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भारतीय मानक

पर्वतारोहण सम्बन्धी पारिभाषिक शब्दावली

(पहला पुनरीक्षण)

Indian Standard

MOUNTAINEERING – GLOSSARY OF TERMS

(First Revision)

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BUREAU OF INDIAN STANDARDS
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FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Mountaineering Equipment Sectional Committee was approved by the Light Mechanical Engineering Division Council.

The standard was originally published in 1977. The standard has been revised in order to modify the existing definitions and also to include additional terminology.

*Indian Standard***MOUNTAINEERING – GLOSSARY OF TERMS***(First Revision)***1 SCOPE**

1.1 Covers the common terms used in mountaineering field.

2 TERMINOLOGY**A****2.1 A Chevel**

A method of climbing a rub or arete in which the climber places on foot on either side of the arete and grips the crest with his hands.

2.2 Abseil or Rappel or Roping Down

A rapid method of descending over steep rocks, snow or ice by sliding down a single or double rope anchored at one end.

2.3 Acclimatization

It is a process of getting used to heights. In this human body, takes some time to get used to heights and it depends on individual.

2.4 Active Rope or Live Rope

The length of the rope between one moving climber and another climber responsible for the former's belay.

2.5 Aiguille

A steep pointed mountain, usually with sharp and distinct outlines.

2.6 Alp

The grassy pastures below the snowline in the Alps but above the valley and the place where the animals are taken to feed in the summer months.

2.7 Alternative Lead or Leading Through

A method of climbing steep rocks whereby two roped climbers share the leading of pitches alternatively.

2.8 Anchor

A natural or artificial spike or projection around which a climber can secure himself with a rope or sling. A rope can be looped for support of belay.

2.9 Anorak or Parka or Wind-Proof Jacket

A thigh length wind-proof tunic with a hood.

2.10 Approach March

The walk in at the beginning of climbing expedition to the point where roped climbing begins.

2.11 Arete

A knife edge rocky or spur. It is a sharp, steep ridge, generally one of the main ridges of a mountain.

2.12 Artificial Climbing

Climbing steep rocks and ice using artificial aids, like the use of entries and a special rope technique besides pitons, ladder, carabiners, slings, etc.

2.13 Avalanche

A mass of ice, snow, earth and rock descending swiftly from a mountain.

2.13.1 Airborne Avalanche

A snow avalanche having its path in air. Such avalanches have very high velocity which may go as high as 200 km/h.

2.13.2 Slab Avalanche

A snow avalanche caused by fracture in a snow slab. Such avalanches generally travel along the slope and have velocity in the range of 40 to 60 km/h and snow density of approximately 300 to 500 kg/m³.

2.13.3 Loose Snow Avalanche

These are caused by lack of cohesion in the snow mass lying on steep slope. They have average velocity in the range of 10 to 30 km/h and density in the range of 200 to 300 kg/m³ (dry snow) and 400 to 500 kg/m³ (wet snow).

2.13.4 Artificial Release of Avalanches

An avalanche released by artificial means like by explosive, skiers, aircraft, supersonic booms, etc.

2.13.5 *Avalanche Formation Zone*

The area in the upper region of a slope where snow after accumulation forms into an avalanche. Such slopes are generally between 30° to 55°.

2.13.6 *Avalanche Middle Zone/Avalanche Path*

The area between run-out zone and formation zone where an avalanche continues to flow after initiation. Such slopes are steeper than 12°.

2.13.7 *Avalanche Runout Zone*

The area lying in the lower region of an avalanche slope where avalanche snow encounters high degree of friction and thus comes to halt. Such slopes are less than 12°.

2.13.8 *Avalanche Rod*

A rod formed by assembling a number of small sections of 50 mm long pieces with the lower most rod having a cone for easy penetration into snow and top having flat roundish head. The rod is utilised for searching victims buried in avalanche snow.

2.13.9 *Avalanches Sympathetic Release*

Formation/initiation of avalanche movement caused by triggering of a neighbouring avalanche which is not physically travelling over it. The release is caused by vibrational forces in the avalanche released earlier.

2.13.10 *Avalanche Rupture Zone*

The critical zone in the formation zone of an avalanche from where fracture in snow cover is expected/seen.

B

2.14 *Back and Feet or Back Up*

A method of climbing a chimney (qv) by placing one's back against one side wall and one's feet, or knees (depending on the width of the chimney) against the other.

2.15 *Balling Up*

The adherence of soft, wet snow to the soles of boots or the spikes of the crampons.

2.16 *Belay*

The method of securing a climber with a rope for the purpose of arresting a fall. It can be done with natural or artificial anchor or with another climber's body.

2.16.1 *Dynamic Belay*

Method of arresting leader's fall by friction of the rope around the body.

2.16.2 *Running Belay*

Safeguard a leader provides for himself, usually by passing his rope through the carabiner.

2.16.3 *Thread Belay*

Safeguard in which the rope or sling is threaded through a hole formed by check-stone or a natural or artificial construction in the rock.

2.17 *Benighted*

The condition of being stranded on a mountain after dark.

2.18 *Bergfall*

Fall of stone and rock.

2.19 *Bergschrund*

The gap or crevasse between the glacier proper and the upper snow face. The upper lip of a bergschrund may be very high from the level of the lower lip.

2.20 *Bivouac*

A temporary encampment or overnight hall in mountain country, or high on a mountain without a tent.

2.21 *Bollard*

An upstanding thumb like piece of rock pillar or fashioned from snow or ice to form an anchor.

2.22 *Bore Glacier*

A glacier whose surface is free from debris and moraine (*see also* 2.63).

2.23 *Bouldering*

Climbing boulder problems; a common game amongst climbers. The climbs are usually only a few feet high, but extremely difficult and call for good techniques.

2.24 *Braking or Friction Belay*

An act of arresting a fall on a steep snow slope by using an ice axe (*see also* 2.16).

2.25 *Brand*

A broad grassy rounded ridge.

2.26 Bridging

A method of climbing chimneys and corners, it can also be any series of upward movement on a rock face when the legs are astride and the feet are being used on pressure holds.

2.27 Bucket Step

The large step cut at the corners of a zig-zag line of steps in hard snow and ice (soup plate).

2.28 Buttress

A large rock spine usually separated from the rest of the rock by gullies on either side. It is sort of rockwall, being very steep it is difficult to climb.

C**2.29 Capstone**

A stone on the top of chimney or a gully.

2.30 Carane

Hut at high altitude used for overnight safety.

2.31 Cairn

A pile of stones erected to mark a summit, a spot height, a pass, and to mark a route sometimes.

2.32 Chimney

A fissure in a rock face which will admit the body of a climber, open on one side.

2.33 Chockstone

A stone or boulder wedged in a crack or cleft, chimney or gully, natural or intentionally, which may also provide an anchor.

2.34 Cirque

A deep hollow in a mountain side which has been eroded and shaped by the movement of snow and ice. The walls of a cirque are round and there is a gateway or entrance to it from steep slopes below.

2.35 Claw

Crampons (*see* 2.44).

2.36 Cliff

A steep face of rocks.

2.37 Col

A pass. This can vary from a road pass to a pass high in the mountain. Depression in summit line of mountain chain; low point in a mountain ridge.

2.38 Comb or Coomb or Coombe

A short, narrow vallet similar in some cases to cirque, but with more gentle sides and grass covered slopes.

2.39 Combined Tactics

Technique of gaining height by one climber supporting another.

2.40 Cornice

An overhanging mass of snow projecting over the edge of ridge formed by prevailing winds.

2.41 Couloir

A gully or furrow in a mountain side, may be of rock, snow or ice formed usually in an up and down direction. It is a passage between two vertical slopes. Generally it is worn by a nallah.

2.42 Crack

A cleft in rock, narrower than chimney.

2.43 Crag

A number of cliffs.

2.44 Crampons

Steel spiked frames which can be fitted to boots to give a grip on ice and firm snow slopes.

2.45 Crevasse

A crack in a glacier surface, which can be both wide and very deep made by the movement of the glacier over the irregular shapes in its bed by means of bends in its course.

2.46 CWM or Corrie (Welsh)

A cirque. A deep rounded hollow at the head or side of a valley (*see also* 2.34 and 2.38).

D**2.47 Dead Man or Dead Boy**

Small alloy plate which is dug into the snow to act like a fluke anchor, digging deeper the harder it is pulled.

2.48 Depth Hoar

Hollow cup crystals formed due to temperature gradient in the snow cover during a long cold spell. Such crystals are responsible for causing delayed action avalanches.

2.49 Diagonal Cutting

Cutting a line of steps in snow and ice in a diagonal direction across a slope. It is the easiest way to ascend a steep slope because it facilitates step cutting.

2.50 Direct Belay

The active rope passed directly round a rock to safeguard moving climber. Not recommended as greater stress is applied to rope (*see also 2.16*).

2.51 Distress Signal

A signal intended to attract attention in the event of an accident. It consists of six blasts or flashes or shouts in a minute with a whistle, followed by a minute's silence and repeated until attention has been attracted. The acknowledgement is three blasts in a minute followed by a minute's silence and repeated.

2.52 Duvet

Duvets are basically heavily quilted anoraks which open down the front like a jacket. They form the best insulation against extreme cold.

E

2.53 Etrier

A short lightweight ladder having 2 to 4 steps, 25 to 40 cm apart used to assist the climbing of smooth or overhanging rocks by artificial means.

2.54 Expansion Bolt

A device used for artificial climbing when no cracks in rock are available and a hole is drilled to insert the expansion bolt to act as piton, for aid or security.

F

2.55 Firn

Hard snow lying on a glacier.

2.55.1 *Noch Firn*

High snow field on a high mountain.

2.56 Foehn

Had the winds blowing leeward and causing snow to become soft and dangerous.

2.57 Free Climbing

Climbing without artificial aid.

2.58 Front Pointing

Climbing straight up steep snow or ice by means of digging in the front points of crampons and supporting balance with an ice axe.

2.59 Frostbite

Freezing of the body tissues causing damage which often results in gangrene on thawing. The parts specially liable to be attacked are the fingers, toes, nose and ears.

G

2.60 Gabbro

An extremely rough rock offering good friction grip and the principal rock of the skye cuillins (qv).

2.61 Gabel

Notch in high snow ridge.

2.62 Gendarme

A prominent pinnacle or tower of rock found mostly on ridges.

2.63 Glacier

A river of ice, a few hundred metres to many kilometres in length, which flows at an imperceptible rate — a few centimeter to metres each year.

2.63.1 *Glacier Table*

A rock supported on an ice pedestal in a glacier.

2.63.2 *Dry Glacier or Bare Glacier*

When the glacier is devoid of snow or any other debris.

2.63.3 *Hanging Glacier*

2.64 Glacis

Any rock or ice slope up to 30° from the horizontal, which can be walked up.

2.65 Glissade

A voluntary, controlled descent on a snow slope by sliding and skating on the feet in a standing or squatting posture.

2.66 Gorge

A deep, narrow valley with unusually steep sides.

2.67 Grading of Climbing

Easy, moderate, difficult, very difficult, severe and very severe.

2.68 Gully

The deep cleft in the face of a cliff or a mountain.

H**2.69 Hand Traverse**

A horizontal movement across a broad flake of rock, the body being supported entirely on the hands which grip the edge of the flake.

2.70 Hanging Valley

A small valley which joins a main valley at a considerable altitude above the bed of the latter.

2.71 Harness

An equipment for attaching a climber to the rope so that in the event of fall, the shock and strain shall be minimized.

I**2.72 Ice Fall**

A feature which is formed when a glacier flows over a steep and uneven slope and breaks up into a mass of blocks, pinnacles and crevasses.

2.73 Ice Field

A name used locally by mountaineer to describe either a large area of glacier enclosed by a rim or wall of mountain or a number of glaciers draped over a large summit plateau of one or more mountains.

2.74 Ice Pinnacles

Undulation in snow/ice surface having conical top and roundish bottom. These are caused by the presence of melt water in the general area.

J**2.75 Jumar or Ascender**

A metallic device for ascending steep fixed ropes.

K**2.76 Karabiner or Carabiner**

A karabiner is an oval or D-shaped metal link, one side of which opens by means of spring clip. It is used for belays, runners, abseiling,

roping up, etc, and is the universal attachment mechanism of climbing.

2.77 Klettersschuh

Light weight rock climbing boot with rubber sole.

2.78 Knoll

A small rounded hill or mound.

L**2.79 Layback**

A method of climbing the edge of cracks and flakes by leaning back on them on the hands. The hands grip the edge and the feet are placed flat on the rock close to the edge.

2.80 Leading Through

The practice of two climbers leading alternatively up pitches of a climb.

2.81 Ledge

A flat or slightly sloping area on a rock face or mountain side.

M**2.82 Mental Shelf**

The act of climbing on to a ledge with no hand-holds above it.

2.83 Moraine

Accumulation of debris, stones, earth and rubble, carried down by a glacier. There are three types, namely, lateral, medial and terminal.

2.84 Mountain Sickness

The effect of altitude on certain people. Who begin to feel lethargic and queasy. Accompanied by a severe headache. Usually only happens at above 3 000 metres.

N**2.85 Neve**

The snow slopes on a mountain above the bergschrund. The neve feeds the glacier with fresh snow or ice.

2.86 Niche

A small recess in a rock face which can provide a hold, stance or even a place for a bivouac.

O

2.87 Objective Dangers

Dangers beyond the control of a mountaineer like falling stones, ice falls, avalanche, crevasses, etc.

2.88 Overhang

Rock and ice beyond the perpendicular. Can be climbed if some holds are available otherwise by artificial methods.

P

2.89 P. A.

A special rock climbing boot with canvas uppers and tight-fitting rubber soles stiffened by a shank, originally developed by Pierre Allain.

2.90 Pass

The way across a mountain ridge from one valley to another.

2.91 Peg

A piece of metal designed for insertion into rock cracks or ice to support a belay.

2.92 Picket or Piolet or Ice Axe

An axes used by mountain climbers for cutting steps.

2.93 Pillar

A tall, narrow column of rock jetting out from the parent mountain having a flat summit.

2.94 Pinnacle

A sharp peak which is an isolated tower of peak.

2.95 Pitch

Distance between two belays or a section of difficult ice, snow or rock, anything from 3.05 m to 36.6 m in height.

2.96 Piton

A piece of metal consists of a spike or blade and a head having a hole or loosely welded ring. It is made in various thicknesses and widths to fit in all kinds of cracks in artificial climbing.

2.97 Piton Hammer

A small hammer consisting of wooden handle and a blunt pick. Head is used for driving

piton in cracks and ice, and the pick to lever them out again.

2.98 Prusik

A method of directly ascending a rope with the aid of prusik knots, or friction hitches, with feet loops.

2.99 Pterodactyl

Special type of ice climbing equipment.

R

2.100 Recess

A niche or a short corner in a rock face.

2.101 Rake

Steeply sloping transverse ledge or narrow gully.

2.102 Rappel

An abseil (*see* 2.2).

2.103 Ravine

A deep cleft in a mountain side and the floor of the valley. It intends to be narrower than a gorge and it has steeper sides.

2.104 Refuge

Mountain hut.

2.105 Rhythm

Controlled, balanced movements in walking and climbing.

2.106 Rib

Thin rock ridge standing out from rock, snow or ice face.

2.107 Ridge

The line on which two faces of a mountain meet.

2.108 Rimaye

Bergschrund (*see* 2.19).

2.109 Rucksack

A bag fitted with shoulder straps and designed to be carried on the back. Can be with or without a frame.

S

2.110 Saddle or Sattel

A shallow depression on a broad ridge.

2.111 Sastrugi

Conical structures of snow formed by wind. The apex of the cone points towards most prevalent wind direction and the body lies along the wind direction.

2.112 Safety Rope

A rope held from above to protect novices during abseiling (qv) practice. On a mountain climb which requires abseils, a separate abseil rope is carried and the climbing rope then acts as a safety rope for all the party except the leader, who comes down last.

2.113 Scree

Stones or boulders and stones covering a slope below steep rocks.

2.114 Scree Shoot

A line of finer stones running down a scree slope.

2.115 Serac

A pinnacle or tower of ice in an ice-fall.

2.116 Sling

Loop of nylon rope or tape used for belays, runners, or abseiling (all qv) and an important part of a climber's equipment.

2.117 Slack

Loosening of the rope between two adjacent climbers.

2.118 Snow Blindness

A temporary blindness caused by snow-glare and ultra violet rays.

2.119 Snow Bridge

A bridge of snow spanning a bergschrund, crevasse or mountain stream.

2.120 Snow Crystal

Star like structure of snow formed in the upper atmosphere and are seen falling during a snowfall.

2.121 Snow Line

The general level (altitude) at which snow begins to lie permanently on a range of mountains.

2.122 Spindrift

Loose powder snow carried by wind or small avalanche.

2.123 Spire

An extended breast of a hill and mountain, rather similar to a ridge but short and sound.

2.124 Spur

Rock or snow rib on side of a mountain.

2.125 Stance

Place where a climber makes his belay, ideally somewhere comfortable to stand or sit.

2.126 Step

Vertical or short steep rise in gully or ridge.

2.127 Sticht Plate

A device invented by Fritz Sticht to improve dynamic belaying. Instead of the rope passing round the climber's back for friction, it passes through a metal friction plate,

T

2.128 Tape

Nylon tapes of various thicknesses are used by climbers for runners (qv) and etriers (qv).

2.129 Tarbuck Knot

Knot used for tying nylon; climbing rope by a loop to a carabiner on a waist band. If a fall causes tension in the ropes the knot slides gradually to reduce the shock (named after Kenneth Tarbuck).

2.130 Tarn

A pond on a high mountain side (a mountain lake).

2.131 Tension Climbing

An alternative name for artificial climbing.

2.132 Traverse

To move horizontally or diagonally across a rock or snow slope. Also the ascent and descent of a mountain by different routes.

2.132.1 Hand Traverse

Crossing made with hands.

2.132.2 Pendulum Traverse Crossing in which the climber swings in pendulum fashion on a rope belayed above.

2.132.3 Tension Traverse

Crossing in which climber is held against the rock by a taut horizontal rope.

V

2.133 Verglas

A film of ice on rocks caused by melting snow freezing of rain or mist condensing and freezing.

W

2.134 Watershed or Divide

High ridge separating two river systems.

2.135 Water Ice

Ice formed directly from the freezing of water, as opposed to ice formed under pressure.

2.136 Wedge

Wedge-shaped piece of wood or metal used to form an anchor in cracks which are too wide for piton.

2.137 Wet Snow

Snow in the state of thawing during the day before freezing at night.

2.138 White Out

An unpleasant phenomenon of snowscapes, where falling snow or even mist, can merge the land and sky together with complete loss of horizon.

2.139 Windslab Avalanche

Can occur when a snow layer formed by wind-compacted snow settles insecurely on top of old snow and descends in enormous blocks or slabs (*see also 2.13*).

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BUREAU OF INDIAN STANDARDS

Headquarters :

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones : 331 01 31, 331 13 75

Telegrams : Manaksanstha
(Common to all Offices)

Regional Offices :

	Telephone
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110002	{ 311 01 31 331 13 75
Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Maniktola CALCUTTA 700054	37 86 62
Northern : SCO 445-446, Sector 35-C, CHANDIGARH 160036	53 38 43
Southern : C. I. T. Campus, IV Cross Road, MADRAS 600113	235 02 16
Western : Manakalaya, E9 MIDC, Marol, Andheri (East) BOMBAY 400093	6 32 92 95
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