SER No	CONTENT
	LESSON PLAN **LESSON PLAN : ADV 3** **ROCK CLIMBING** Period - Five Type - Lecture -1 / Demo/Practice - 4 Code - ADV 3 Term - II / III (SD/SW) **Training Aids** 1. Computer Slides, Charts, Pointer, Black board & Chalk. **Time Plan** 2. (a) Introduction - 05 Min (b) Rock Climbing Equipment - 10 Min (c) Rock Climbing Techniques - 10 Min (d) Safety Tips - 10 Min (e) Conclusion - 05 Min **INTRODUCTION**. 3. **Rock climbing** is an activity in which participants climb up, down or across natural rock formations or artificial rock walls. The goal is to reach the summit of a formation or the endpoint of a pre-defined route without falling. Rock climbing competitions have objectives of completing the route in the quickest possible time or the farthest along an increasingly difficult route. **AIM**. 4. To acquaint NCC cadets with Rock Climbing as a part of Adventure training. **PREVIEW**. 5. The lecture will be conducted in following parts :- (a) Part I - Rock Climbing Equipment. (b) Part II - Rock Climbing Techniques. (c) Part III - Safety Tips.
(a)	**PART I : ROCK CLIMBING EQUIPMENT** 8. **A Wide Range of Equipment Is Used During Rock Climbing**. They are as follows :- (a) **Rope and Webbing**. Ropes used for climbing can be divided into two classes:- (i) **Dynamic Ropes**. These are designed to absorb the energy of a falling climber, and are usually used as Belaying ropes. When a climber falls, the rope stretches, reducing the maximum force experienced by the climber, their belayer. (ii) **Low Elongation Ropes**. Low elongation ropes are also called static ropes which stretch much less, and are usually used in anchoring systems. They are also used for abseiling (rappeling) and as fixed ropes . (b) **Webbing Or "Tape" Made Of Nylon**. When webbing is sewn or tied together at the ends, it becomes a sling or runner. Webbing has many uses such as:-

(i) Extending the distance between protection and a tie-in point.

(ii) An anchor around a tree or rock or an anchor extension or equalization.

(iii) Makeshift harnesses.

(iv) Carrying equipment (clipped to a sling worn over the shoulder).

(v) Protecting a rope that hangs over a sharp edge (tubular webbing).

(c) **Carabiners**. Carabiners are metal loops with spring-loaded gates (openings), used as connectors and they are primarily made from steel. There are two major varieties: locking and non-locking carabiners.

(d) **Quickdraws**. Quickdraws (often referred to as "draws") are used by climbers to connect ropes to bolt anchors, or to other traditional protection, allowing the rope to move through the anchoring system with minimal friction.

(d) **Harnesses**. A harness is a system used for connecting the rope to the climber. There are two loops at the front of the harness where the climber ties into the rope at the working end using a figure eight knot. Most harnesses used in climbing are pre-constructed and are worn around the pelvis and hips, although other types are used occasionally.

(e) **Belay Devices**. Belay devices are mechanical friction brake devices used to control a rope when belaying. Their main purpose is to allow the rope to be locked off with minimal effort to arrest a climber's fall.

(f) **Rappel Devices (Descenders).** These devices are friction brakes which are designed for descending ropes. Many belay devices can be used as descenders.

(g) **Ascenders**. Ascenders are mechanical devices for ascending on a rope. They are also called Jumars.

(h) **Helmet**. The climbing helmet is a piece of safety equipment that primarily protects the skull against falling debris.

(j) **Climbing Shoes**. Specifically designed foot wear is usually worn for climbing to increase the grip of the foot on a climbing wall or rock face.

(k) **Belay Gloves**. Belay gloves are constructed from either leather or a synthetic substitute. They typically have heat resistant padding on the palm and fingers.

(b) **PART II : ROCK CLIMBING TECHNIQUES**

9. A climbing technique is any type or combination of body posture , movement, or hold used in climbing. These are described as follows:-

(a) **General Terms.**

(i) **Arm Bar, Elbow Bar.** Jamming an arm into a crack and locking it into place.

(ii) **Bridging or Stemming**. Climbing a corner with the legs apart, one against each face, with the feet relying on friction or very small holds.

(iii) **Campusing**. Campusing arms. The word itself is derived from the power training done on a set of campus boards.

(iv) **Chest Jam**. Jamming the torso into a wide crack, for resting.
(v) **Chimneying**. Climbing between opposing rock faces, with the back and hands against one face, and the feet against the other face, or alternating between both.
(vi) **Crimp or Crimping**. Grabbing on to a hold with the fingertips alone.
(vii) **Dyno**. The term is an abbreviation of dynamic maneuver. Using the momentum of a movement or jump to reach a hold beyond your reach. Ideally, gravity brings the movement to a stop at the "dead point", i.e., when the hands reach the hold. When using this technique, the climber often leaves all contact with the wall.
(viii) **Egyptian**, **Drop Knee or Lolotte**. Method for reducing tension in arms when holding a side grip. One knee ends up in a lower position with the body twisted towards the other leg. It can give a longer reach as the body and shoulders twist towards a hold.
(ix) **Egyptian Bridging**. The same position as bridging, but with one leg in front and one behind the body.
(x) **Extremity Jams**. Jamming involves taking advantage of a body part in a crack for the friction it produces to support a share of body weight.
(xi) **Gaston**. Pulling sideways and outwards, akin to opening a pair of sliding doors. Normally cracks are climbed by jamming hands or fingers—or any part of the body that fits—in the crack to hold oneself.
(xii) **Heel Hook**. Using the back of the heel to apply pressure to a hold, for balance or leverage; this technique requires pulling with the heel of a foot by flexing the hamstring. This technique is notable since in most forms of climbing one uses the toes to push.
(xiii) **Laybacking**. Climbing a vertical edge by side-pulling the edge with both hands and relying on friction or very small holds for the feet.
(xiv) **Manteling or Mantel Shelfing**. Boosting upwards using only the arms and ending with arms fully extended downwards. The motion is akin to getting out of a swimming pool without using the ladder.
(xv) **No-hands Rest**. Method for resting without using the hands, such as standing on footholds, or using a knee bar (jamming a knee into a large crack).
(xvi) **Smearing**. Relying solely upon the friction of a flat surface, usually with the feet, to keep from falling. This is possible primarily due to the sticky rubber soles ubiquitously used in modern climbing shoes.
(xvii) **Toe Hook**. A toe hook is securing the upper side of the toes on a hold. It helps pull the body inwards—towards the wall. The toe hook is often used on overhanging rock where it helps to keep the body from swinging away from the wall.
(b) **Jams Using Feet**.
(i) **Foot Jam**. This technique is also known as the heel-to-toe jam. It involves jamming the foot into a larger crack by twisting the foot into place, the contact with the crack being on the heel and toes.
(ii) **Toe jam in a crack**: When the foot is too large, the toe jam is used by locking the toes into a

crack and lowering the heel down.

10. **Flagging**. Where one foot is not placed on a foot hold and the leg is held in a position to maintain balance, rather than to support weight. This is often useful to prevent barn-dooring. The flagging foot may be pressed against the wall or may simply hang in space depending on what will best maintain balance.

11. **Basic Flagging Positions**.

(a) **Normal Flag**. Where the flagging foot stays on the same side, (e.g. flagging with the right foot out to the right side of the body).

(b) **Reverse Inside Flag**. Where the flagging foot is crossed in front of the foot that is on a foot hold.

(c) **Reverse Outside Flag**. Where the flagging foot is crossed behind the foot that is, on a foot hold.

(c) **PART III : SAFETY TIPS**

12. Use the following 10 tips to keep safe when you're out rock climbing:-

(a) **Always Check Harnesses**. After you've geared up, always check that both the climber's and belayer's harness buckles are doubled back.

(b) **Always Check Knots**. Before you start climbing, always double check that leader's tie-in knot (usually a Figure-8 Follow-Through) is tied right and finished with a backup knot. Also check that the rope is threaded through both the harness waist loop and the leg loops.

(c) **Always Wear a Helmet**. A climbing helmet is essential if you want to live long and prosper. Always wear one when climbing or belaying. Helmets protect your head from falling rocks and from the impact of falling.

(d) **Always Check the Rope and Belay Device**. Before you lead a route, always double check that the rope is properly threaded through the belay device. Also, always make sure the rope and belay device are attached with a locking carabineer to the belayer's harness.

(e) **Always Use a Long Rope**. Make sure your climbing rope is long enough to reach the anchors and lower back down on a sport route or to reach a belay ledge on multi-pitch routes. When sport climbing, if you have any doubt that the rope is too short, always tie a stopper knot in the tail end to avoid being dropped to the ground.

(f) **Always Pay Attention**. When you're belaying, always pay attention to the leader above. He's the one taking the risks of a fall. Don't visit with other climbers at the base, talk on a cell phone, or discipline your dog or kids. Never take the leader off belay unless you are absolutely certain he is tied in and safe and he communicates that to you.

(g) **Always Bring Enough Gear**. Before you climb a route, always eyeball it from the ground and determine what you need to bring. You know best. Don't rely strictly on a guidebook to tell you what to bring. If it's a sport route, verify visually how many bolts need quick draws. If in doubt—always bring more than you think you need.

(j) **Always Climb With the Rope Over Your Leg**. When you're leading, always make sure the rope

is over your leg rather than between them or behind one. If you fall with the rope in this position, you will flip upside down and hit your head. Wear a helmet for protection.

(k) **Always Properly Clip the Rope**. Make sure you always clip your rope through carabineers on quick draws correctly. Avoid back clipping, where the rope runs front to back rather than back to front in the carabineer. Make sure the carabineer gate faces opposite your direction of travel, otherwise the rope can come unclipped. Always use locking carabiners on important placements.

(l) **Always Use Safe Anchors**. At the top of a pitch or route, always use at least two anchors. Three is better. Redundancy keeps you alive. On a sport route, always use locking carabineers if you‘re lowering down to top-rope off the anchors.

CONCLUSION

13. Rock climbing is a physically and mentally demanding sport, one that often tests a climber's strength, endurance, agility and balance along with mental control. It can be a dangerous sport and knowledge of proper climbing techniques and usage of specialized climbing equipment is crucial for the safe completion of routes. Because of the wide range and variety of rock formations around the world, rock climbing has been separated into several different styles and sub-disciplines. While not an Olympic event, rock climbing is recognized by the International Olympic Committee as a sport.