# UNIT-8 ADVENTURE AND OBSTACLE TRAINING

| Knowledge | Understanding | Application Skills | Evaluation |
|---|---|---|---|
| Outdoor adventures:<br>i. Para sailing<br>ii. Rock climbing | The students will develop courage, self-confidence, determination and control. | The students will imbibe a sense of adventure. | Mock exercises |
| Practical training to overcome the physical barriers. | They will understand how to win in such a situation. | Students will be able to perform the task during obstacle training. | Training on standard obstacles. |

Adventure activities have been incorporated in NCC training with the aim of inculcating and strengthening leadership traits among the cadets. These activities in NCC can be broadly divided into:

1. Land Based: mountaineering, rock climbing, trekking.
2. Water Based: sailing expedition, white water rafting, scuba diving, river crossing.
3. Air Based: parasailing

Parasailing is also known as 'parascending' or parakiting, is a recreational kiting activity where a person is towed behind a vehicle or a boat while being attached to a specially designed canopy wing that reminds one of a parachute, known as parasail wing. On land or over water, the manned kite's moving anchor may be a car, truck or a boat. Parasailing just by kiting in heavy winds should be discouraged. The vehicle pulling the parasail should have enough pulling power. The 'parascender' has little or no control over the parachute.

*Parasailing*

There are six parts to a parasail. The harness attaches the person to the parasail, which is connected to the vehicle by the tow rope. The sport should not be confused with

paragliding. The first international competitions were held in the mid 80's and they continue.

## Parasailing Gear

One of the most popular recreational activities today. If you have researched parasailing and you have decided that this is something that you would like to pursue there are many details that you should know prior to making your first launch. One of the most important things that you should consider is the appropriate gear that is involved to perform in parasailing activities. It is also important to have the will and nerve to take the first launch in parasailing. However, with appropriate parasailing gear, parasailing can be easy for anyone who wishes to pursue it. Parasailing gear include:-

*An NCC cadet shows off his/her parasailing skills*

(a) The clothes that you choose to wear while performing this activity. While you have the freedom to wear whatever you want, it is very important that you select clothing that is comfortable and easy to manoeuvre in. You can buy jumpsuits and clothing that are appropriate for parasailing.

(b) Another important piece of parasailing gear is the actual paraglide. Basically, this is a parachute that has the added features of a bar that can be used to help you fly effectively in parasailing.

(c) When you perform in parasailing activities, you should have a harness that you strap that will attach you to the paraglide. This way, if you slip or lose contact with your hands, the harness will hold you in place.

(d) A pair of gloves is necessary to hold the paraglide to ensure that your hands are protected while you are parasailing.

(e) A helmet is necessary during parasailing. Many accidents can occur and it is extremely important to wear a helmet. The head should be properly protected.

(f) Ensure that the boat that is pulling you along in the air has a experienced driver and the correct amount of fuel. It is important that the boat that pulls you while you are parasailing is sturdy, dependable and is fuelled.

(g) It is important that you make sure that the proper gear is in order. Ensuring preparation and safety, is the single most important aspect of parasailing gear.

(h) The parasailing equipment mainly consists of a glider, which in its inflated firm offers resistance to the wind and the air, Then there is a harness which is attached to the paraglide and the pilot for safety purpose. A helmet and an extra parachute provided for the safety and emergency landing of the pilot, a Variometer is the main instrument for gauging the ascent and the descent of the pilot.

## Types of Parasailing and Parasailing Safety Tips

(a) **Winch Boat Parasailing:** In this parasailing, the ascent and descent of the parasail or takes place from the boat itself. The boat in the sea is well equipped with parasailing equipment's. It has a parasail inflation system and hydraulic winch powered by the main drive engine, these two help in launching and retrieving the parasail from the flight deck.

(b) **Beach Parasailing:** As the name suggests, the beach is the main ground for the ascent and descent of the parasail. It is much more complicated than parasailing. Even the most experienced parasailors need to seek prior permission.

*A cadet prepares for the parasailing training on the Muzhappilangad beach*

(c) **Platform Parasailing:** In this parasailing, one flies under the winds which are below 5 to 15 mph, away from the rough ocean and poor weather conditions and other objects in proximity.

**Safety tips: given by the Parasail Safety Council are**

(a) **Licensing:** Make sure you parasail with a fully licensed (state and local) company operating from a well-established location insured by a licensed insurance company. Don't pay for your ride on the boat. This operator may not have a license or be insured.

(b) **Established Operators:** Only parasail with established business operators. Ask how long they have been in business, if there business permits are current with the city and if the operator on-board is a licensed Captain.

(c) **High Winds:** Avoid parasailing in high wind conditions (over 15 knots at sea level) due to an increased difficulty and complications during emergency water landings.

(d) **Visibility**: Never go up in rain, fog or an approaching storm.

(e) **Passenger Age and Weight Restrictions:** Parasailing is not recommended for individuals under the age of 16 or exceed 300 lbs.

(f) **Types of Equipment:** Make certain that you get adequate safety briefing prior to your flight. This safety briefing should include, a) a description of the activity itself, b) safety procedures in the event of an unexpected emergencies, c) the proper use of signals, while landing fire or capsizing e) precluding any participant who appears to be afraid or intimidated prior to his/her aerial excursion.

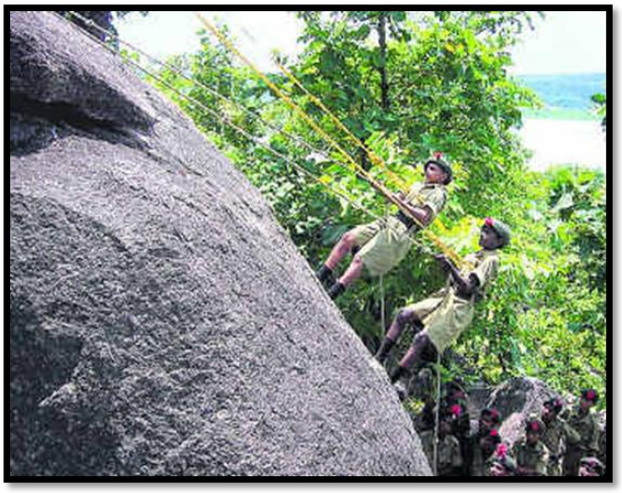
(g) **Altitude:** Parasailing at an altitude of more than 600 feet is discouraged, especially in close proximity to the shoreline or other objects. The recommended altitude for using hand signals and recovery during water landings over open ocean is 600, and 300 feet over small lakes bays or sounds (figures based on ideal wind and sea conditions with limited traffic).

(h) **Ask Questions:** Ask all the right questions: How long have you been in business? Do you have Insurance by a licensed agent in this state? Is it a good flying weather today?

(i) **Release Form:** Read the release form carefully before you sign it. Parasailing does have physical requirements, especially in the event of a water landing.

## Rock Climbing

**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.



*NCC cadets climb a rock as part of training*

### Rock Climbing Equipment


*Rock Climbing Equipment*

## A wide range of equipment is used during rock climbing

(a) **Rope and Webbing**:

(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 bilayer.

(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 (rappelling) 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.

**Uses:**

(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 (as 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.

(e) **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.

(f) **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.

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

(h) **Ascenders**: Ascenders are mechanical devices for ascending on a rope. They are also called jumars.

(i) **Helmet**: The climbing helmet is a piece of safety equipment that primarily protects the head from 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.

### Rock Climbing Techniques

A climbing technique is any type or combination of body posture, movement, or hold used in climbing.

(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 to 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 usually 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.

**(c) 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 best maintains balance.

### 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.

### Ten Safety Tips

(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 who is the one taking the risks of a fall. Don't visit with other climbers at the base, talk on a cell phone, or call out instructions. Never take the leader off belay unless it is absolutely certain that the leader is tied in and safe and communicates that to you.

(g) **Always Bring Enough Gear**: Before climbing a route, always eyeball it from the ground and determine what is needed. You know best. Don't rely strictly on a guidebook 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 the Leg**: When leading, always make sure the rope is over your leg rather than between them or behind one. If falling with the rope in this position, flip upside down and hit the head. Wear a helmet for protection.

(k) **Always Clip the Rope Properly**: Make sure that the climber is always clipped to the 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 the climber's 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 the climber alive. On a sport route, always use locking carabineers if lowering down to top-rope off the anchors.

**Obstacle Training Course:** The training in negotiating the obstacles by NCC cadets is a very important aspect of NCC curriculum. The obstacle course training not only makes the cadets physically tough but develops a very high degree of confidence and inculcates the qualities of patience and courage to face challenges.

**Obstacle Course:** The Standard Obstacle Course that the NCC cadets are required to negotiate consists of ten obstacles. The obstacles, depending upon the structure are constructed of wood, bricks, concrete and mud. Each obstacle is placed at a distance of about 30 feet from each other. The details of each obstacle course are:

(a) **Straight Balance** It is a wooden plank of 3 inches thickness, 4 inches width and 12 feet in length, which is 1 ½ feet above ground level. A cadet crosses this obstacle running, keeping his/her arms open and balancing the body.

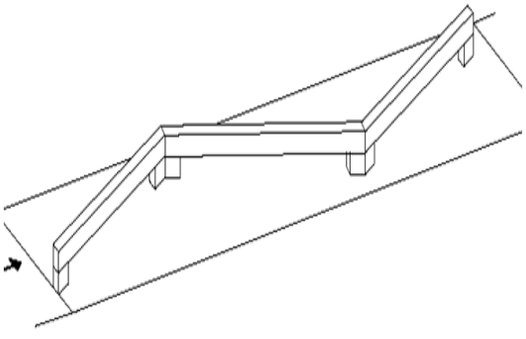
*Straight Balance*

(b) **Clear Jump**: Its structure is just like a straight beam. This wooden beam is 2 ½ feet from the ground. The cadet has to jump over it without touching or using any part of the body.

*Clear Jump*

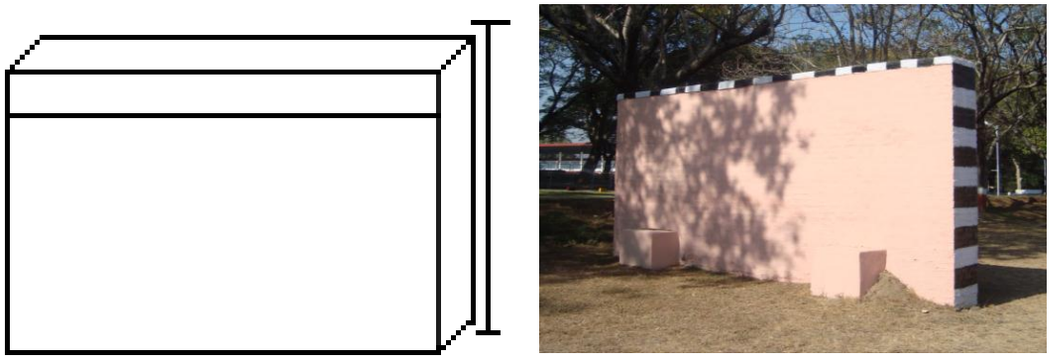
*National Cadet Corps cadets displaying their skills at a training facility for 'Obstacle Course'*

(c) **Zig-Zag Balance**: A z ig-zag a structure of wooden beam 18 feet long, with 3 inches wide and 1 ½ feet above the ground, and is constructed in a zig-zag manner. The cadet has to cross the obstacle lengthwise with open hands and balancing the body similar to straight balance.



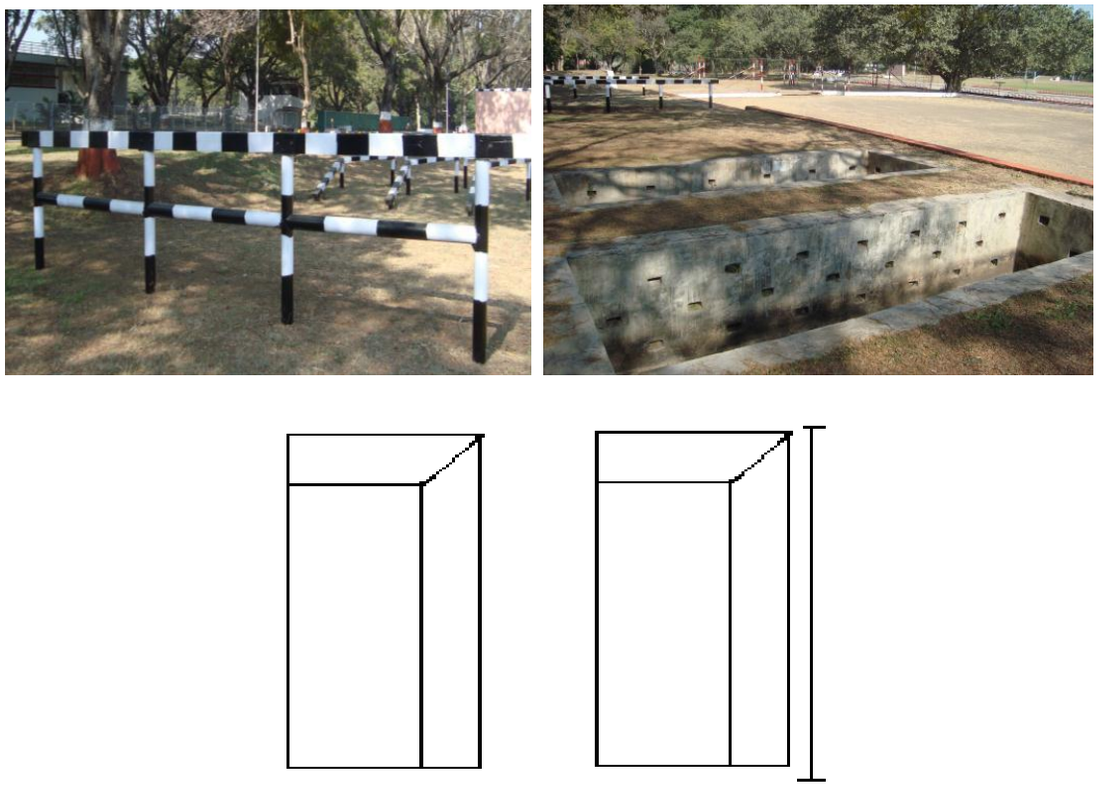
*Zig Zag Balance*

(d) **High Wall**: It is a 6 feet high and 12 feet long brick wall with plaster on both sides. For crossing this obstacle, a cadet has to run, jump, kick the wall with one leg and take leap putting both hands on the wall and then push his body upwards and jump over the other side.



*High Wall*

(e) **Double Ditch**: The obstacle is composed of two ditches each of approximately 6-8 feet in length, 4-5 feet wide and 3-4 feet deep separated by a small gap of approx 9-12 inch. The Cadet have to jump across the two ditches by jumping over the first ditch, placing one foot on the gap and jumping across the second ditch.



*Double Ditch*

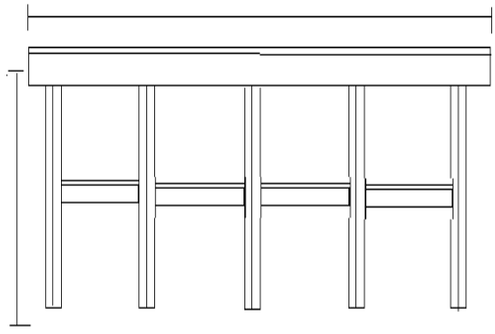
(f) **Right Hand Vault**: This wooden structure is 3 ½ feet above the ground and 1 ½ feet long. The cadet is required to jump over using the right hand as support on the beam, throwing both legs up and jumping across.

*Right Hand Vault*

(g) **Left Hand Vault**: This wooden structure is 3 ½ feet above the ground just like the Right Hand Vault. The Cadet is required to jump over using the left hand as support on the beam, throwing both legs up and jump across.

*Left Hand Vault*

(h) **Gate Vault**: This is a wooden structure which has two beams at the height of 3 feet and 5 feet respectively, both 18 feet long. One has to cross the gate by holding the upper beam with both hands and by putting one's feet on 3 feet gate and jumping across.

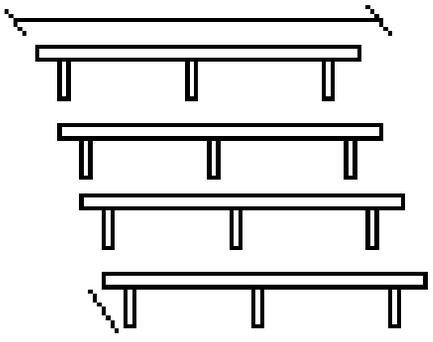


*Gate Vault*

(i) **Ramp**: 15 feet long, 18 feet wide and 4 ½ feet high sloppy hillock. For crossing it, a cadet has to run in and climb over the ramp and take long jump after reaching the top and landing on a pit on both feet.

*Ramp*

(j) **Straight Balance:** It is a wooden plank of 3 inches thickness, 4 inches width and 12 feet length, which is 1 ½ feet above ground level. A cadet crosses this obstacle running, keeping his/her arms open and balancing his/her body.



*Straight Balance*

**Safety Measures:** Following Safety Measures must be ensured during the conduct of Obstacle Course training to cadets

(a) Suitable and physically fit cadets only to be selected.

(b) Training at first in PT dress and later, with packs and weapon.

(c) Emphasis to be given on closing of individual timings and later team timings.

(d) Wet and slippery obstacles and area to be avoided.

(e) Obstacles to be done under the supervision of qualified instructors and correct technique to be used.

(f) Arrangement for first aid to be ensured.

**Benefits:** Benefits of obstacles course training:

(a) Physical fitness.

(b) Agility

(c) Mental robustness.

(d) Coordination and balance of mind and body.

(e) Improves risk-taking ability.

(f) Evaluating problem-solving skills.

(g) Over all team spirit.

**Demonstration:** The demonstration will be given by a trained cadet under the supervision of PI Staff.

*Training Activities*

## SUMMARY

*Adventure activities have been incorporated in NCC training with the aim of inculcating and strengthening leadership traits amongst the cadets. These activities in NCC can be broadly divided into following:*

- *Land based*
- *Water based*
- *Air based*

*A special parachute with wing like extensions that lifts a rider in its harness up and through the air when towed by an automobile or motorboat gives an absolutely thrilling experience. It also instils adventurous spirit and develops courage to face the challenges.*

*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.*

***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.*

***Basic flagging positions:***

- *Normal flag*
- *Reverse side flag*
- *Reverse outside flag*

***Ten Safety Tips***

*Always;*

- *Check harnesses*
- *Check knots*
- *Wear a helmet*
- *Check the rope and belay device*
- *Use a long rope*
- *Pay attention*
- *Bring enough gear*
- *Climb with the rope over the leg*

- *Clip the rope properly*
- *Use safety anchors*

*The obstacle course is a training to make the NCC cadets physically fit and mentally robust. Obstacle training infuses courage, patience and makes them physically fit.*

*(a) Straight balance*

*(b) Clear jump*

*(c) Zig-zag balance*

*(d) High wall*

*(e) Double ditch*

*(f) Right hand vault*

*(g) Left hand vault*

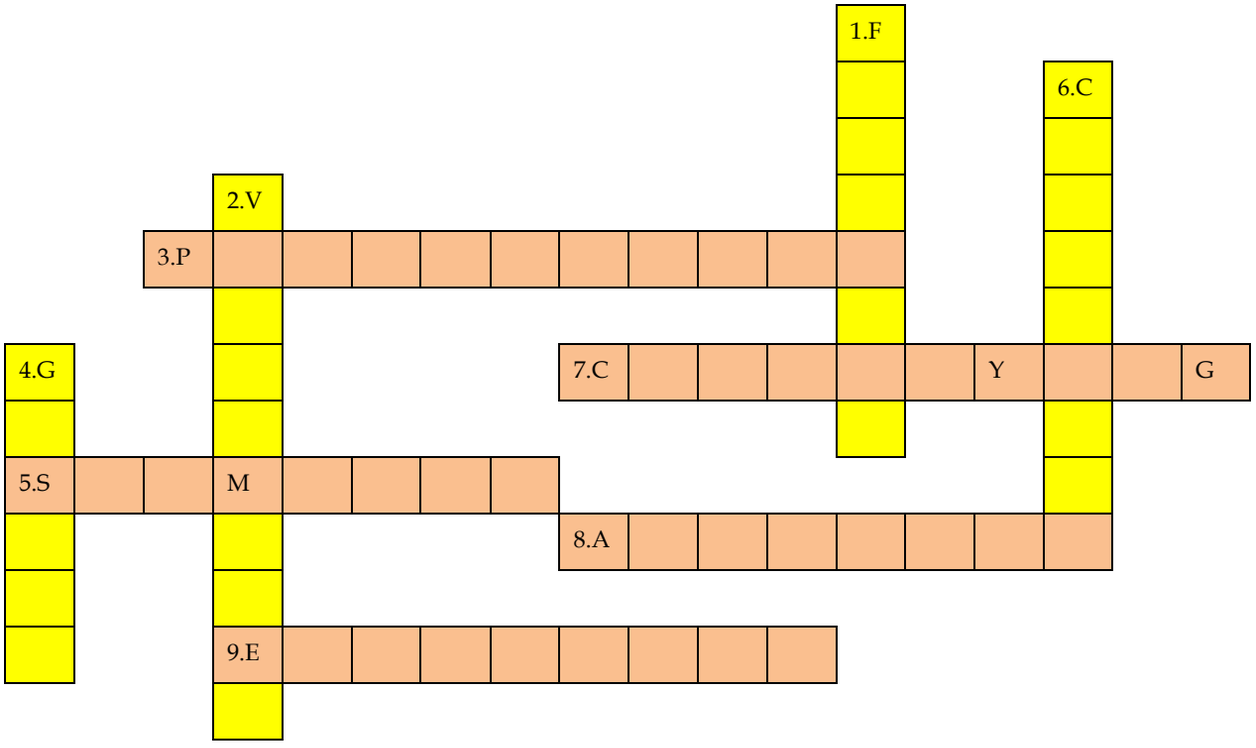
*(h) Gate vault*

*(i) Ramp*

*(j) Straight balance*

## CROSSWORD PUZZLE – 8

**Solve the crossword with the given clues:**



**Across:**

3. Also known as parascending or parakiting
5. Also known as bridging, climbing a corner with the legs apart, one against each face, with the feet relying on friction or very small holds.
7. Climbing between opposing rock faces, with the back and hands against one face, and the feet against the other face, or alternating between both.
8. Mechanical devices for ascending on a rope, they are also called Jumars.
9. This type of jamming involves taking advantage of a body part in a crack for the friction it produces to support a share of body weight.

**Down:**

1. The following are normal _____ positions: Normal Flag, Reverse Inside Flag, Reverse Outside Flag
2. The main instrument for gauging the ascent and the descent of the pilot.
4. Pulling sideways and outwards, akin to opening a pair of sliding doors.
6. Metal loops with spring-loaded gates (openings), used as connectors and they are primarily made from steel.

## Comprehension Questions

**Q1. Answer the following in about 15 words:**

(i) What are the other terms used for parasailing?

(ii) When were the first parasailing international competition held?

(iii) What is the appropriate wear for parasailing?

(iv) What do you understand by platform parasailing?

(v) What is a variometer? What is it used for?

(vi) What is rock climbing?

(vii) What is the goal of rock climbing?

(viii) What is the objective of rock 'climbing competitions'?

(ix) What do you understand by climbing technique?

(x) What are 'belay gloves'?

(xi) How many obstacles are there in the standard obstacle course?

(xii) What is a clear jump?

**Q. 2. Answer the following in about 50 words:**

(i) Which three types of parasailing are the most popular in India? Explain.

(ii) What does the parasailing equipment mainly consists of?

(iii) What types of ropes are used for rock climbing?

(iv) Explain the following terms

a) Extremity

b) Chest jam

c) Chimneying

(v) What are the basic flagging positions?

(vi) What are the different uses of webbing in rock climbing?

(vii) What is the difference between belay devices and rappel devices?

(viii) Write a note on 'winch boat parasailing'?

(ix) What things should you consider before making your parasailing launch?

(x) Write about the three types of vaults?

(xi) Write about any two obstacle courses?

**Q.3. Answer the following in about 75 words**

(i) Write about the parasailing equipment?

(ii) What is parasailing gear? Describe any four.

(iii) What are the benefits of obstacle courses?

(iv) How do you differentiate between right hand vault and left hand vault?

**Q.4. Answer the following in about 150 words**

(i) Write in detail about the gear required to parasail?

(ii) What are the safety tips advised by the Parasail Safety Council? Explain any five of them?

(iii) Explain any five pieces of equipment used in rock climbing?

(iv) Explain any five climbing techniques?

(v) What safety measures must be ensured during the conduct of an 'obstacle course' training for cadets?

**Q.5. Answer the following in about 250 words**

(i) Write about any six safety tips to keep you safe during rock climbing?

(ii) Write in detail about the safety tips advised by the Parasail Safety Council?

(iii) Write in detail about the different types of obstacle courses?

## Let's Discuss

**Q.6. HOTS (Higher Order Thinking Skills)**

(i) *"Rock climbing is a physically and mentally demanding sport"*. Explain the statement in light of how rock climbing can slope one's personality

(ii) How does rock climbing develop leadership traits? What are the traits?

(iii) *Obstacle training prepares cadets to face challenges of life*. How far do you agree with the statement? Support your answer with suitable example

(iv) What values did you learnt or reflect on during the performance of various obstacle courses? Discuss any four.

## Values Based Question

(i) What values did you learn or imbibe during the performance of various obstacle courses? Discuss any four values.

## Activities

(i) A group of students from your school wish to join NCC. Tell them about the obstacle training course and obstacles you have learnt to overcome?

(ii) NCC cadets are given intense training to overcome obstacles. Make models of any two obstacles you have learnt using waste material.