APPALACHIAN SEARCH AND RESCUE

SHENANDOAH MOUNTAIN RESCUE GROUP

Written Examination

for

Certified Basic Membership

Version 091086PT

NAME Greg Shea

SECTION IA SURVIVAL

1. How long can the average person function without water?
   a. 10 days
   b. 3 days
   c. 2 weeks
   d. 1 day

2. Insulation is anything that has the following quality:
   a. dead air space
   b. many layers
   c. close weave material
   d. waterproofing

3. Rank the following priorities to consider in a survival situation:
   a. food
   b. shelter
   c. water
   d. becoming unlost

4. What is the most important thing to be able to use properly in an emergency situation? BRAIN

5. What clothing material should you avoid in wet weather? COTTON

6. What are the general body necessities of survival besides air and shelter? (name four) water, warmth, energy, the ability to think

7. The international distress signal for wilderness use is:
   a. SOS
   b. three fires, whistles sounds or three of anything
   c. a large fire
   d. none of these

8. Which of the following can cause circulatory upset?
   a. hypoxia
   b. hypothermia
   c. hypohydration
   d. hyperthermia
   e. fatigue
   f. exhaustion
   g. none of the above
   h. all of the above

9. Assuming that water is scarce, which would require the least amount of body fluids for assimilation?
   a. protein
   b. fat
   c. carbohydrate

10. What is the initial sign of hypothermia?
    a. stumbling
    b. sweating
    c. shivering
    d. impaired thought processes

11. Other than evaporation, which way can the body lose heat to the environment? (Indicate all that apply)
    a. respiration – comb of above
    b. conduction
    c. radiation
    d. convection

12. Which of the following are symptoms of hypohydration or dehydration? (Indicate all that apply)
    a. headache
    b. fatigue
    c. constipation
    d. increased pulse rate
    e. muscle cramps

13. Which is the most important in a survival situation?
    a. skills
    b. clothing
    c. attitude
    d. equipment
    e. food intake

14. The needle in a compass points to:
    a. true north
    b. grid north
    c. geographical north
    d. none of the above

15. High altitude cirrus clouds forecast which of the following weather conditions?
    a. cold front
    b. thunderstorm
    c. high winds
    d. warm front

16. Body ventillation as well as body insulation is needed in very cold environments. True or false?

17. Fast swimming in cold water helps you to keep warm and prolong survival. True or False?

18. Your inner body responses to heat gain, heat loss, water loss and chemical upset can cause which of the following? (indicate all that apply)
    a. overall tiredness
    b. loss of muscle use
    c. a dumb brain
    d. an attitude change

19. Survival situations can develop (indicate all that apply).
   a. on the desert
   b. in the arctic
   c. when you mismanage your body
   d. in an automobile

20. How long does it take your body to acclimatize to a temperature extreme environment?
   a. two days
   b. one day
   c. one month
   d. about 2 weeks

21. How long does the average survival emergency last?
   a. one hour
   b. one month
   c. three days
   d. seven days

22. In the desert, it is best to conserve and protect the water you have inside your body rather than expend it digging for needed water. True or false?

23. When you are exposed to water chill, the fetal position can be beneficial. True or False

SECTION IB WILDERNESS TRAVEL AND FIRST AID

1. Complete the following table which describes the qualities of some common outdoor clothing materials. Use the following codes: 1, HIGH; 2, ACCEPTABLE; 3, LOW.

	dry warmth	wet warmth	wind protection	water retention	water wicking
cotton	2 ~~ACCEPTABLE~~	3	3	1	3
down	1	3	2	1	3
wool	1	1	1	1	3
synthetics (polypropylene, pile)	1	1	2	3	1

2. Briefly talk about the layering concept in outdoor clothing for various kinds of weather. Include considerations of rain protection, wind protection, ventillation, "dressing cold" and overheating in winter.

3. Discuss the basic characteristics (lifetime, cost, weight, temperature characteristics and dangers) of carbon/zinc, alkaline, nickel-cadmium, and lithium batteries.

4. Name 4 ways by which heat can be lost from the body and give a cause(or causes) associated with each.

a.

b.

c.

d.

5. The early stages of hypothermia, once recognized, must be addressed as a true emergency. What are the early signs of hypothermia and what actions should be initiated immediately?

6. Why is hypothermia so deadly to someone traveling alone?

7. Suggest the components of a survival list for use here in the east containing no more than 4 items with a total cost of less than $5.00.

8. Define rewarming shock.

9. What are the two primary ways that people die in cold white water?

10. Explain the STOP mneumonic?

thunderstorm.

12. List some symptoms of critical incident stress syndrome and burn-out that you may witness in yourself and others. How can these be best handled?

13. You are lucky enough to be assigned position as medic on a field team during a missing person search in mid-December. That night your team sees the subject lying on a ledge about 30 vertical feet above the ground. The victim is located about 50 feet below your location and can be reached by descending fourth class rock which has partly iced-up. Your FTL requests that you, as medic, downclimb to ascertain the victim's condition and treat him if possible. At this time, no technical gear is available. How will you handle this situation?

14. Your're hiking with a group of 10 in a backcountry area with a good wilderness rescue capability (e.g. Shenandoah National Park). In 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 fracture without severe shock;
c. a spine injury;
d. a heart attack

15. The general rules for splinting include:
   a. splint it as it lies;
   b. for a fracture of a long bone: immobilize the joints above and below the fx site;
   c. for a dislocation or fracture around a joint: immobilize the long bone above and the long bone below the injury site.
   d. all of the above

16. The treatment of muscle strains or contusions includes: elevation, cold application every hour or so for 24 hours, and then warm applications every hour or so for a few days. True or False

17. Certain injuries tend to occur together, and the presence of one alerts the first responder to the possible presence of the other. Match up the conditions listed below with the injury or complication likely to be associated with each.

a. fractured navicular	_____ wrist drop
b. fractured humerus	_____ compression fracture of the lumbar spine
c. fractured pelvis	_____ dislocated hip
d. posterior dislocation of the hip	_____ shock
e. dislocated knee	_____ fractured elbow
f. fractured patella	_____ foot drop
g. fractured calcaneus	_____ cold pulseless foot

18. The presence of clues can sometimes be useful in ascertaining what caused a person to become unconscious.
MATCH the clue with respective problem.

a. head injury	___e___ insulin in the patient's refrigerator
	_____ rigid neck
b. drug overdose	___a___ blood in the left ear canal
	___b,c___ needle tracks on the patients thighs
c. diabetes	_____ high fever
	___b___ vomitus containing pills
d. stroke	___d___ blood pressure medication in patient's pack
	_____ bottle of dilantin in patient's pocket
e. seizures	_____ left side of patient's face drooling
	___c___ patients tongue bleeding
f. meningitis	

19. Define anaphylaxis and list some of its causes.

20. Describe briefly the prudent treatment for a venomous snake bite.

21. For each of the following, indicate whether it is most indicative of
A. heat cramps
B. heat exhaustion
C. Heat stroke

C delirium or coma

_____ cool, clammy skin

_____ hypovolemia is always present

_____ painful spasms in extremities and/or abdomen

_____ should receive oxygen

B due to loss of salt

C hot, dry skin

_____ alert mental statis

_____ very high oxygen consumption

_____ normal or subnormal body temp.

_____ patient almost always someone in good physical condition

C 100% fatal if not treated

22. Sometimes knowledge of the forces involved in an accident (mechanism of injury) can help in determining the specific injury sustained. MATCH the following injuries with their likely respective mechanisms:

a. dislocated clavicle
b. anterior shoulder dislocation
c. posterior shoulder dislocation
d. fracture of the fifth metacarpal
e. fracture of the distal phalanx, index finger
f. posterior hip dislocation
g. hip fracture
h. sprained knee
i. fractured calcaneus
j. fractured metatarsal

_____ victim was in a fight and struck opponent forcefully on the sternum with his right fist
_____ skiing injury, victim turned but ski didn't
_____ football injury, victim struck on point of shoulder by helmet of a defensive lineman blocking
_____ patient injured during a seizure
_____ patient experienced pain after a 20 mile hike
_____ elderly woman feel getting up from a chair
_____ victim fell backward onto an outstretched hand
_____ victim slammed hand in car door
_____ auto accident, victim thrown forward, striking knee on dash
_____ victim fell from tip of 20' cliff, landed on feet

23. For each of the following, indicate whether it is most characteristic of
A. head injury, with increased intracranial pressure.
B. cervical spine injury, with neurogenic shock
C. abdominal injury with internal bleeding and hemorrhagic shock.

_____ seizures
_____ diaphragmatic breathing
_____ extreme thirst
_____ cheyne-stokes respirations
_____ hemiplegia
_____ quadriplegia
_____ paraplegia
_____ hypertension and bradycardia
_____ priapism
_____ patient lying with arms above his head
_____ hypotension and tachycardia
_____ unequal pupils
_____ tendency to develop high body temperature
_____ cold, clammy skin

24. The normal resting pulse for an adult is _____ to _____ bpm.

25. The normal resting respiratory rate for an adult is _____ to _____ respirations per minute.

6. Which of the following is the best description of a patient's state of consciousness?
   a. The patient is semistuporous
   b. the patient is somewhat alert but looks confused.
   c. The patient is semicomatose
   d. The patient knows his name but not his address or the date
   e. The patient is somewhat disoriented and looks confused.

6. For each of the following conditions, indicate whether it is more likely o be found in:
   A. a person who received an electric burn from a household current.
   B. a person who ws struck by lightning.

_____asystole
_____temporary paralysis of the legs
_____deep extensive muscle damage
_____bullseye entrance wound
_____confusion and amnesia
_____tetanic muscle spasms
_____ruptured ear drum
_____widespread, feather-like burns on the skin surface.

7. For each of the following, indicate whether it is a sign of
   A. spine injury
   B. skull fracture
   C. Increasing intracranial pressure

_____ecchymoses behind the ear
_____one pupil widely dilated and unreactive
_____paralysis of the intercostal muscles
_____priaprism
_____hypotension
_____hyperpnea
_____drainage of clear fluid from the nose
_____vomiting
_____ecchymoses around the eyes
_____paralysis of theright arm and right leg
_____unconsciousness
_____hypertension

8. If a person dies of a head injury, the cause of death is most likely to e:
   a. hemorrhagic shock
   b. neurogenic shock
   c. cerebral hypoxia
   d. cervical spine damage
   e. CSF leakage

29. For this reason, one of the most important aspects of treatment of the head injured patient is to
    a. start i.v. infusions ASAP
    b. apply the MAST
    c. ensure an open airway and administer O_2
    d. immobilize the patient on along backboard
    e. put a pressure dressing over the ear or nose if there is clear fluid draining from them.

30. Emergency care for rewarming a frozen extremity is:
    a. rub the frost bitten or frozen area gently with your warm hands
    b. rub snow on the frost bitten or frozen area
    c. place the frozen part in a water bath with a temperature of 100-105° F.
    d. place the frozen part in a water bath with a temperature of 107-115° F.

31. Should a frozen part be thawed if there is any danger of subsequent refreezing?

32. You are asked to examine a searcher who has been exposed to the cold for a long time. The skin on his finger tips is white, but the fingers are not painful. He may be suffering from
    a. frostbite
    b. gangrene
    c. frostnip
    d. alcoholic intoxication

33. How could his problem best be treated?
    a. by immersion of the hand in water at 200° F.
    b. by rubbing the fingers gingerly with ice
    c. by holding the affected fingers in his axilla

34. You see another searcher who complains that his fingers are white and cold. The tissue is firm and has a waxy consistency. This person probably has
    a. superficial frostbite
    b. gangrene
    c. AIDS
    d. frostnip

35. Yet another patient has hands cold and white. The fingers are frozen to the touch: they are hard, cold, pale and numb. This individual may have
    a. superficial frostbite
    b. deep frostbite
    c. frostnip
    d. AIDS

36. The usual cause of death from systemic hypothermia is
    a. respiratory arrest
    b. ventricular fibrillation
    c. gangrene
    d. brain damage

37. For this reason how should you treat any hypothermia victim?

38. You have been asked to assemble the ASRC team to respond to the nuclear saster site in Russia to perform bone marrow transplants. You would
    a. grab a copy of this exam and leave immediately
    b. grab a copy of this exam and phone in instructions to Kiev
    c. grab a copy of this exam and send it in lieu of personnel
    d. grab a copy of this exam and send it along with its author to the designated drop area.

SECTION 2

D NAVIGATION

. USGS Topographical Maps: symbols for conventional unit maps. Match each ymbol with its corresponding definition. (no colors used: same as erographic copies).

- depression
- power transmission line: pole, tower
- secondary highway
- standard gauge single-track railroad
- benchmark
- abandoned rail line
- primary highway
- small falls or rapids
- picnic area
- large barn/shed
- cut
- park boundary
- fill
- disappearing stream
- multiple track railroad
- county boundary
- marsh or swamp
- mine dump
- intermittent stream
- lake

- u. scrub
- v. small barn/shed
- w. trail
- x. large falls, rapids
- y. small cemetery
- z. telephone/telegraph line
- aa. vineyard
- bb. unimproved dirt road
- cc. landing strip
- dd. church
- ee. spring
- ff. water tank
- gg. mine or cave entrance
- hh. airport
- ii. light duty road
- jj. orchard
- kk. school
- ll. quarry or open pit mine
- mm. footbridge
- nn. house or dwelling


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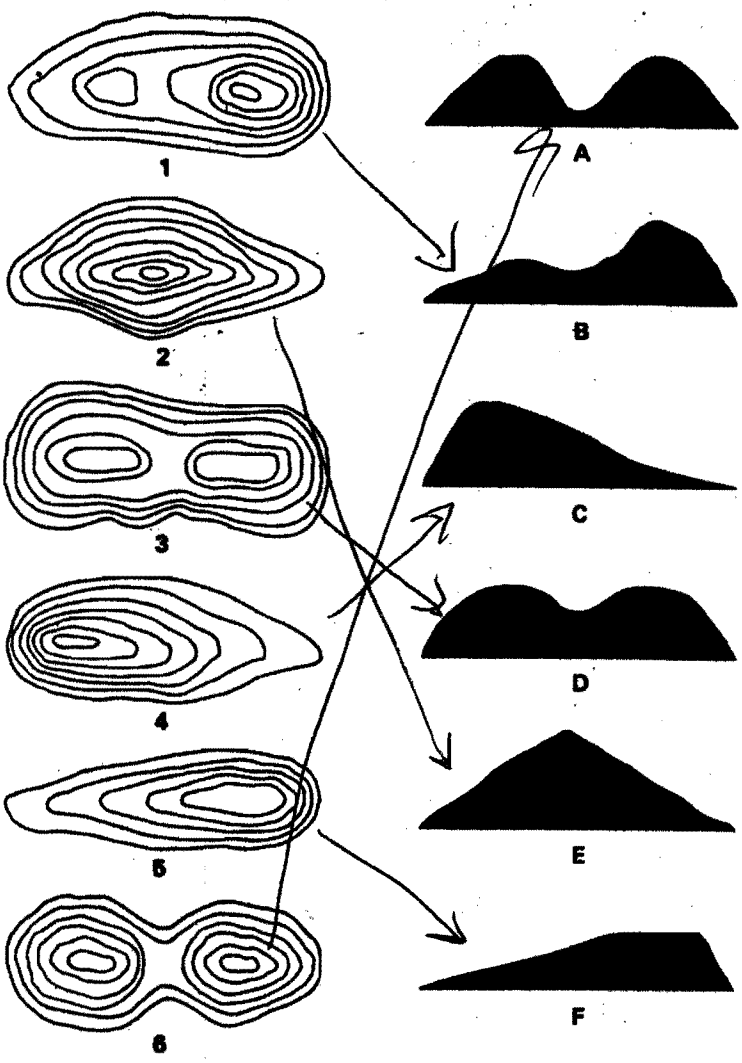
II.

Match the hills and contours



1 → B
2 → E
3 → D
4 → C
5 → F
6 → A

II. On USGS maps, what colors are used to designate:

a. man made feature? black

b. hydrographic (water) features blue

c. vegetation features? green

d. elevation (hypsographic) features? brown

V. For enclosed sample map 1 supply the following information:

a. quad name Longs Peak, CO

b. magnetic declination in center of quad as of 1961 14° E

c. name of the quad directly south of this one Allens Park

d. roughly, how far is it from Allens Park to Longs Peak ranger station 7.8 mi

e. give the approximate (degrees, minutes, seconds) latitude and longitude of the Longs Peak ranger station. 105° 33'30", 40° 16'15"

f. give the approximate UTM (MGRS) coordinates of Long's Peak ranger station "Approx 527; 578, Longs Peak Colo"

g. If you hiked from Long's Peak ranger station to Shelter house above Columbine Falls, how many feet higher would you be than the ranger station? + 2,400 ft

e) $\frac{5.7 \text{ in}}{12'30''} = \frac{3.1 \text{ in}}{x\ ',''}$

11,800 − 9400

2,400

. Supply the missing information:

	True Bearing	Magnetic Declination	Magnetic Bearing
.	76°	0°	76°
.	34°	20° W	~~54°~~
.	212°	10° E	~~212°~~ 202°
.	106°	10° W	116°
.	~~212°~~ 330	20° E	330°

II. Is the declination east or west in Virginia and Maryland? W

VII . You are in the field and radio back to have a bearing to a specific landmark to 105° magnetic. What will base have to do to transpose this to his USGS map if the declination for your area is 9° ~~W~~ ? Add 9° to get 114°T

VIII. Using enclosed map 2, calculate the true bearing from the given attack point to a given target

a. from road T in Glenburnie to top of Record Hill 358°

b. from Record Hill to crossroad south of BM$_{774}$ 96°

c. from crossroad south of BM^{774} to Camp Adirondack 250°

d. from Camp Adirondack to Log Chapel 80°

e. from Log Chapel to Meadow Knoll Cemetery 105°

IX. For the above examples, what magnetic bearing would you set on your compass if you needed to travel to the above points

a. 12°

b. 110°

c. 264

d. 94°

e. 119°

. What is the approximate crow-flight distances (in feet) between the ollowing points (map 2)..

a. from Log Chapel to Meadow Knoll Cemetery 1.4mi

b. from Meadow Knoll Cemetery to top of Hutton Hill 0.6 Mi

c. from top of Hutton Hill to Glenburnie 4.2mi

I. Define briefly the following orienteering terms:

a. aiming off Purposely going to one side or another of the target, so you'll know what direction to look in

b. "collecting" feature a place or path of least natural resistance; good place to find people!

c. attack points a starting pt for a bearing to target

d. catching features a identified place that will indicate you have overshot, or to prevent you from overshooting

II. In reference to map 2, you are walking the telephone line that runs pproximately north-south in the middle of the map. To determine where you re, you take a bearing on Record Hill and obtain a value of 294°. ndicate where you are on map 2 with your initials

294-14 = 280 to ⇒

⇒ 180 + 280 = 100 to

III. Again in reference to map 2, you (team alpha) sight a downed aircraft. ou contact team bravo by radio and find that they also can see it. To etermine its exact location, both your team and team bravo take bearings on he aircraft. Your position is the summit of Huckleberry Hill at the A in utnam, and the bearing you obtain is 246° true. Team bravo is located on he summit of Anthony's Nose and their bearing is 108° true. Mark the osition of the downed aircraft with an X.

XIV. Using the ASRC coordinate system, specify the location of the following on the enclosed gridded map.

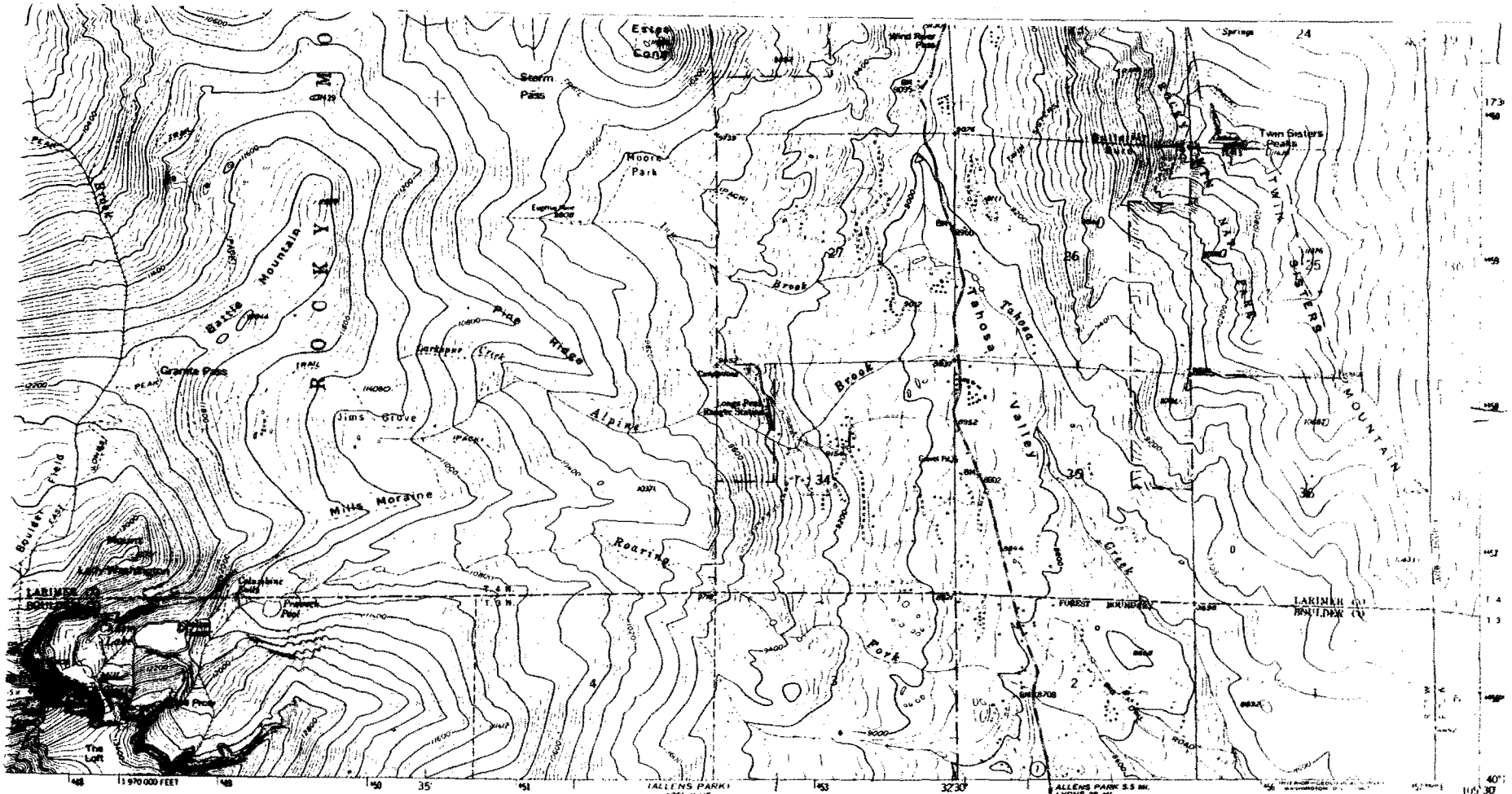
a. summit of Sugar Loaf Mountain H 140/135

b. the cemetery next to Bell's Chapel H 062/063

c. the summit of Hill 1020 H 225/395

d. the h of Furnace Branch H 050/084

e. the P of Park Mills H 040/555



ublished by the Geological Survey
ent of the Interior program
the Missouri River Basin
S, and Bureau of Reclamation
hotographs by photogrammetric methods
195 Field check 1957 Revised 1961
27 North American datum
n Colorado coordinate system,
nsverse Mercator grid ticks,

GN
MN
0°22'
7 MILS
14°
249 MILS

UTM GRID AND 1961 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

SCALE 1:24000

1 MILE
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET
1 KILOMETER

CONTOUR INTERVAL 40 FEET
DATUM IS MEAN SEA LEVEL

COLORADO
QUADRANGLE LOCATION

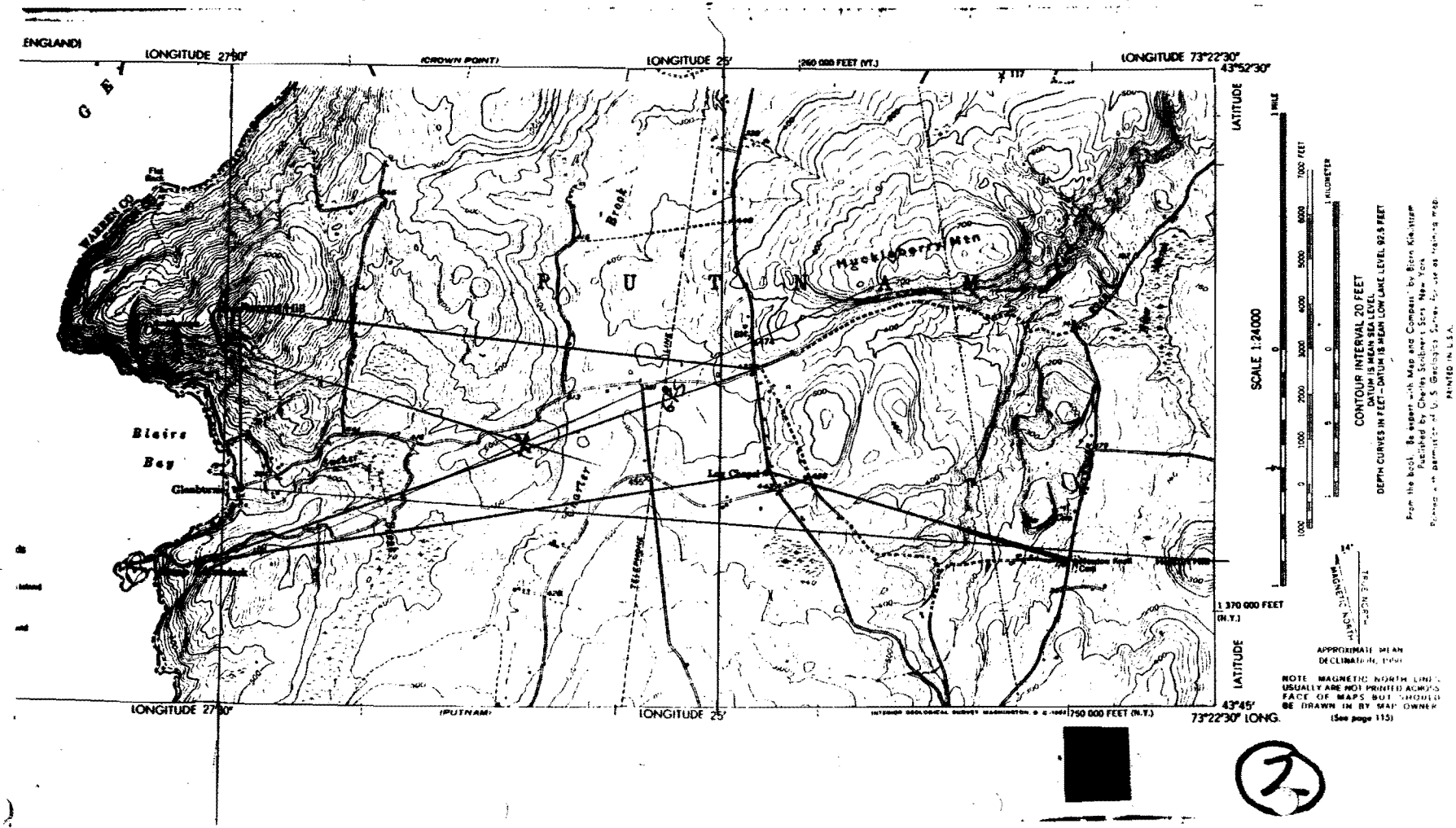
ROAD CLASSIFICATION

Medium-duty — — — Light-duty
Unimproved dirt
State Route

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225 OR WASHINGTON, D. C. 20242
SYMBOLS IS AVAILABLE ON REQUEST

LONGS PEAK, COLO.

1961


ENGLAND)
LONGITUDE 27°30'
(CROWN POINT)
LONGITUDE 25'
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LONGITUDE 73°22'30"
43°52'30"
LATITUDE
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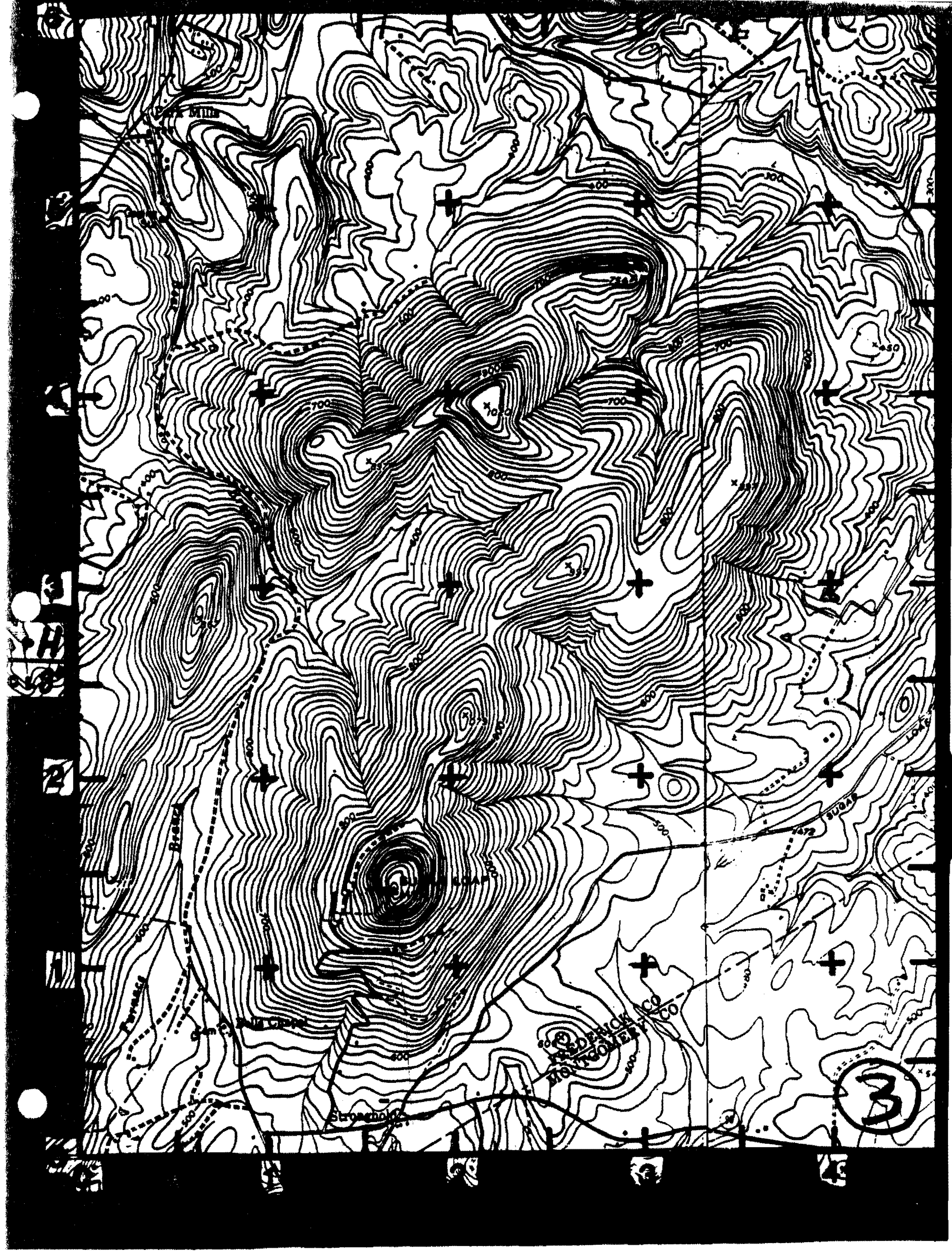
Putnam Brook
Mackinaw Mtn
PUTNAM
Blairs Bay
Glenburnie
Lake Champlain
Ferry
Telephone
SCALE 1:24000
1 MILE
1 KILOMETER
CONTOUR INTERVAL 20 FEET
DATUM IS MEAN SEA LEVEL
DEPTH CURVES IN FEET – DATUM IS MEAN LOW LAKE LEVEL 92.5 FEET
From the book: Be expert with Map and Compass by Bjorn Kjellstrom
Published by Charles Scribner's Sons New York
Portions with permission of U.S. Geological Survey, for use as training map.
PRINTED IN U.S.A.
1 370 000 FEET (N.Y.)
LATITUDE
43°45'
LONGITUDE 27°30'
(PUTNAM)
LONGITUDE 25'
750 000 FEET (N.Y.)
73°22'30" LONG.
APPROXIMATE MEAN DECLINATION, 1950
NOTE MAGNETIC NORTH LINES USUALLY ARE NOT PRINTED ACROSS FACE OF MAPS BUT SHOULD BE DRAWN IN BY MAP OWNER
(See page 115)

[redacted]

7



FREDERICK CO
MONTGOMERY CO
3

SECTION 3 : SEARCH

1. Differentiate between search and rescue: Search is trying to find someone/thing
Rescue is what you do to it when it's found.

2. Differentiate between passive and active search methods: Passive techniques don't require large amts of resources + coordination, as opposed to active ones which often do

3. List three techniques that could be used in passive search strategy.

   a. camping
   b. attraction
   c. observation

4. Define containment and how it may be achieved (5 ways) Containment keeps the area from growing; Road patrols, string lines, natural features, heli / fixed wing, track traps

5. Define binary search theory or strategy. It suggests that you can determine where the subject is by ruling out areas where he isn't. Tactic: sign cut, box patterns around clues.

6. Define hasty search. One whose criterion is speed. Uses little manpower, hits high POA, gives recon of area.

7. What is a "bastard search"? when the subject is outside the search area.

8. List at least 6 items of information a search team should have before it goes into the field. Name of subject, track info, loc. of PLS, dir of travel (if known), clothing, intentions, personality profile, experience, Medical info.

9. Why do we search for clues instead of subjects? More clues than subjects
Detection theory of Tx + Rx

10. Why is search an emergency? B/c something must be done now, and you don't get know enough to rule out an emergency (life poss. at risk)

Give three examples of clue finders:

a. Sign cutters
b. ELT locators
c. investigators.

2. Give three examples of subject finders:

a. Dogs
b. Held
c. untrained gun teams

3. List three methods that could be used for attraction:

a. Fire/light
b. Sound -- horns, motors.
c. Food; actually just calling person's name.

4. Define and outline the five phases of a lost person search as set forth n the ASRC Search and Rescue Operations Plan.

0 - "always" ready
1 - alert/mobilize
2 - hasty
3 - sweep search
4 - saturation search
5 - Denube

5. What are the four primary considerations during any SAR operation?

Effectiveness
Efficiency
Safety for all
WORKING FOR THE SUBJECT

6. List and briefly define the core elements of Search and Rescue.

To try and save lives by working towards finding a person in need of help, or saving a life through technical means. It means to act professionally, w/ positive urgency, towards that goal, always keeping in mind who you're really working for (or should be!)

7. Define briefly and differentiate between Type I, Type II and Type III earch tactics.

Type I - Criteria is speed - hasty, investigation, containment
Type II - Criteria is efficiency - trained sweep teams, dogs, tracking, etc.
Type III - Criteria is thoroughness (effectiveness) - saturation searching, looking at POD.

8. What would be five primary considerations regarding a given SAR situation hat could be used to determine its urgency?

a. Weather
b. Time duration of incident in progress
c. medical - health
d. Age, experience
e. Condition of your searchers / other incidents in progress.

9. A crucial tenet of modern search theory is "Grid Search as a Last esort". Justify briefly why this is correct

Grid searching is labor intensive. It is very effective, but not too efficient. If, you'll probably find him -- dead.

10. Define status 1, status 2, status 3 as used in ASRC operations.

1 - Alive + well NO EVAC NECESSARY

2 - Alive, needs help MORE MEDICAL/EVAC INFO TO FOLLOW

3 - Assumed to be dead WILL PROTECT SCENE, DON'T GET HURT GETTING HERE

11. Discuss briefly how the following concepts relate to your actions in SAR operations.

a. abandonment - If you find a subject and begin providing care, you must not give up or leave.

b. implied consent - If a pt. is unconscious, you may perform emergency care. ? (or a minor in MD?)

c. confidentiality - Don't tell the world private info on the subject's mental/state, etc. Also, if be discreet re: medical condition upon finding him.

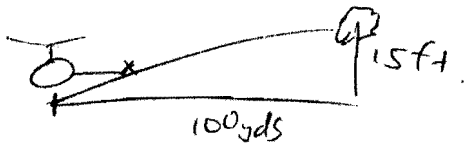
d. entry, during missions, upon private property labeled "no trespassing". check w/ base, get permission from RA, SCO First.

12. In one short paragraph, summarize briefly some essential concerns about helicoptor operations; specifically consider questions to be answered before helicoptor is called in, landing site preparation and specifications, personnel safety considerations in or near the LZ.

1) Can the work be done w/o calling in a helo? If so, then do it! Is life at stake? Do I need speed?

2) need flat area (± 40), firm grnd (heel kick ≯ 1") low vegetation (< 6")
No nearby wires or poles 200 x 100 yds ⇒ 100 x 60 yds minimum
Call in location & confirm comm freq. Give wind dx.

3) keep personnel away from helo until blades stopped, or invited by crew chief. Stay low. Approach from front KEEP EYE CONTACT W/ CREW CHIEF! Approach from uphill side. IF IN DOUBT, DON'T FREEZE!



13. List five priority considerations for evacuation planning.

a. Staging areas

b. Medical providers available

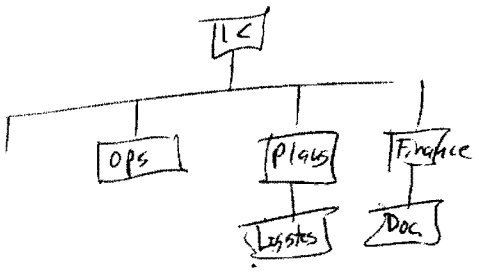
c. Rescue/evac vehicle

d. Where to set evacuees from

e. Replacement/debrob of searches & rescuers during prolonged evac.

4. Describe in fifty words or less the major reason(s) for use of the Incident Command System and what it's chief components are?

Common language work by f(x) not by title. Modular adaptability good span of control.



5. You have been packpacking with a friend in MNF and find yourself in a search first responder situation. Specifically, at your trailhead, a mother and father are frantic because their 10 and 12 year-old sons somehow disappeared on the trail. At this point they have done nothing . What would you do? (please be reasonably brief!)

Calm Down. Each of you take a parent & briefly interview. Then send one to contact a ranger. The other should stay put. You & your friend & hasty along path(s) taken, cutting for sign & calling boy's names. You could send both parents away to get help, if conditions warrant it. Also have the parent who remains take you to the PLS (& recreate scene) ~~[illegible]~~ PROTECT PLS.