Basic Climbing Final Exam Study Guide

Snow Travel

1. Identify the parts of the ice axe.
2. Describe how to properly carry an ice axe.
3. Describe the two principal ways to grasp an ice axe, and understand when you would use each.
4. Understand the basic techniques of snow travel: rest step, kicking steps, direction of ascent, traversing, plunge stepping, glissading, and "climbing in balance." When would you use each.
5. Discuss safety considerations in snow travel.
6. Explain the main purpose of self-arrest. What is the key to successful self-arrest.
7. Describe the basic self-arrest position. Note the position of the ice axe.
8. Explain/ understand when it is time to rope up on a snow climb, when not to rope up on a snow climb.
9. Describe where to place the weakest/least skilled climber on a rope team.
10. Explain what the minimum recommended number of rope teams would make up a climbing party on a glacier, and why.
11. Explain how to tie in at the different positions on a rope team.
12. Understand the various techniques used to stop a fall.
13. Explain how to set up a snow camp.

Mountain Weather

1. Identify several regional weather patterns and explain their effect on local mountain weather.
2. Describe cloud cover clues for Northwest weather.
3. Explain how and when to gather weather information prior to a climb. Identify the resources you would use.
4. Explain what to do if you are caught out in a thunderstorm with lightning.
5. What can an altimeter measure besides elevation change?

Avalanche Awareness

1. Identify two types of avalanches.
2. Describe how the terrain, weather, and snowpack influence the potential for avalanches. What is safe snowpack (features/characteristics) to travel on.
3. Describe what precautions should be taken when crossing a potentially dangerous slope.
4. Explain what to do if you are caught in an avalanche.
5. Explain what to do if someone in your party is caught in an avalanche.
6. Describe weather factors that lead to avalanche danger.

Snow Camping and Shelters

1. Describe the type of shelters that can be used for a planned/unplanned snow overnight. (understand how they should be built)

2. Describe a plan of action if the weather deteriorates and you are unable to return to the trailhead.
3. Explain what you can do to prepare yourself to survive an unplanned bivouac.

Health and Nutrition

1. Explain the importance of adequate fluid intake and the effects of dehydration.
2. Name three types of waterborne pathogens.
3. Describe the principal methods of water purification in the backcountry.
4. List the symptoms of giardia and how it is treated.
5. Name the three major food components:
    a. the percentage of total calories consumed each should be.
    b. How easily they convert to energy for the body to use
6. Describe the rules of safety when using a stove (fuel storage, lighting, and cooking in a tent).
7. Understand how to keep blood sugar steady while climbing.

Safety and First Aid

1. Name the contributing factors to mountaineer accidents.
2. Explain the difference between objective and subjective mountain hazards and give examples.
3. Explain the objectives of risk assessment.
4. Differentiate heat exhaustion from heat stroke. How would you treat each?
5. List the signs and symptoms of hypothermia. Describe how to prevent hypothermia.
6. List three physical ailments related to climbs in higher altitudes. Describe the signs and symptoms of each and explain the treatment or how to avoid.
7. Describe how to identify if a blister is starting and how to treat blisters.
8. List the seven steps of accident response in order.
9. Explain what you would do for an unconscious fallen climber.

Mountain Rescue

1. Describe what to do if an accident or illness requires an evacuation with outside help.
2. When two climbers are sent out for help, what information should they take with them?
3. Describe who you would call for assistance if a party member requires evacuation in a National Park, or outside a National Park.
4. Describe how you would protect an injured person from heat loss on snow.
5. Explain the safety precautions to take during a helicopter rescue.

Rock Climbing Techniques

1. List potential rock climbing hazards, objective and subjective.
2. Identify the climbing signals and command phrases.
3. Name at least two reasons why you should wear a helmet.

4. Identify three ways to conserve energy when climbing (climb with your feet, climb with your eyes, and three-point suspension).
5. Name two techniques utilized for footholds.
6. Discuss the following terms as related to face climbing:
    a. Down pressure
    b. Mantel
    c. Counterforce
    d. Underclinging
    e. Stemming
    f. Lieback
    g. Counterbalance
7. Describe how to check rock holds for soundness.
8. Explain the basic technique used in crack climbing.
9. Explain how to safely exit onto a ledge.
10. Describe what is meant by "down climbing" as well as when and how it is used.
11. Explain what is meant by the term "pitch."
12. Describe the correct way to clean a pitch, what tools should be used.
13. Describe 4 belay device or systems. (rock and/or snow)
14. Describe how to select a belay spot/position
15. What could you use/do if you lost/dropped your belay device.
16. Describe 3 things on a rock climb a belayer could be anchored to safely
17. Name items that can fail in an anchor/belay system
18. What should you do if you come across a small loose rock.

Rappel Techniques

1. Name the four basic elements of the rappel system.
2. Draw out/explain how to set up an extended rappel.
3. Explain what the carabiner break rappel set up looks like
4. Describe where/how the autoblock would be set up for the 2 different types of rappels.
5. Describe a "bombproof" anchor to be used for rappel.
6. List things that could potentially be pulled into the brake system.
7. What safety methods are used to prevent rappelling off the ends of the rope?

Glacier Travel and Crevasse Rescue

1. Name five common glacier hazards.
2. Explain equipment you would carry on a glacier climb.
3. Explain the first rule of safe glacier travel.
4. Explain the term "rope management" as related to glacier travel,
5. Why should the rope be relatively taut between climbers?
6. List the important tips for detecting crevasses.
7. Explain the purpose of snow probing as related to glacier travel.
8. Describe several ways to cross a crevasse field.
9. List the steps in a successful rescue beginning with the moment a fall is stopped.

10. Describe the three methods used to haul a victim out of a crevasse. Identify the pros and cons of each.
11. Identify the components of the z-pulley system.
12. Describe how to prevent the rope from entrenching on the lip of a crevasse.

Types of snow anchors:

1. Picket
2. Deadman
3. Bollard

Ten Essentials

1. Navigation
2. Sun Protection
3. Insulation
4. Illumination
5. First Aid Supplies
6. Fire
7. Repair Kit and Tools
8. Nutrition
9. Hydration
10. Emergency Shelter

MOFA Steps

1. Take Charge of the Situation
2. Approach the Patient Safely
3. Perform Emergency Rescue and Urgent First Aid
    a. Airway, Breathing, Circulation, Deadly Bleeding
4. Protect the Patient
5. Check for Other Injuries
6. Make a Plan
7. Carry Out the Plan

Crevasse Rescue Steps and gear

1. Arrest the fall
2. Set initial anchor
3. Check on fallen climber
4. Make a plan
5. Carry out plan

Climbing Code

1. A climbing party of three is the minimum, unless adequate pre-arranged support is available. On glaciers, a minimum of two rope teams is recommended.
2. Rope on all exposed places and for all glacier travel. Anchor all belays.
3. Keep the party together, and obey the leader or majority rules.
4. Never climb beyond your ability and knowledge.

5. Never let judgment be overruled by desire when choosing a route or turning back.
6. Carry at all times the clothing, food, and equipment necessary.
7. Leave the trip schedule with a responsible person. – what information should you leave.
8. Follow the precepts of sound mountaineering as set forth in textbooks of recognized merit.
9. Behave at all times in a manner that will not reflect unfavorably upon mountaineering.

Knots – know how to tie, and how/when to use

1. Girth Hitch
2. Water Knot
3. Figure 8 Loop (Figure 8 on a bight)
4. Rewoven Figure 8
5. Single Bowline
6. Double Fisherman's Knot
7. Prusik Knot
8. Clove Hitch
9. Munter Hitch
10. Bowline on a Coil
11. Alpine Butterfly
12. Bachmann Knot
13. Flat Overhand Bend

Clothing/Layering

- clothing systems/layering – how and why
- why should you wear synthetic/wool vs cotton
- for 10 E's – describe extra clothing to bring
- crampons – when should you determine fit