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APPALACHIAN SEARCH AND RESCUE CONFERENCE, INC.

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ALLEGHENY MOUNTAIN RESCUE GROUP MEMBERSHIP TESTS

BASIC MEMBER CERTIFICATION TEST

VERSION 1.0 JANUARY 1987

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Pick the best answer for each question. For matching questions, use each possible answer once only or not at all, unless otherwise directed. Please look at the pledge on the last page before you begin.

PART ONE: SURVIVAL AND WILDERNESS TRAVEL

IN DON'T QUESTIONS - D.L.

1. It is possible to survive for at least a week without food; therefore, foraging for food is a low survival priority for SAR team members in the ASRC region.

- a. true
- b. false

2. The physiological reaction to danger (rapid pulse, sweaty palms, etc.) and the associated psychological urge to action (the "fight or flight" response) may be appropriate in certain danger situations, but may also obscure or sidetrack rational thinking.

- a. true
- b. false

3. Which of the following is a prime rule for Field Team members on all ASRC missions?

- a. DON'T GET SEPARATED FROM YOUR PACK!!!!
- b. DON'T GET SEPARATED FROM YOUR PACK!!!!
- c. DON'T GET SEPARATED FROM YOUR PACK!!!!
- d. DON'T GET SEPARATED FROM YOUR PACK!!!!
- e. all the above answers are correct

(4-9) MATCHING: SURVIVAL PHYSIOLOGY CONCEPTS

- B 4. Homeostatic mechanisms
- E 5. Energy level
- F 6. Exhaustion
- C 7. Daily food energy requirement, in Kcal.
- A 8. Daily water requirement, in liters (quarts)
- D 9. Fatigue

- a. 2-10
- b. tend to keep something at a preset level, much like a thermostat
- c. 1000-4000
- d. buildup of waste products
- e. amount of energy available to do work
- f. lack of available energy

I: 73

II: 15

III: 57

IV: 25

(10-14) MATCHING: TYPES OF FOOD
ANSWERS MAY BE USED MORE THAN ONCE

- B 10. Highest energy per weight
- C 11. Small amounts needed to repair damage to body tissues
- B 12. Most difficult to digest
- A 13. Quickest available energy
- B 14. Sometimes craved in winter diets; some say it helps protect against cold
 - a. sugar and starch
 - b. fat
 - c. protein

(15-18) MATCHING: MODES OF HEAT LOSS

- D 15. conduction
- C 16. radiation
- A 17. convection
- B 18. evaporation
 - a. sitting out in a cold breeze
 - b. skin and lungs
 - c. sleeping "under the stars" rather than in the forest or in a tent
 - d. sitting on a cold rock

(19-26) MATCHING: PHYSIOLOGIC RESPONSES TO HEAT AND COLD
ANSWERS MAY BE USED MORE THAN ONCE

- C 19. First physiologic response to cold stress
 - B 20. Second physiologic response to cold stress
 - F 21. Long-term consequences of the answer to (20)
 - A 22. First physiologic response to heat stress
 - E 23. Second physiologic response to heat stress
 - D 24. Long-term consequences of the answer to (23)
 - A 25. Ingested (ethyl) alcohol, as in whiskey
 - C 26. Smoked tobacco
 - a. vasodilation: increased blood flow to the skin
 - b. shivering
 - c. vasoconstriction: decreased blood flow to the skin
 - d. dehydration and salt loss
 - e. sweating
 - f. exhaustion
27. "Hypothermia weather" is a term outdoorspeople use to describe weather which poses a great threat of hypothermia, particularly because its danger is often underestimated. It is:
- a. temperatures below 0 degrees F.
 - b. temperatures below 0 degrees F with strong winds.
 - c. temperatures near 32 degrees F with wind and rain.
 - d. temperatures near 32 degrees C on a beach in the Bahamas.

28. "Wetchill" is the chilling effect of rain or perspiration on an outdoorsperson and his clothing. Which of the following does not contribute to wetchill?

- a. Water conducts heat faster than air, and wet clothing also conducts heat faster than dry clothing
- b. Wet clothing causes vasodilation (increased blood flow) in the skin
- c. It takes a lot more heat to warm up a piece of wet clothing than the same garment dry, because water has such a high heat capacity (meaning it takes a great amount of heat to warm up water just a little, compared with air or dry clothing)
- d. Wetness causes increased evaporation heat losses

29. The ASRC has been using the idea of THE THREE W's as an aid for teaching outdoorspeople the three important aspects of protection against hypothermia. The ASRC "three W's" are:

- a. wool, wool, and wool.
- b. windproof, waterproof, and wool (or other warm-when-wet) clothes.
- c. warm, well-ventilated, and well-fitting clothing.
- d. Wein, Weib, Gesang (wine, women, and song).

30. If you are on a winter hike with wind but no rain or snow, your best choice of an outer garment would be:

- OK → a. a breathable (water-vapor permeable, such as ventile cotton, non-coated nylon, or 60/40 cloth) parka or windshirt.
- b. a waterproof (urethane-coated) parka or cagoule.
- c. a knit wool sweater.
- d. a kilt and sporran.

31. If you are on a winter hike with wind and rain, your best choice for outerwear (among the given choices) would be:

- a. a breathable (water-vapor permeable, such as ventile cotton, non-coated nylon, or 60/40 cloth) parka or windshirt.
- b. a waterproof (urethane coated) parka or cagoule.
- c. a knit wool sweater.
- d. a full wetsuit and SCUBA tanks.

32. Ventilation, "dressing cool" (so that one is slightly chilly, rather than warm), and stopping often to take off or put on a layer of clothes, are all essential parts of good winter hiking technique. Which of the following is the most important reason to avoid overheating in the winter?

- a. to avoid heat exhaustion and heat cramps
- b. to avoid wet clothes
- c. to avoid heatstroke
- d. to avoid eclampsia

33. For cold-weather mountain rescue purposes, the wicking of water by cotton clothes is:

- a. bad because if one part of a cotton garment is exposed to rain, the entire garment becomes wet.
- b. good because it helps keep the skin dry.
- c. irrelevant. This is a stupid question.

34. Wool and certain synthetics (e.g. polypropylene) retain a fair amount of their insulating value when wet. On the other hand, cotton and down are almost useless as insulation when wet.

- a. true
- b. false

(35-39) MATCHING: DRY CELLS

ANSWERS MAY BE USED ONCE, MORE THAN ONCE, OR NOT AT ALL

- A 35. best performance in cold
 - △ 36. lightest weight per cell
 - C 37. rechargeable and good in cold
 - D 38. standard cheap battery, poor in cold
 - ⓑ 39. heavy, available in many stores, performance in the cold is fair
- a. lithium
 - b. alkaline
 - c. nickel-cadmium
 - d. carbon-zinc

(40-42) MATCHING: WEATHER SIGNS

- ⓑ 40. Mackerel sky (rippled altocumulus clouds) in the evening, followed by a red sunset, followed by a halo around the moon; the next morning, thunderheads appear off in the west.
 - △ 41. Mare's tail clouds (fleecy cirrus clouds), progressively becoming lower and thicker, forming a leaden sky (thick layers of stratus clouds), moving in from the southwest.
 - Ⓒ 42. A warm summer day with many cumulus clouds in the sky; in the afternoon, it becomes dark, quiet, and then the wind shifts markedly.
 - a. an approaching warm front, probably bringing an extended period of rain
 - b. an approaching cold front, with possibly some violent but short-lived storms
 - c. a local thunderstorm developing
43. Proper treatment for muscle cramps includes all the following except:
- a. antihistamines (e.g. chlorpheniramine)
 - b. warmth (warm compresses)
 - c. stretching
 - d. massage

44. As a general rule, the top layer of a friction blister should be removed.

- a. true
- b. false

45. The correct treatments for tendinitis ("squeak heel," "mal de racquette") include:
- a. rest the affected tendon
 - b. remove the cause (e.g. use some moleskin to pad the boot so it doesn't rub on your heel any more)
 - c. aspirin
 - d. all the above answers are correct
 - e. a and b only are correct
46. The essential treatment for an abscess is:
- a. oral antibiotics (e.g. erythromycin).
 - b. incision and drainage.
 - c. aspirin.
 - d. warm soaks.
47. Treatment for a bad case of contact dermatitis, such as from poison ivy, might reasonably include:
- a. aspirin.
 - b. steroid cream.
 - c. an antihistamine (e.g. chlorpheniramine)
 - d. all the above answers are correct
48. In anaphylaxis, a major problem is swelling of the lining of the airways.
- a. true
 - b. false
49. The proper initial step in management of a suspected pit-viper bite in the backcountry is:
- a. immediate incision and suction of the backcountry.
 - b. packing in ice.
 - c. cross-shaped (cruciate) incisions and suction, especially if the bite is on the hands or feet.
 - d. application of a tourniquet.
 - e. a careful check for signs of envenomation (marked redness, swelling, warmth, or pain).
50. Any raccoon, skunk, or fox bite must be treated as an important medical problem, because of the possibility of rabies.
- a. true
 - b. false
51. The most important treatment for diarrhea is fluid and electrolyte (salt) replacement.
- a. true
 - b. false
52. An important part of the treatment for snowblindness is patching of the eyes and rest.
- a. true
 - b. false

53. A person who has subacute (mountain/exhaustion) hypothermia with uncontrollable shivering should be put in dry clothes and put into a thick sleeping bag to rewarm himself.

(REWARD - TAVEL)

- a. true
- b. false

54. Which of the following is not a good place to put hot packs on a hypothermic patient?

- a. the neck
- b. the groin \leftarrow SOME?
- c. the armpits
- d. the calves of the legs \leftarrow BEST ANSWER
- e. all are good places

55. When transporting a person with severe or chronic hypothermia, which of the following cautions should be observed?

- a. keep the litter level or with the head down slightly, to avoid causing seizures
- b. do not to bump or jostle the litter, as this may cause problems with the heart rhythm
- c. keep the patient's legs bent to avoid stress on the spinal cord
- d. a and b
- e. a and c
- f. b and c

56. Heat cramps are due to a salt imbalance. The treatment is therefore to give something to drink which has salt in it (but only slightly rather than very salty, to avoid stomach upset).

- a. true
- b. false

57. Of the following, which is the most sensitive and reliable sign of dehydration?

- a. thirst
- b. dark (concentrated) urine
- c. delirium
- d. flushed skin

58. In winter, dehydration is seldom a problem because the body uses less water than in a hot environment.

- a. true
- b. false

59. In many ways, heat exhaustion is similar to mild shock.

- a. true
- b. false

60. Heatstroke is characterized by:

- a. cool, clammy skin, and a rapid pulse.
- b. hot, dry skin.
- c. neither of the above

61. _____ is a true medical emergency requiring immediate treatment to bring the victim's temperature down.
- a. severe dehydration
 - b. heat exhaustion
 - c. heat cramps
 - d. heatstroke
62. The extreme pain of blood under a fingernail after a crush injury (a subungual hematoma) may be greatly relieved by drilling or burning a hole through the fingernail to let the blood out.
- a. true
 - b. false
63. Conjunctivitis (inflammation of the lining of the eye and eyelids) may be caused by:
- a. allergy; the treatment includes the use of antihistamine (e.g. chlorpheniramine)
 - b. a foreign body in the eye (actually, in the conjunctival sac); treatment includes removal of the offending object with aid of a local anaesthetic (e.g. proparacaine)
 - c. a mild abrasion of the eye; treatment includes careful examination (under local anaesthetic) for a foreign object, application of an ophthalmic antibiotic ointment (e.g. Polysporin), and application of a patch.
 - d. "snowblindness," which is a sunburn of the cornea; treatment includes cool compresses and application of a patch.
 - e. all the above answers are correct
64. Proper immediate treatment of small second degree burns is:
- a. antimicrobial ointment (e.g. povidone-iodine ointment), butter, or lard.
 - b. immersion in cold water.
 - c. oral antibiotics (e.g. erythromycin).
 - d. antihistamines (e.g. chlorpheniramine)
65. A good treatment for deep frostbite is to rub the affected part with snow to increase circulation.
- a. true
 - b. false
66. A person may walk on frozen feet (feet with deep frostbite) with little additional damage, but cannot walk if they are thawed.
- a. true
 - b. false
67. The recommended treatment for deep frostbite is immediate rewarming in water heated to 100 degrees C (212 degrees F).
- a. true
 - b. false

68. The proper definitive wilderness care of minor wounds (ones which will be definitively treated in the field, and are not cause for a trip to the Emergency Room or doctor's office) includes all the following except:

- a. clean the wound with copious amounts of clean water, to which a little povidone-iodine (Betadine) solution may be added.
- b. remove any small bits of tissue which will obviously die.
- c. apply tincture of iodine, merthiolate, or alcohol around and into the wound.
- d. apply a sterile dressing.

69. The ideal treatment for an ankle sprain includes all the following except:

- a. aspirin
- b. cold applications for approximately the first 12 hours, followed after approximately 24 hours with warm applications
- c. steroid cream to the ankle
- d. slight elevation of the foot for at least 24 hours
- e. an elastic bandage, firmly applied but not restricting circulation

70. In the field, dislocations should generally be treated as one would a fracture: splint it as it lies and transport to a hospital. However, it may be appropriate to attempt reduction of certain dislocations when far from the road. In which one of the following cases is it probably not reasonable to attempt reduction in the wilderness?

- a. dislocation of the jaw
- b. simple dislocation of the finger
- c. anterior dislocation of the shoulder with no pulse, movement, or feeling in the arm
- d. posterior dislocation of the hip

71. The treatment of an open fracture far in the backcountry (more than a day from the nearest hospital) includes meticulous cleaning, a dry dressing, and antibiotics (e.g. erythromycin).

- a. true
- b. false

72. Which of the following is not part of the proper treatment for shock?

- a. position the patient lying but with the feet elevated
- b. keep the patient from chilling
- c. IF you are far from the road AND IF the patient is completely conscious AND IF the patient has no internal injuries, you may give small sips of Gatorade
- d. give small sips of whiskey

73. Assume you're out hiking with a party of 10 in an area with a good wilderness rescue capability (e.g. in the backcountry of Shenandoah National Park). With which of the following situations should you start an improvised evacuation, rather than simply sending for help and waiting for a rescue team with a Stokes litter?

- a. signs of deepening stupor and coma following a blow to the head
- b. a femur (thigh) fracture without severe shock
- c. a spine injury
- d. a heart attack

PART TWO: LAND NAVIGATION

Notes

1. You will need a protractor and a ruler or other straightedge for this part of the test.
2. Refer to the figures at the end of the whole test as indicated.
Figure 1 is an ASRC-gridded copy of the bottom left corner of the Petersburg West 7.5' quadrangle. Figure 2 shows some of the detail from the bottom of that same map. Figure 3 is a photocopy of a section of an aeronautical chart. You may use originals of these maps if you wish.

FOR QUESTIONS 1-9, IDENTIFY THE FEATURE; REFER TO FIGURE 1.

<u>Q#</u>	<u>Reference</u>	<u>Coordinates</u>
E 1.	ASRC	B1808
B 2.	ASRC	B1145
F 3.	ASRC	B1912
D 4.	MGRS	(6)53E, (43)07N
A 5.	MGRS	(6)53E, (43)04.5N
G 6.	MGRS	(6)55E, (43)04.5N <i>→ 55' 30"</i>
C 7.	Latitude/Long.	38 degrees, 36' N, 79 degrees, 14' 30" W

- a. High Knob
- b. Shook Gap
- c. Castle Rock
- d. ford
- e. peak 2393
- f. sinkhole
- g. cemetery

8. What USGS quadrangle name applies to UMS grid 136D? (refer to Fig. 2)

- a. Milam
- b. Petersburg East
- c. Petersburg West
- d. Mozer

9. If the ASRC grid overlay is photocopied so it is exactly in register with the UTM (MGRS) grid ticks, what declination should be noted on the photocopy map?

- a. 7 degrees west
- b. 1 degree east
- c. 8 degrees west

+ fig. 3 PL

10. What is the magnetic bearing off the Elkins VOR to Shook Gap? (hint: you must identify Shook Gap on the topo, then estimate its location on the aeronautical chart, and only then calculate the bearing.)

- a. 219 degrees
- b. 94 degrees
- c. 85 degrees

11. Calculate the true bearing from Peak 2470 (B2326) to Shook Gap (B1044).

- a. 55 degrees
- b. 62 degrees
- c. 145 degrees
- d. 152 degrees
- e. 325 degrees
- f. 332 degrees

12 Calculate the magnetic bearing from Peak 2470 (B2326) to Shook Gap (B1044).

- a. 55 degrees
- b. 62 degrees
- c. 145 degrees
- d. 152 degrees
- e. 325 degrees
- f. 332 degrees

13 Calculate the true bearing from Castle Rock (B1056) to Big Bend gravesite (B0517).

- a. 8 degrees
- b. 15 degrees
- c. 98 degrees
- d. 105 degrees
- e. 188 degrees
- f. 195 degrees

02 189

14 Calculate the magnetic bearing from Castle Rock (B1056) to Big Bend gravesite (B0517).

- a. 8 degrees
- b. 15 degrees
- c. 98 degrees
- d. 105 degrees
- e. 188 degrees
- f. 195 degrees

15 You are on a downed aircraft search. You are with an ASRC Field Team on top of High Knob (B1204). You have an ELT locator, and you get a bearing of 35 degrees magnetic. A CAP team at the town of Landes (B4524) got a bearing of 306 degrees magnetic. Where is your best estimate of the plane's location?

- a. peak 2283 (B2933)
- b. peak 2470 (B2326)
- c. peak 2016 (B3431)

PART THREE: SEARCH

1-6: Matching -- First Response Phase

(use each letter once and only once)

- B 1. navigation for team
C 2. supervises technical ropework
A 3. manages team and patient medical problems
D 4. communicates with Base Officer
E 5. runs callout of Group
F 6. serves as communications link between Dispatch Officer and QR Team Leader
- MEDIC
 - QR Team Leader
 - Rescue Specialist
 - Radio Operator
 - Dispatch Officer
 - Base Officer
7. If you have a question during a callout, you call the:
- ASRC Incident Commander (ASRC IC)
 - Dispatch Officer (DO)
 - Responsible Agent
 - Virginia Department of Emergency Services (DES)
 - the Overhead Team Leader (OHT Leader)
8. Which is the best definition of the SAROP term "Responsible Agent?"
- provides workman's compensation for ASRC members involved in the mission
 - has legal authority for conducting search and rescue operations in the specified jurisdiction
 - the highest-ranking ASRC officer on-scene
9. You are backpacking along the Appalachian Trail in Virginia, and meet a Sheriff's Deputy. He learns of the ASRC from you, and says he will call the ASRC the next time he has a search in his county. You should tell him to call _____ if he wants ASRC assistance.
- the University of Virginia Police Department in Charlottesville, Virginia
 - the Virginia Department of Emergency Services Emergency Operations Center in Richmond, Virginia
 - the University of Virginia Emergency Medical Communications Center (MEDCOM) in Charlottesville, Virginia
 - your home phone number

10-17: Matching -- Phases

(each letter may be used once, more than once, or not at all)

1/2 pt. For A
B
B
B
C
D
E
A
D

- 10. Quick Response Team
 - 11. Overhead Team
 - 12. Base Officer
 - 13. sweep search task (wide-spaced line search)
 - 14. close-spaced line search task
 - 15. ASRC Command Staff last
 - 16. Alert Officer
 - 17. last resort search mode
 - a. Alert and Mobilization Phase
 - b. First Response Phase
 - c. Scratch Search Phase
 - d. Saturation Search Phase
 - e. Withdrawal Search Phase
18. (T or F) A Field Team consists of a Field Team Leader, Assistant Team Leader, MEDIC, Rescue Specialist, Radio Operator, and perhaps some additional Searchers. Therefore, a Field Team needs at least 5 people.
19. An ASRC Dispatch Officer:
 - a. works at the Command Post Communications Center and is responsible for supervising all ASRC radio communications.
 - b. provides a 24-hour paging or alerting service for an ASRC Group in between missions.
 - C. runs the callout of a given Group, and serves as a communications node between the ASRC Command Staff and the members of the Group who are not in the mission area.
 - d. all of the above are correct
20. (T or F) The ASRC Alert Officer is the first ASRC member to receive a call for ASRC assistance who has authority to commit ASRC resources, initiate an ASRC callout, and appoint an ASRC Incident Commander.
21. The Incident Command System (ICS) of the National Interagency Incident Management System (NIIMS) is:
 - a. A set of policies to be followed by US Government agencies when involved in a multi-agency wildfire suppression operation.
 - b. A system to facilitate management of a large operation: wildfire, search, rescue, or visit by the Queen of England.
 - C. A set of guidelines for meshing the command structures of many agencies (federal, state, local, or volunteer) into a single unified command staff for a given incident.
 - d. A management structure outline ("Command and General Staff") which may be expanded to keep pace with an expanding operation.
 - e. all of the above are correct answers

22. (T) or F) When the ASRC is involved in a mission, the ASRC Incident Commander (ASRC IC) has authority and responsibility over ASRC members and volunteers serving under the ASRC. When the ASRC is on a mission we always have an ASRC IC except when we work under a written cooperative agreement which says that ASRC members may be under the direct command of a responsible agency. (Example: missions in Shenandoah National Park.) In such cases, the highest-ranking ASRC member present is the ASRC Command Staff Liaison.

23. Every Field Team Leader is given an initial assignment for his Field Team's task on an ASRC:

- a. Task Assignment Form (TAF)
- b. Missing Person Questionnaire (MPQ)
- c. Searcher Alert Form (SAF)

24. (T) or F) A reporter near the roadhead asks you for information about the victim's condition. You should respectfully refer the reporter to your superior (Field Team Leader if you are a Field Team Member, ASRC IC if you are a Field Team Leader) without revealing any details about the victim. It is OK to provide general information about the ASRC, or about the weather, terrain, and difficulty of your task, but you should not mention details such as clues that you have found.

25. Which of the following is NOT part of a routine ASRC search operation?

- a. Incoming searchers register with the Resources Unit.
- b. The search strategy created by the ASRC IC and the Plans Section is broken down into numbered tasks by the Operations Section Chief, who enters the task number and description on a Task Assignment Form (TAF).
- c. The Resources Unit uses the list of available searchers to put together a Field Team suitable for the given task.
- d. The Communications Unit checks to be certain that they can communicate with the Field Team where it is going, then enter communications instructions on the TAF (e.g. "check in every hour on the half hour, return to base if you miss 5 check-ins").
- e. The Field Team Leader uses the TAF to assemble and brief the team.
- f. As soon as the Field Team has completed its task, the Field Team Leader releases searchers to return to home, or to Incident Base if they indicate an interest in continuing with the operation.

26. We define efficiency as the number of standard clues found per searcher-hour of effort, where searcher-hours are the number of searchers in field x hours in the field. Given a specified number of searchers and a specified time in which to use them, studies have shown that it is more efficient to use them in several wide-spaced sweeps through an area than a single close-spaced search through the area. In other words, you're better off sending three 5-searcher teams to each sweep through the area, than to make up a single 15-man team to do a close-spaced saturation search of the same area. Of course there are more management problems with three teams instead of one team, but the principle is still true and important.

- a. true
- b. false

Matching: 27-30, and 31-35. Choose the best answer for each question; each answer will be used once and only once. Although most terms are national standards, some are ASRC-specific.

- B 27. Search (air-scenting) dogs
- A 28. ASRC-trained searchers
- C 29. camp-in at a trail junction
- D 30. sending a team across a subject's expected route of travel
 - a. clue finders
 - b. subject finders
 - c. passive search
 - d. cutting for sign

- C 31. search of a point or linear feature
- A 32. search of a large area from a single vantage point
- D 33. wide-spaced line search of an area by a small team
- B 34. close-spaced grid or contour search of an area by a large team
- E 35. patrol of the perimeter of an area
 - a. survey task
 - b. saturation task
 - c. scratch task
 - d. sweep task
 - e. containment task

36. Traditionally, _____-colored filters are used on headlamps during some night SAR operations. The theory is that light of this color is less likely to destroy night vision than unfiltered light.

- a. green
- b. blue
- c. red
- d. paisley

37. According to ASRC protocols, who may shout "STOP!" to stop a search line?

- a. anyone on the team
- b. only the Field Team Leader
- c. only the Field Team Leader or Medic
- d. only the Responsible Agent

38. According to ASRC protocols, who may shout "FORWARD!" to start a search line moving?

- a. anyone on the team
- b. only the Field Team Leader
- c. only the Field Team Leader or Medic
- d. only the Responsible Agent

38. In Virginia, the authority and responsibility for search and rescue operations is more clearly defined than in many other states, but still is vague in some situations. However, the following generalizations can be made: (1) search for downed aircraft is under the authority of the Civil Aeronautics Board of the State Corporation Commission, with the CAB usually delegating most missions to the Virginia Wing, Civil Air Patrol; (2) multi-state missions or those involving federal personnel or federal aircraft fall under the authority of the U.S. Air Force's Aerospace Rescue and Recovery Service (ARRS), headquartered at Scott Air Force Base; (3) lost person incidents or rescues within a single county are, by the state disaster plan, the responsibility of the assigned county SAR Coordinator, which may be the Sheriff, Fire Chief, or another official; and (4) multi-county lost person searches fall under the authority of the state Department of Emergency Services, sometimes delegated to the Virginia State Police.

- a. This is a generally correct summary of the authority and responsibility for search and rescue in Virginia.
- b. This is a ridiculous fabrication that I refuse to believe.

39. In Pennsylvania, there is, by determination of the state Search and Rescue Council, and by informal statements from the State Police, Department of Environmental Resources, and the Pennsylvania Emergency Management Agency, no statutory or other authority or responsibility for search and rescue, although it is accepted in many jurisdictions that SAR is the responsibility of the local jurisdiction, and unless otherwise stated, the responsibility often falls on the local law enforcement agency.

- a. This is a ridiculous state of affairs that I would prefer not to believe, but unfortunately it's true.
- b. The Department of Sanitation is actually in charge of SAR in Pennsylvania.

40. If a Field Team finds a deceased search subject, it should identify the body if possible, give a "Status Three" report to Base Camp with the team's grid coordinates, then:

- a. evacuate the body to Base Camp for the Coroner's examination.
- b. disturb the area as little as possible, clear the area of people, protect any potential clues in the area, and wait for instructions.
- c. place the body in a body bag or storm shelter and load the body into a litter, but wait for permission to evacuate.
- d. go home.

41. Unless you are familiar with the dangers of extrication from military aircraft, you should stay away. However, if you must approach a downed fixed-wing military aircraft, and you are not familiar with the model, do so only:

- a. from the front.
- b. from the rear.
- c. from the left side.
- d. from underneath.

42. In terms of clues found per searcher-hour, close spaced line search is approximately 50% more efficient than wide-spaced line search.

- a. true
- b. false

43. Which of the following is the best example of good questioning technique?

- a. "Hi. We're looking for a plane that crashed yesterday. Do you know anything that might help us find it?"
- b. "Hello. I'm Josephine Backpacker from the Allegheny Mountain Rescue Group. We're looking for an airplane which has been reported missing. Have you seen or heard anything unusual in the past day or so?"
- c. "Hello. I'm Josephine Backpacker from the Allegheny Mountain Rescue Group. We're searching for a plane believed to have been flying low in this area yesterday. We'd like to know if you saw or heard anything unusual about three yesterday afternoon."
- d. "Hello. I'm Josephine Backpacker from the Allegheny Mountain Rescue Group. We're looking for a red-and-white plane which has been missing since yesterday. Have you seen or heard anything unusual lately?"

44. Night vision is weaker at the center of the visual field than at the edges, that is, it is difficult to see things in very dim light when you look directly at them.

- a. true
- b. false

45. Interrogation search, as practiced by the Civil Air Patrol during downed aircraft searches, refers to:

- a. the proper questioning of all people who call in to Mission Base with clues.
- b. the proper questioning of all people who pass by a roadblock or trailblock.
- c. use of electronic direction-finding equipment.
- d. the questioning of people at houses, stores, and other selected places in a specified search task area.

46. On occasion, the only visual clues to an aircraft crash site have been circling buzzards, clipped trees, or breaks in vegetation cover.

- a. true
- b. false

47. ELT (Emergency Locator Transmitter, electronic direction finding) search tasks are often made difficult with reflections which cause erroneous directional "fixes".

- a. true
- b. false

48. Which of the following is not considered a major danger area near a UH-type ("Huey") helicopter?

- a. to the right rear of the helicopter
- b. to the left rear of the helicopter
- c. uphill from the helicopter
- d. downhill from the helicopter

49. When may you approach a helicopter?

- a. only after the rotors are stopped
- b. when the crew chief or pilot signal you to do so
- c. once the helicopter is settled and all lift is off the rotors
- d. only on Tuesday afternoons

50. Authority and responsibility for SAR in areas of National Capital Parks of the National Park System generally lies with the U. S. Park Police. In other National Park Service areas, such as Shenandoah National Park, authority and responsibility generally lies with:

- a. the National Park Service (the Park Superintendent).
- b. The U. S. Park Police.
- c. the State Police.
- d. the person in charge of SAR for the county.

51. The Virginia Good Samaritan Law provides that all persons rendering first aid are immune from civil prosecution:

- a. under all conditions.
- b. if the person rendering aid is an EMT, an RN, or an MD.
- c. if the first aid is given in good faith.
- d. if the first aid is given in good faith, and without compensation (excepting the salaries of public service workers).

52. The Virginia Good Samaritan law provides immunity from civil suit (tort claims). Does it also provide immunity from criminal prosecution?

- a. yes
- b. no

53. Is there a legal requirement for you to aid a person in life-threatening danger?

- a. yes
- b. no

54. The legal concept of "standards of care" means that you are responsible for providing emergency care consistent with your training and experience. Thus, something which would be criminally negligent when done by an emergency physician might not be considered criminally negligent when done by a person with no first aid training.

- a. true
- b. false

55. If you begin aiding a person in distress, you are legally responsible to continue in your attempts to aid this person.

- a. true
- b. false

56. May you legally discuss the injuries of a patient your team just evacuated, when asked to by a reporter?

- a. yes
- b. no, unless the patient gave you permission to do so

PART FOUR: MOUNTAIN RESCUE

1. Refer to Figure 4. Which knot is loaded incorrectly?

- a.
- b.
- c.
- d.

2. Which of the following is the primary reason that the ASRC backs up knots with overhand knots rather than half-hitches?

- a. Overhand knots use less rope than half-hitches.
- b. Overhand knots are self-tightening, and therefore more secure than half-hitches.
- c. Overhand knots are easier to tie than half-hitches.
- d. Precedent and tradition dictate it.

3. When one is stacking a rope, it should be stacked:

- a. in figure eights on the ground.
- b. in a random stack on the ground.
- c. neatly in coils on the ground.
- d. in neat coils on a branch or member's arm.
- e. Any of the above will do.

→ SO THAT IT WILL PAY OUT WITHOUT TANGLING

4. Which of the following, when discovered during the routine inspection of a rope, should be cause for the rope to be considered for cutting or retirement?

- a. a place where the core is showing through the sheath
- b. a place where there is a "dent" felt in the core, even though the sheath is intact
- c. a place where, although the core is not visible, the sheath is severely abraded all around, making the rope much easier to bend at that abraded point
- d. All the above are good cause to not use the rope, and to refer it to a senior member for evaluation.

5. Refer to Figure 5. Which is the strongest rigging?

- a. Theta = 120 degrees
- b. Theta = 60 degrees
- c. Theta = 45 degrees
- d. Theta = 20 degrees

6. Of the following, which is the strongest way to rig a static line to a tree?

- a. tree wrap
- b. bowline
- c. 2" seat belt webbing slings and 2 large steel locking D carabiners
- d. Figure eight

7. Refer to Figure 6. Which belay is tied in and aimed correctly?

- a.
- b.
- c.

FOR QUESTIONS 8-13, EACH ANSWER MAY BE USED ONCE, MORE THAN ONCE, OR NOT AT ALL.

- B 8. BELAY ON!
- C 9. ON BELAY!
- A 10. BELAY OFF!
- D 11. OFF BELAY!
- E 12. TWO-OH!
- F 13. PRELOAD!

- a. (Belayer:) I am no longer belaying you.
- b. (Belayer:) I am now belaying you.
- c. (Climber or litter captain:) I am on the end of your belay line and waiting.
- d. (Climber or litter captain:) I am in a secure position and you can stop belaying.
- e. (Belayer:) You are getting close to the end of the rope.
- f. (Belayer:) You have only a little rope left (very roughly) 20 meters.
- g. (Litter captain:) We are going to pull tension on the rope before going down a steep slope.

14. The proper call to request a belayer to pay out rope is:

- a. "UP ROPE!"
- b. "SLACK!"
- c. "PAY OUT!"
- d. "FALL IN!"
- e. "AAAIIEEEeee... . . . (thud)"

15. Which of the following is a correct statement of the descending rope team rotation for semitechnical evacuations?

- a. uphill ropehandler --> downhill ropehandler --> belayer
- b. downhill ropehandler --> uphill ropehandler --> belayer
- c. Neither of the above is correct.

16. Which of the following is a correct statement of the ascending rope team rotation for semitechnical evacuations?

- a. uphill ropehandler --> downhill ropehandler --> belayer
- b. downhill ropehandler --> uphill ropehandler --> belayer
- c. Neither of the above is correct.

17. The _____ is responsible for seeing that slack does not develop in the belay line going to the litter during a semi-technical ascent.

- a. the belayer
- b. the downhill ropehandler
- c. the litter captain

18. The _____ is responsible for seeing that slack does not develop between the belayer and the tree (or tree and downhill ropehandler) during a semi-technical ascent.

- a. the belayer
- b. the downhill ropehandler
- c. the litter captain

19. The command "ROTATE!" is given only by the

- a. litter captain
- b. left relief bearer
- c. right relief bearer
- d. old left relief bearer
- e. conductor

20. When using a tree-belay to belay an ascending litter, you hear "FALLING!" and ~~begin having~~ some difficulty keeping the litter from sliding. You should:

- a. brace yourself (especially your legs), and place your braking hand down between your legs to maximize friction around your hips.
- b. run around the tree to maximize friction around the tree.
- c. hand the belay rope to the downhill ropehandler and run.

21. When is it permissible to take your braking (i.e. controlling) hand off the rope?

- a. when you are tied off on a rappel
- b. after "BELAY ON!" and before "OFF BELAY!"
- c. when your mother says you can
- d. You may take your braking hand off the rope in both a and b.
- e. You may NOT take your braking hand off the rope in either a and b.
- f. when you have to pick your nose

22. Who is the litter captain?

- a. the most senior member on the litter team
- b. the member designated by the Rescue Specialist
- c. the litter team member on the front left corner of the litter (might be head or foot, depending on which way the litter's going)
- d. the litter team member on the victim's left side at the head.
- e. the member who makes the biggest mess at lunchtime.

23. When laddering across an obstacle or toenailing up or down a slope (and using the standard ASRC calls for non-technical litter evacuations), the call "READY TO LADDER!" is used to indicate:

- a. litter team members should get ready to ladder the litter.
- b. ~~the two litter bearers on the end should come around to the front of the litter and get ready to ladder.~~
- c. the front 4 (or 6) litter bearers are able to hold the litter without assistance from the back to bearers.
- d. Both b and c are correct answers.

24. When the litter captain calls "READY TO ROTATE!" this means:

- a. get ready to flip over the litter in case the patient vomits.
- b. it's time for the litter team to set the litter down and new litter bearers to take over.
- c. the next two relief bearers should step off to either side of the trail, and when the litter passes, attach themselves onto the rear end.

25. Which of the following causes the greatest permanent damage to rope?

- a. water
- b. sunlight
- c. gasoline
- d. car battery fluid