

Advanced Search & Rescue Chapter Review Questions

Chapter 1 – Incident Command System Management

1. The manageable span of control for the Incident Command System is: **5 to 1**
2. The 5 functional sections of the Incident Command System are: **Command, Operations, Plans, Logistics, and Finance**
3. Staging areas are under the control of the **Operations** Section Chief.
4. The **Planning Section** is responsible for developing the Incident Action Plan.
5. The ICS forms that make up the Incident Action Plan include: **202 – Incident Objectives, 203 – Organization Assignment List, 204 – Assignment List, and may include 205 – Incident Radio Communication Plan, 206 – Medical Plan, 214 – Unit Log**
6. ICS form 214 is also called **Unit Log**.
7. The three status conditions used for resources are: **Available, Assigned, Out of Service**
8. **The Incident Commander** is responsible for determining the Incident Objectives.
9. ICS Form 206 is developed for who **personnel assigned by the Medical Unit Leader**.
10. The number of personnel and equipment that can be assigned is a definition of a **Single Resource**.
11. Differing types of resources with common communications and a leader that are assembled for an assignment is a definition of a **Task Force**.
12. Same type resources with common communications and a leader assembled for an assignment is a definition of a **Strike Team**.

Chapter 2 – Small Unit Leadership

1. List at least five of the sixteen Leadership Traits for small unit leaders: **courage, bearing, decisiveness, dependability, endurance, enthusiasm, humility, humor, initiative, integrity, judgment, justice, knowledge, tact, loyalty, selflessness**
2. List at least six of the eleven Principles of Leadership: **self-improvement, knowledgeable and tactically efficient, seek responsibility and take responsibility, make sound and timely decisions, set the example, care about the people you lead, share information, create responsibility in your crew members, task orientation: instruct, supervise and support, create a team, match the crew to the assignment**
3. Reviewing common responsibilities, reviewing assignments and monitoring work progress are all part of the tasks outlined in the: **NIMS Field Operation Guide ICS 420-1**.
4. **Conflict Management** is considered outdated, designed for inexperience and untrained personnel, and task oriented.
5. **Situational Management** is considered flexible and adaptable.
6. List at least six of the eight supervisory techniques: **communication, teamwork, involvement, initiative, positive supervision, set standards, control measures, performance feedback**.

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7. **Social acceptance and prestige as part of a group** have been determined by social scientists to be the most important in satisfying the wants and needs of personnel.
8. List five motivations: **care about your subordinates; be aware of your own biases and prejudices; give praise when appropriate; take responsibility for others; build independence; exhibit personal diligence; be willing to learn from others; demonstrate confidence; encourage ingenuity; delegate, delegate, delegate**
9. List Five demotivators: **never belittle a subordinate; never criticize a subordinate in front of others; never play favorites; never take all the credit, share it with your crew; never lower your personal standards; never fail to help your subordinates grow, fight for them**
10. One who is charged with the responsibility of accomplishing an assignment through the efforts of others is a definition of **a leader**.

Chapter 3 – Small Unit Leadership

1. List the four parts of a physical fitness program: **strength, agility, flexibility, endurance**
2. The recommended caloric intake for working individuals on a SAR mission is: **3700**
3. Foods to be consumed during missions should include: **fats, carbohydrates, protein**
4. Using checklists is a good way to help increase **mental** conditioning
5. Before beginning any fitness program **consult a medical doctor and explain to them the physical conditioning program on which you are about to partake.**
6. The use of books, games, music, etc are important outlets for searchers combating **mental fatigue.**

Chapter 4 – Crew Safety

1. List the five steps that a Crew Leader should take to assure that the crew does not become a part of the incident: **Maintain the attitude that everyone is coming back from the mission; Pre-plan with your crew your evacuation plan should the weather deteriorate, someone is injured or conditions become too hazardous to continue; Pre-plan with the ICP your evacuation plan; Make certain you know where your crew members are located in your assigned area; and Make certain the ICP is aware of your crew's location and check in regularly.**
2. List the three steps that a Crew Leader should take to prepare the crew for weather emergencies: **Do a pack check to assure members have adequate clothing and gear for the conditions; Obtain the latest weather reports for the area; and Pre-plan with your crew and the ICP what your course of action will be if the weather deteriorates to the point that continuing the assigned mission will be too hazardous for your assigned personnel.**
3. Define a Micro-burst: **a high speed down draft of cold air.**
4. List the steps that should be taken by the Search Crew when caught in a lightning storm in the outdoors: **Seek a vegetated area that is relatively uniform in height; Avoid pine trees; discard any metal objects that you might be carrying; Seek shelter in a**

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- building that is well grounded; Seek shelter in a vehicle; Stay dry; and Avoid low lying areas where water will collect from the runoff of the rain.**
5. List the three Cold Weather Emergencies: **Hypothermia, Frost Nip and Frost Bite**
 6. List the four clothing layers used for thermo-regulation in cold environments: **Underwear, Clothing, Insulation and Shell.**
 7. List three steps that can be taken to avoid Cold Weather Emergencies: **Use the layer method for clothing; Assess your crew members regularly to assure that they are staying warm; and fluid replacement.**
 8. List four Steps that could be taken to rewarm individuals that are affected by the cold: **Remove the individual from the elements to as warm a place as possible; Attempt to warm the individual or areas effected from within with warmed drinks containing sugar; If you do add heat make certain that the water is not too hot no hotter the 103-104 degrees warm to touch; and Once the individuals are affected by the cold they must be removed from the search as they will be more susceptible to the effects of cold later.**
 9. List the three Heat Emergencies: **Heat Cramps; Heat Exhaustion; and Heat Stroke**
 10. List three steps that could be taken to avoid heat emergencies: **Assure that everyone on your crew has two liters of water; stop to rest frequently and assure everyone is drinking water; and Crew members should void at least twice during a 12 hours period.**
 11. How much water should the Crew Leader Assure is available for the Search Crew: **One gallon of water per person per day more if exerting.**
 12. Define the following for Forest Fires: Fire Storm – **Occurs when the configuration grows to the point that it will create its own weather patterns.** Crowning: **when fire is fanned by wind and reaches temperatures that burn green vegetation the fire will move into the tops of the trees.**
 13. What three steps might be taken when encountering a Forest Fire in the wilderness: **Vacate the area; Keep ICP updated on you locations so you can be quickly evacuated; Move your crew upwind of the fire location; and Know the prevailing wind patterns in your assigned area.**
 14. List the three steps that should be taken when preparing for a search during hunting season: **Be aware of the hunting season in progress in the search areas; Wear bright easily seen clothing; and Be constantly aware of your surroundings and environment know whether you are searching in a hunting area or if there is potential for hunters to be in the area make your presence known.**
 15. List the steps that should be taken by the Search Crew when they believe that poaching might be occurring in their search area: **Be aware of your surroundings and environments; If you find signs leave the area immediately do not disarm traps; and Back track the same route by which you arrived to minimize activating any other traps that may be laid out in the area.**
 16. When might a SAR crew have the lawful right to enter a structure without obtaining the owner's permission: **Searcher should have probable cause to believe that it is more likely than not that the victim is inside the structure and know that the victim is in immediate danger.**

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17. List the steps that should be taken when confronted by an angry property owner who demands that you leave the property: **Explain that you did not know it was their property or how to contact them; Make an effort to explain your purpose for being on the property; and Endeavor to obtain permission to continue the search.**
18. List the steps that should be taken when there is suspicion of drug production activity: **Beware of the potential for this type of activity in your search areas; If there is a likelihood of this type of activity being in your search area, carefully weigh the risk/benefit factor; Fully brief your crew; and Pay constant attention to your surroundings.**
19. List the steps that should be taken when locating a drug production area during a search: **Touch nothing as it may be booby trapped; Immediately leave the area by the same route you arrived; and Notify Incident Command.**
20. What should the SAR Crew Leader know ahead of time to avoid aggressive behavior from the wildlife that might be encountered in the field: **Breeding and/or birthing seasons for the animal, males are more aggressive during breeding season and females will aggressively protect their young.**
21. List three steps that should be taken to avoid contact with wild animals: **Make sufficient noise when moving through and area; Avoid coming between a mother and her young; and Staying in groups will be safer than being alone during breeding and birthing seasons.**
22. List the steps that should be taken when a Search Canine contacts a wild animal: **Quarantine until it can be determined it hasn't contracted a disease from the wild animal; keep canine away from other canines in base camp; have it evaluated by a veterinarian ASAP; and do not rely on the fact that the canine has been vaccinated because there are many strains of rabies and one vaccine will be ineffective for the strain the canine may have been exposed to.**

Chapter 5 – Ready Pack for SAR Technician I/Crewleader III

1. The ICS form **#214 Unit Log** is a new requirement for the SAR TECH I/Crewleader III ready pack.
2. What is this ICS form used for: **Recording the name of the incident, date, operational period, crew names, and times of major events during the mission.**
3. The SAR TECH I ready pack should contain enough equipment for the **Crewleader** and Crew.
4. The best way to prepare for carrying the SAR TECH I pack is to: **carry the pack in typical search terrain and become familiar with the contents and additional weight before it is required on a search.**
5. One reason for additional equipment requirements for the SAR TECH I/Crewleader III is to assure the **safety and care** of the crew.
6. List the two new items required on the first aid kit list for SAR TECH I: **Antihistamine/Benadryl, 2 pair of latex gloves, water purification tabs**
7. List four of the new items required on the Personal/Crew SAR Equipment List for SAR TECH I: **Sterno or stove, safety rope, ICS 214, extra leaf bags, safety pins**

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Chapter 6 – Maps, Symbology, and Navigation

1. List the maps that are commonly used for Search and Rescue: **planimetric, sit specific, fires service, aerial photographs, surveyor's, aeronautical charts, topographic, and orthophoto quads**
2. Topographical Maps are printed in **1:24,000** scale and **1:62,500** scale.
3. Two coordinate systems that are useful with Topographical Maps are: **Geographic Coordinate System (latitude/longitude), and Universal Transverse Mercator (UTM grid system).**
4. Coordinate positions that are reported as angular measure describes the: **Geographic Coordinate System (latitude/longitude).**
5. Coordinate positions that are reported as a measure of linear distance describes the: **Universal Transverse Mercator (UTM grid system).**
6. Positions for the geographic coordinate system are reported **north or south of the equator** first, then **east or west of the prime meridian** second.
7. Positions for the UTM coordinate system are reported **easterly position** first, the **northerly position** second.
8. Brown lines printed on the USGS Topographic map indicate: **contour.**
9. Photoverersions to USGS Topographic map are indicated by the color: **purple.**
10. Green areas on the USGS Topographic map indicate: **wooded areas.**
11. Hydrography is indicated on the USGS Topographic map by the color: **light blue.**
12. The elevation difference between adjacent contour lines describes the: **contour interval.**
13. Magnetic declination is the difference between **grid north** and **magnetic north.**
14. Direction expressed in degrees with magnetic north as the control describes an: **azimuth.**
15. Describe the method for applying a bearing from the map using GN as the control to the compass, in an area with 120 degree westerly magnetic declination: **add 120 degrees to the azimuth determined on the map.**
16. List two ways for determining a back azimuth: **turn your bezel 180 degrees from your present direction of travel and line up your magnetic north needle with your orienting arrow OR leave the bezel in its current position and rotate your body around with the compass in hand until your magnetic north needle is lined up with the opposite end of your orienting arrow.**
17. Describe the method for locating a position using resectioning: **orient your map to the terrain, look carefully at you surroundings, find a minimum of two prominent features such as a mountain, road junction that is identifiable on your map, affix your compass on the map so that the orienting lines in the center of your compass are parallel to the magnetic north lines drawn on the map, now align the edge of the compass so that it crosses over the center of the designated feature, strike a line with a marker along the edge of the compass extending from the feature toward your location. Repeat for next feature – you will now find an intersection that you have drawn between these points on you map, take your**

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available grid reading device and place it over the intersection to arrive at the coordinates you were trying to obtain.

18. Describe the right angle method for navigating around obstacles encountered in the field:
 - 1) **take a heading which is 90 degrees from your current azimuth**
 - 2) **using your new heading, accurately tally off the number of paces it takes to clearly pass beyond the extension of the obstacle**
 - 3) **turn 90 degrees and travel parallel to the obstacle until you have passed beyond it**
 - 4) **turn 90 degrees back towards the original azimuth and count off the same number of paces you tallied in step number 2**
 - 5) **turn 90 degrees in the direction away from the obstacle and continue on your original azimuth**
(add only the distance traveled in step number 3 to the distance traveled prior to reaching the obstacle)

Chapter 7 – Search Techniques and Tactics

1. Define Probability of Detection: **the probability that clues will be discovered in an assigned search segment by a specific search resource.**
2. List three factors that might affect the Search Crew's Probability of Detection: **the environment; search crews; and searcher techniques.**
3. Define scanning: **the physical process of moving your eyes, head, and body to effectively observe the surrounding environment for clues.**
4. Define observing: **the mental process of clue seeking.**
5. Searching for signs left by a subject passing through an area is referred to as: **clue awareness.**
6. List three factors that will improve clue awareness: **personal preparation (health & physical conditioning); mission preparation (acquire as much info about mission as possible); prepare for observing (concentrate on the job at hand).**
7. Dividing search segments into smaller segments and then searching the perimeters of the smaller segments to determine if the subject has moved from one segment to another is referred to as: **Binary Search Strategy.**
8. List some Passive Search Tactics: **fact finding tactics (interviewing person who saw the subject); attraction tactics (visual & audio); confinement tactics (track traps, trail blocks); electronic search equipment tactics (listening devices, night vision scopes).**
9. List some Active Search Tactics: **Speed - Hasty Search (Class I); Efficiency (Class II); Thoroughness (Class II)**
10. A small, fast moving, highly trained search crew looking for the lost subject(s) or clue(s) is what level or class of search tactic: **Hasty Team Class I.**
11. A slower, more methodical search of an area with unskilled or semi-skilled search crews working at less than critical spacing is an example of a: **Thorough Search Class III.**
12. Define Critical Spacing: **it is the distance at which a searcher can identify a certain sized clue under the then-existing environmental conditions.**
13. The method for determining critical spacing is called: **Norththumberland Raindance –**

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place object on ground; walk around it and slowly expand your distance; no longer seen that is the distance.

14. List some terrain features that would be useful for determining a route search: **roads, trails, footpaths, ridgelines, small confined valleys, hazard areas, refuges (caves, caverns, buildings, tunnels), game trails.**

15. Describe the differences between air scenting dogs and tracking/trailing dogs: **Air Scenting work off lead and follow the scent to its origin by moving in the direction where the scent is more concentrated and range moving in wide sweeps; Tracking/Trailing work on lead and follow the foot track left on the ground or vegetation they cast moving side to side.**

16. Define the following when applied to scenting canines: **Casting – moving side to side; Ranging: moving in wide sweeps.**

17. Training the scenting canine to locate only the subject belonging to the scent article is a definition of: **Scent Discrimination.**

18. In general, air moves from **cooler** areas toward **warmer** areas.

19. In general, in the mountains, air moves up-slope during the **day** and down-slope during the **night**.

20. Describe a method for securing an article which has been dropped by the subject for use as a scent article: **Do not handle; only the handler can to show the dog; use tongs and place article in a paper bag.**

Chapter 8 – Briefing and Debriefing

1. A General Briefing should include a summary of the incident's: **situation, past and present, that provides information that will help orient everyone on the search team to all facets of the incident.**

2. An Operational Briefing gives instructions to: **Search Crews, Task Forces, and Strike Teams having primary involvement and assignment of a mission during a search.**

3. The Operational Briefing will usually be conducted by the **Crewleader.**

4. List the five parts of the Operational Briefing: **Situation – what has happened, what is happening and what is expected to happen; Mission – task assignment what the unit is assigned to do; Execution – detail plan of how the unit will accomplish the assignment; Administration and Logistics – equipment and support; and Communications and Command – procedures and information.**

5. The ICS form **204** is used for the Operational Briefing.

6. Debriefing of the Crew Leader will generally be the responsibility of the **Situation Unit Leader.**

7. The purpose of debriefing the Crew Leader is to **gather information necessary to develop an understanding of the team's activities and clue evidence to develop the next search strategies and tactics.**

8. Debriefing topics should include: **exactly what the team members accomplished; the estimated POD; locations of any clues; any gaps in coverage; any hazards in area; communication problems encountered; and any suggestions, ideas or recommendations for consideration during future mission.**

9. What four items should the Crew Leader bring to the debriefing: **maps, sketches, photos,**

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and 214 Unit Log.

Chapter 9 – Hazardous Terrain Safety

1. List the four items in the SAR TECH I ready pack that will be used for traversing hazardous terrain: **75 feet of static kernmantle rope (NFPA 1 person lifeline); 2 lengths of accessory or Prusik cord to be used as Prusik loops; 2 locking gate carabiners; and 1 section of 1 inch tubular webbing 20 feet in length.**
2. The one person life line carried in the SAR TECH I ready pack must have a safe working load of: **not less than 300 pounds.**
3. The safety ratio for the rope used in the hazardous terrain station is: **calculated by dividing the minimum breaking strength of a rope by 15 which is commonly expressed as a 15 to 1 safety factor 15:1.**
4. The new knots and/or hitches required for the SAR TECH I Evaluation are: **grapevine(double fisherman's bend); Prusik loop (two wrap); tensionless anchor hitch; and the Munter hitch.**
5. Whenever using a rope as a life line, a Figure Eight **stopper** knot should always be tied in the bitter end of the rope.
6. Describe the wrapping of a Tensionless Hitch around an anchor when the load will be below the anchor point: **tie a figure 8 on a bite knot in the running end of the rope; make a minimum of 3 wraps or round turns around the anchor object; wrap from the bottom up; do not cross each other in the turns; clip locking carabiner into the figure 8 knot and connect it to the standing end of the rope at the bottom of the spiral wraps or the standing end.**
7. Describe a method for securing the rope to an anchor using the tubular webbing: **wrap around anchor 2-3 times; connect ends with water knot; tie figure 8 knot on a bite on the running end and clip carabiner into the figure 8 knot.**
8. List two knots that can be used to join the ends of the accessory cord when forming a Pruski sling: **fisherman's knot or a figure 8 bend.**
9. Carabiners that are used in rescue applications should have a **locking gate** as a safety feature.
10. The action of protecting individuals from a fall while they are on the rope is referred to as providing a: **belay system.**
11. List the two knots, hitches or wraps that are used by the SAR TECH I to accomplish the action described in Question 10: **Munter hitch and Prusik loop.**

Chapter 10 – Stress Management

1. List the four categories of adverse symptoms of stress: **Category I Cognitive Symptoms are a person's ability to think clearly; Category II Psychological Symptoms are a person's psychological demeanor; Category III Physical Symptoms or physical characteristics;**

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and Category IV Behavioral Symptoms.

2. List the four steps that should be taken to manage stress: **Establish appropriate ground rules for personnel during the search (skill/assignment & supervision); Recognize that all people have limits; Maintain realistic expectations; and Recognize stress (allow discussion of frustrations)**

3. Is a program which has been developed to help individuals cope with emotional stress that may result from a search mission. **Critical Incident Stress Debriefing.**