatory movement of an aircraft, rocket, or the like about a transverse axis; and

<b>No.</b>	<b>Term</b>	<b>Definition</b>
		b) The amount of this movement, that is, the angle of yaw.

**ANNEX A**  
*(Foreword)*

**COMMITTEE COMPOSITION**

**AIR AND SPACE VEHICLES SECTIONAL COMMITTEE SECTIONAL COMMITTEE, TED 14**

<i>Organization</i>	<i>Representative(s)</i>
IN Personal Capacity	SHRI DILIP B BHATT ( <i>Chairman</i> )
Adani Aerospace and Defence Limited, Bengaluru	SHRI SAMPATHKUMARAN S T
Aeronautical Development Agency, Bengaluru	SHRI D K P SINHA SHRI RAMMOHAN V KAKI ( <i>Alternate</i> )
Aeronautical Development Establishment, Bengaluru	SHRI A VAMSIKRISHNA SHRI RANJITH T ( <i>Alternate</i> )
Air India, New Delhi	SHRI MATHEW PANICKER
Airports Authority of India, New Delhi	SHRI D DILIP KUMAR
Bharat Dynamics Limited, Hyderabad	SHRI J K MISHRA SHRI KV SUBBA REDDY ( <i>Alternate</i> )
CSIR - National Aerospace Laboratories, Bengaluru	SHRI VEERA SESA KUMAR SHRI S RAVISHANKAR ( <i>Alternate</i> ) DR. SAPTHAGIRI G ( <i>Alternate</i> )
Centre for Military Air worthiness and Certification, Bengaluru	SHRI P JAYAPAL SHRI R KAMALAKANNAN ( <i>Alternate</i> )
Defence Research and Development Organization, Research Centre Imarat, Hyderabad	DR. S KARUNANIDHI SHRI SSSBS SUBBA RAO ( <i>Alternate</i> )
Department of Defence Production, Ministry of Defence, New Delhi	SHRI ARINDAM CHAUDHARY
Directorate General of Aeronautical Quality Assurance, Ministry of Defence, New Delhi	SHRI SANJAY KUMAR SHARMA SHRI MUKESH CHAND MEENA ( <i>Alternate</i> )
Directorate General of Civil Aviation, New Delhi	SHRI BHARAT LAL SHRI VEERENDRA KUMAR KABIR ( <i>Alternate</i> ) SHRI ASEEM KUMAR
Directorate of Naval Air Material, Ministry of Defence	SHRI D D DARKE SHRI R RAJESH ( <i>Alternate</i> )
GAIL (India) Limited, New Delhi	SHRI KAUSHIK DAS
Gas Turbine Research Establishment, Bengaluru	SHRI G DEVEANANDA SHRI D NAGARAJU ( <i>Alternate</i> )
Godrej Aerospace, Mumbai	SHRI AMOL BANSI THORAT

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<i>Organization</i>	<i>Representative(s)</i>
HQ Maintenance Command, Indian Air Force	SHRI F J D'SOUJA SHRI V. K. GOEL ( <i>Alternate</i> )
Hindustan Aeronautics Limited, Bengaluru	SHRI PRATAP PANDA SHRI SUSHIL KUMAR ( <i>Alternate</i> )
Indian Institute of Science, Bengaluru	DR. SATISH L. DR. L. UMANAND ( <i>Alternate</i> ) DR. SUBBA REDDY B ( <i>Alternate</i> )
Indian Institute of Technology Madras, Chennai	PROF. HARISHANKAR RAMCHANDRAN
Indian National Space Promotion and Authorisation Centre (IN-SPACe), Ahmedabad	SHRI PARAGJYOTI GARG
Indian Space Research Organization - U R Rao Satellite Centre, Bengaluru	SHRI RAGHAVENDRA KULKARNI SHRI RAYAN KUTTY P P ( <i>Alternate</i> )
Indian Space Research Organization - Vikram Sarabhai Space Centre, Thiruvananthapuram	SHRI P. RAMKUMAR SHRI JAYAKUMAR M SHRI GOVIND ( <i>Alternate</i> )
Indian Space Research Organization, Bengaluru	DR. A K ANIL KUMAR SHRI MANISH SAXENA ( <i>Alternate</i> )
Larsen and Toubro Limited, Mumbai	SHRI LAXMESH B.H. SHRI JAMBUNATHAN G ( <i>Alternate</i> )
Society of Indian Aerospace Technologies and Industries, Bengaluru	SHRI FRANCIS XAVIER
Sundram Fasteners Limited, Chennai	SHRI ATUL KUMAR AGRAWAL
In personal capacity	SHRI MANOHAR SIDANA
In personal capacity	SHRI S C SHRIMALI
BIS Directorate General	SHRI P.V. SRIKANTH, SCIENTIST 'D' & HEAD (TED) [REPRESENTING DIRECTOR GENERAL (EX-OFFICIO)]

MEMBER SECRETARY  
MR. SHIVAM AGGARWAL  
SCIENTIST C / DEPUTY DIRECTOR  
(TRANSPORT ENGINEERING DEPARTMENT)