STUDENT HANDOUT

FLIGHT REGULATIONS

5/69-3816(U)

APRIL 1968

UNITED STATES ARMY AVIATION SCHOOL
FORT RUCKER, ALABAMA

DEPARTMENT OF ROTARY WING TRAINING
UNITED STATES ARMY AVIATION SCHOOL
FORT RUCKER, ALABAMA

File No. 3816-6(U)

PERFORMANCE OBJECTIVES

FLIGHT REGULATIONS

1. KNOWLEDGES: With the aid of notes and without error the student will be able to:

(Period one of six periods)

a. Define the following terms and state the VFR flight minimums in each.

(1) Continental Control Area.

(2) Control Area.

(3) Control Zone.

(4) Airport Traffic Area.

(5) Airport Advisory Area.

(6) Uncontrolled Airspace.

b. State the three requirements for Special VFR flight in a Control Zone.

(Period two of six periods)

c. Define the following Special Use Airspace and state the flight restrictions.

(1) Prohibited Area.

(2) Restricted Area.

(3) Warning Area.

(4) Alert Area.

(5) Climb Corridor or Joint Use Restricted Area.

(6) Air Defense Identification Zone (ADIZ).

d. Define the following rules:

(1) VFR cruising altitude rule (above and below 3000 feet absolute).

(2) Acrobatic or Aerobatic flight.

e. List in the proper order the right-of-way of air traffic by category and within a category.

f. State the minimum safe altitude when flying in the following areas:

(1) Anywhere.

(2) Congested Areas.

g. Name the five instruments required for VFR night flight.

h. State the use of the following airport/aircraft lights under VFR and IFR weather conditions.

(1) Rotating beacon (Civil and Military airports).

(2) Flashing white light.

(3) Flashing amber light.

(4) Wind "T" or tetrahedron lights.

(5) Control tower visual signals.

(6) Aircraft lights, including the anticollision light.

(Period three of six periods)

i. Answer correctly all of the questions contained in a Practical Exercise containing material covered during periods One and Two, within a time limit of 40 minutes.

(Period four of six periods)

j. Name the eight inetruments required for instrument flight and define the term "Instrument Flight" to include hooded flight and actual instruments.

k. List the following equipment required for instrument flight.

(1) Four types of radio equipment.

(2) Minimum navigation equipment.

(3) Four items of additional equipment.

l. State the fuel reserve requirements for VFR and IFR flight.

m. State the requirements for Over-The-Top flights and state time limits.

n. Define the following terms:

(1) Cruising altitude.

(2) Minimum Enroute Altitude (MEA) on and off designated airways or air routes-

(a) Over flat terrain.

(b) Over mountainous terrain.

(3) IFR cruising altitude rule.

o. State the IFR weather minimums for the following:

(1) Take off (Standard and Tactical Instrument Rating).

(2) Destination - minimums for helicopter pilots.

(3) Alternate airport to include:

(a) When needed.

(b) With no instrument approach facility.

(c) With authorized instrument approach procedure or radar minima.

(Period five of six periods)

p. State the clearance authority of an Army aviator with a Standard, Tactical, or No instrument rating under IFR and VFR flight conditions.

q. State the IFR helicopter copilot requirements.

r. State the hooded flight requirements for:

(1) Hooded flight on-top.

(2) Hooded flight not on-top.

(3) Hooded approaches.

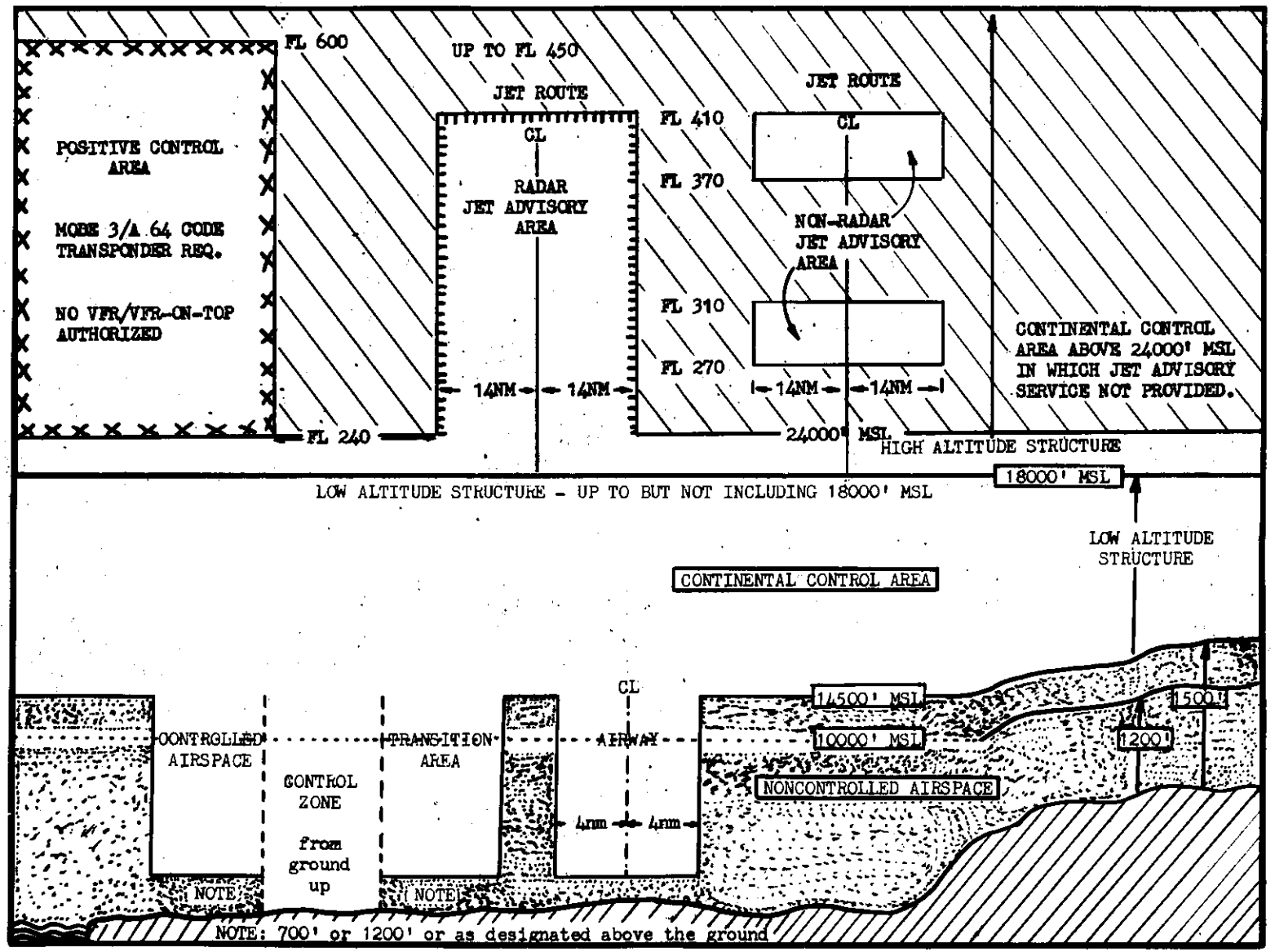
s. State the procedure to be followed by Army aviators who do not comply with AR 95-2, Federal Aviation Regulations or are given priority over other air traffic by an agency of Air Traffic Control (ATC).

t. State the requirements for use of oxygen in Army aircraft.

(Period six of six periods)

u. Answer correctly all of the questions contained in a Practical Exercise, to include material covered during periods Four and Five, within a time limit of 40 minutes.

2. SKILLS: None.


FL 600
UP TO FL 450
JET ROUTE
JET ROUTE
POSITIVE CONTROL AREA
MODE 3/A 64 CODE TRANSPONDER REQ.
NO VFR/VFR-ON-TOP AUTHORIZED
CL
RADAR JET ADVISORY AREA
FL 410
CL
FL 370
NON-RADAR JET ADVISORY AREA
FL 310
FL 270
CONTINENTAL CONTROL AREA ABOVE 24000' MSL IN WHICH JET ADVISORY SERVICE NOT PROVIDED.
14NM
14NM
14NM
14NM
FL 240
24000' MSL
HIGH ALTITUDE STRUCTURE
18000' MSL
LOW ALTITUDE STRUCTURE - UP TO BUT NOT INCLUDING 18000' MSL
LOW ALTITUDE STRUCTURE
CONTINENTAL CONTROL AREA
CL
17500' MSL
1500'
10000' MSL
1200'
CONTROLLED AIRSPACE
CONTROL ZONE
from ground up
TRANSITION AREA
AIRWAY
NONCONTROLLED AIRSPACE
4nm
4nm
NOTE
NOTE
NOTE: 700' or 1200' or as designated above the ground

DEPARTMENT OF ROTARY WING TRAINING
UNITED STATES ARMY AVIATION SCHOOL
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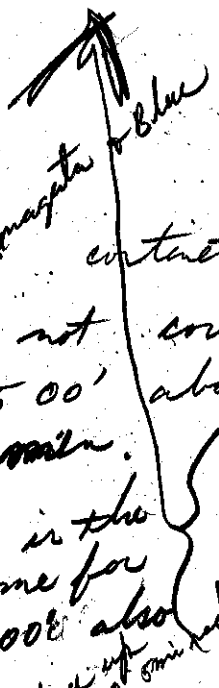
STUDENT OUTLINE

FLIGHT REGULATIONS

1. Controlled airspace.

a. Continental Control Area. 14,500 it includes the 48 states and Alaskas South of the 68 parallel and East of the 160 meridian



b. Control Area. continental control area at 14,500 It does not cover any airspace less than 1,500' above the ground

VFR min. visibility 5 mi
this is the same for 10,000 also clouds must be 1000' above or below you or 1 mi away from

c. Control Zone. surface up to 14,500, 5 mi it excludes any space 1,200 from the ground or below 10,000'

250 kts is max speed below 10,000 ft

NOTES

a federal airway is 8 mi wide

700' magenta colored controlled air space
1,200' blue colored controlled air space

VFR min. 3 mi visibility

basic cloud clearance below 10,000'
- 1,000' above
- 500' below
- 2,000' aaways

a control zone begins at the surface and extends up to 14,500'.
they are usually 5 statute mi in radius and contains 1 or more airport

VFR min in control zone
- 1000' ceiling
- 3 mi visibility
- basic cloud clearance

special VFR control ZONE for Helicopters
1. need ATC clearance traffic control clearance
2. no specified visibility minimums
3. no basic cloud clearance
4. tower clears and spaces the helicopter

d. Airport Traffic Area. begins at surface and extends up to but does not include 2,000' AGL. it is always 5 statute miles in radius and has 1 airport with an operating control tower. You must have tower clearance to enter the control area you must have 2 way communication if it is federally operated, if privately operated only a receive is needed

e. Airport Advisory Area. You may not exceed 156 knots in the area it begins on the ground and extends all the way up it is usually 5 mi. in radius, it has a flight service station (F.S.S.) no tower

communications none required.
use a traffic pattern

2. Uncontrolled Airspace. only below 14,500' VFR min.

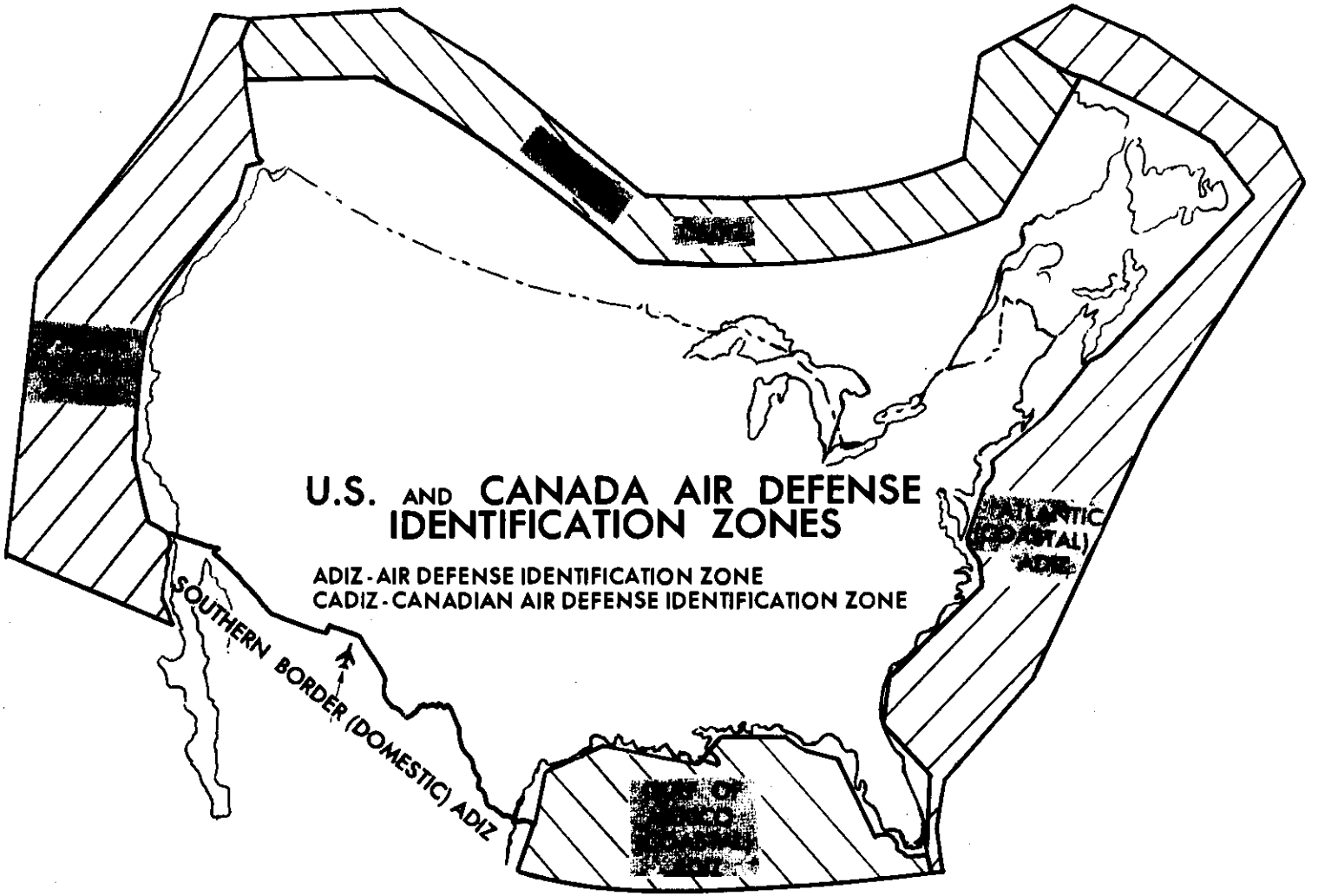
below 1200 remain below clear of clouds

daylight flat terr 300 ft ceiling 1/2 visibility
daylight and mountainous terr 300' ceiling above the terrain
nighttime flat terr 1/2 mi visib.
nights inside mountainous terrain 500' ceiling 1 mi visible
above visible 1000' above the highest land
above 1200' have basic cloud clearance and 1 mi visible.

3. Special Use Airspace.

a. Prohibited Area. air traffic is not permitted they are created by order of the President only 3 in the nation. 2 near Washington and Oregon have lateral limits 4000' high. Washington DC.

b. Restricted Area. these often contain invisible hazards to flight. You must have permission from the using agency. The Federal agency designates these areas. They have lateral vertical and time relation


U.S. AND CANADA AIR DEFENSE IDENTIFICATION ZONES
ADIZ - AIR DEFENSE IDENTIFICATION ZONE
CADIZ - CANADIAN AIR DEFENSE IDENTIFICATION ZONE
SOUTHERN BORDER (DOMESTIC) ADIZ

c. Warning Area. all exist at the 3 mi limit over water. you may fly in them, but do not fly in them. ICO procedures grant these areas, they have time lateral in nature.

d. Alert Area. they have visible hazards to flight they are not restricted, they have lateral, vertical and time limits

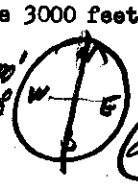
e. Climb Corridor. (Joint Use Restricted Area) they allow high performance jets to climb and descend
you must have permission to enter the area under VFR conditions the using agency is always military IFR no matter you have been cleared
These have lateral and vertical clearance.

f. Air Defense Identification Zone. (ADIZ - See opposite page)
IFR or DVFR flight plan
1. see opposite.

3. ADIZ flight procedures are contained in the flip documents.

4. VFR cruising altitudes.

a. Below 3000 feet absolute. cruise on any altitude you wish

b. At and above 3000 feet absolute. 000 thousand + 500' for east even thousand + 500' for west
over + 500' also 180  odd + 500' also 360°
(all are magnetic courses)

5. Right-of-way of air traffic.

a. By category.

1. distress
2. balloons
3. glider
4. airship and blimps
5. airplane or rotorcraft

b. Within a category. give way to man on right

if he is on the horizon and does not change apparent position break right
overtaking - pass right
final - the lowest

6. Acrobatic or Aerobatic flight. intentional maneuver involving abrupt or abnormal altitude in which pitch exceeds 80 and attitude 60 — 500' clearance from aircraft unless prior-planning
over congested areas, control zone, open groups of people, on a federal airway, above 1500' min. visibility of 3 mi.

7. Minimum safe altitude.

a. Anywhere. a power off landing with no hazards to persons or property. determine the min. alt.

b. Careless or reckless operation.

8. Instruments required for VFR night flight.

a. air speed
b. altimeter
c. magnetic
d. attitude
e. turn + bank

} all } all large aircraft.

9. Aircraft lights.

a. Navigation or running lights. flight taxing, parked near an area they are on steady unless the beacons are in operation

b. Anticollision (Grimes) light. then they are in flash
off when on the ground and on when on the pad, and off in IFR.

10. Aerodrome lights.

a. Rotating beacon. lighted fields

(1) Split white and green. military

(2) White and green. civilian

(3) Fast flashing white. a heliport 30 flashes per min for

(4) Night operation. normal

(5) Daylight operation. I F R. conditions

b. Flashing amber light. it means a nt hard traffic pattern on clockwise flow.

c. Wind "T" or tetrahedron lights.

(1) Steady. V F R

(2) Flashing. I F R

d. Control tower visual signals.

CONTROL TOWER VISUAL SIGNALS		
COLOR	ON GROUND	IN AIR
Steady GREEN	Clear for Take-off	Cleared to land
Series of GREEN FLASHES	Cleared to Taxi	Return for landing
Steady RED	Stop	Give way to other aircraft & continue circling
Flashing RED	Taxi clear of landing area	Aerodrome unsafe, do not land
Series of WHITE FLASHES	Return to starting point on the Aerodrome	
Alternating RED & GREEN	Exercise Extreme Caution	General Warning Signal

know.

11. Practical Exercise.

12. Definition of Instrument Flight - Flight path and attitude controlled by instruments.

a. Hooded flight. vision is artificially limited

b. Actual Instruments. (Logged as "W" flight time) when flying in clouds

13. Basic requirements for instrument flight.

a. Instruments. (Must be operating and lighted)

(1) airspeed ind.

(2) sensitive altimeter

(3) turn + slip ind. or turn coordinator

(4) clock with sweep second hand

(5) magentic compass and correct card

(6) attitude ind.

(7) gryoscopic heading ind.

(8) vertical speed ind.

b. Radio equipment. (Installed and operating)

(1) navigational radio ADF is the MINIMUM. may

(2) VOR if required by flight

(3) Marker beacon reciever

(4) Decca, Transponder, OME, Dopler

2 WAY radio / operating on ARTCC, FSS, terminal facility

c. Other equipment. (Must be operative) approved with ground control

Pitot heater deicing and anti-icing for all flights into known or forcasted light or moderate icing condition. (now army aircraft will flight into icing conditions.

d. Publications. (Must be current)

000 FLIPS

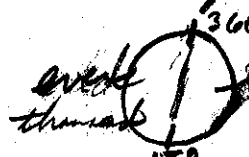
e. Fuel reserve.

(1) VFR. cruise fuel + 30 min reserve

(2) IFR. cruise + 45 min (no alternate)
have cruise to first airport + go to alternate and 45 min reserve.

f. Over-The-Top flights.
if it is equiped and you are qualified you can stay indefinate

30 min if not equiped or qualified



overtop thru at

g. IFR cruising altitudes.

(1) Definition of the term "Cruising Altitude" - Constant altimeter reading in relation to Mean Sea Level (MSL).

(2) IFR on designated airways or air routes.

radio

(3) IFR flights off designated airways or air routes.

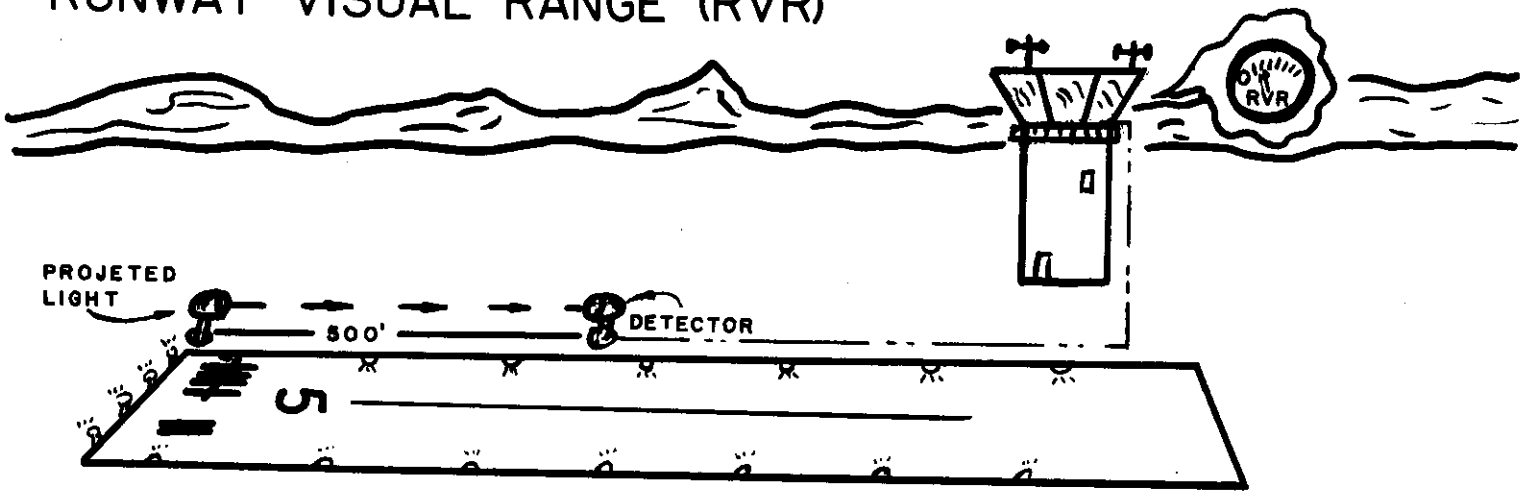
(a) Minimum Enroute Altitude (MEA) over flat terrain. suffient alt to recieve all types of radio assistance you must request your alt over the MEA by the same

(b) ~~MEA over mountainous terrain.~~ similar rule assigned by ACC

min over flat terrain is 1000' above the highest obstical in 4 nat mi.

mountain terrain 2,000 above the highest obstical within 22 nat. mi.

RUNWAY VISUAL RANGE (RVR)



Runway Visual Range (RVR) is an instrumentally derived value that represents the horizontal distance a pilot can see down the runway from the approach end. It is based on the sighting of high intensity runway lights, the brighter the lights, the farther they can be seen. Intensity of high intensity runway lights is adjustable and the RVR equipment takes into account the light setting. When the runway edge light intensity (setting) is increased, the RVR readout increases, and vice-versa. Therefore, the primary advantage of an RVR reading lies in its taking into account the penetrating capability of high intensity runway lights, making it a more realistic and accurate indication of the visual cues which the pilot will have when on, or close to, the runway.

RVR is a sample of the visibility measured along a 500' baseline and extrapolates values up to 6200'. Although the visibility may vary along the runway, experience has shown that in the large majority of cases, it is representative of the visibility along the entire runway distance. RVR is not slant-range visibility along the glide path, but is what the pilot, touching down, or taking off the runway, would see in terms of high-intensity runway lights while in the touchdown area.

14. Runway Visual Range (RVR). (NOTE: See explanation on page 14 of this handout.)

15. IFR weather minimums. present weather at point of departure

a. Take off. 100' ceiling 1/4 mile RVR 1600' = 1/4 visibl with a standard ticket holder, special holder - none

b. Destination. at the time of leaving the forecast is better than or equal to the present weather

c. Alternate airport requirements.

(1) When needed. less than 1000' above the minimums less than a mi or less than published visibl. whichever is higher (forecast, 1 hr before and 1 hr after ETA.)

(2) Minimums (No instrument approach facility). Pg 33 helicopter may reduce required visibl by 50% but not less than 1/4 mi or RVS 1600

(3) Minimums - standard (Approach procedure appears in FLIP).

(4) Minimums - (Instrument approach procedure authorized but does not appear in FLIP). 300 - 1

16. PILOT RATING

a. Master Army Aviator (1)

b. Senior Army Aviator (2)

c. Army Aviator (3)

Pg 32

INSTRUMENT RATING

a. Special (1)

b. Standard (2)

c. Non-rated or Tactical (3)

17. Military clearance rules.

a. Clearance authority - Army aviator with a Special (1) instrument rating.

(1) (VFR) 3

(2) (IFR) 1, 2,

b. Clearance authority - Army aviator with a Standard (2) instrument rating.

(1) (VFR) you may clear them if your #1 rated
yours and others under your direct control
local area #1, area without military [illegible] #2
you can change en route if it is good [illegible]

(2) (IFR) you clear yourself with a #1 rating
your self from an airport with no military
operator #2

#1, none.

c. Clearance authority - Army aviator with no (3) instrument rating.

(1) (VFR)

(a)

(b)

(c)

(2) (IFR)

d. Clearance authority - Army aviator (3) with a Tactical instrument rating.

(1) (VFR) own aircraft + others under Direct control

(2) (IFR) own aircraft in a Tactical or simulated tactical situation

e. Clearing authority restriction and responsibilities. If you say that proper flight rules are followed
2. all regulations are ~~followed~~ complied with
3. aircraft is suitable
4. pilot is qualified,

with #1

18. Copilot requirements. a. for all flights into known or forecast instrument flight conditions 2. he must be equally qualified (same rating and current in aircraft)
3. a Student and instructor = pilot + copilot; on a training flight.

19. Hooded flight requirements. an observer with night and ground reference.
if your flight on top your observer must be instrument rated and qualified in the category of aircraft.
Helicopter - the observer must be helicopter rated.

e. Additional hooded flight requirements. level flight must be 1000' or higher. approaches - if clouds in current in aircraft 100' from ground and if not 500' you must take off hood or missed approach.

20. Emergencies.

a. Non-compliance with AR 95-2. report to unit commander in writing within 24 hours

b. Priority by an agency of Air Traffic Control. if you get emergency priority with no deviation, if requested then 48 hours on

21. Use of oxygen. must have it above 14,000' for all passengers (12,000 - 14,000' for 30 min without it and 10,000-12,000 for more than 30 min

lack of oxygen = hypoxia

22. Practical Exercise.

DEPARTMENT OF ROTARY WING TRAINING
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File No. 3816-6(U)

PERFORMANCE CHECK

FLIGHT REGULATIONS

(Period one of six periods)

1. Cloud clearance within the continental control area is 10000 feet below, 1000 feet above, and 1 mile horizontally.

2. Cloud clearance between the base of the continental control area and 10,000 feet MSL is 1000 feet below, 1000 feet above, and 1 mile horizontally.

3. The cloud clearance below 10,000 feet MSL in control areas and control zones is 500 feet below, 1000 feet above, and 2000 horizontally.

4. Control zones are 5 miles in radius and extend from the surface upward.

5. An airport advisory area contains a flight service station.

6. Cloud clearance and visibility requirements for flight within uncontrolled airspace above 1200 feet absolute but below 10,000 feet MSL will be 1000 feet above, 500 feet below, 2000 horizontally, and visibility 1 mile.

(Period two of six periods)

1. Name four of the six types of Special Use Airspace.
   a. climb corridor e prohibited area
   b. restricted area f. A.D.I.Z.
   c. warning area
   d. alert area

2. State the VFR cruising altitude rule for flight at and above 3000 feet absolute.
odd + 500' for east (0°-179°) even + 500' for west (180°-359°)

3. A helicopter pilot who has an airplane on his left, in a crossing situation, would know that he has the right of way.

4. Acrobatic flight may be conducted between sunset and sunrise as long as all requirements for acrobatic flight are complied with. (True/False)

5. The minimum ceiling and visibility for a helicopter night flight over mountainous terrain would be 1000 feet and 1 miles.

6. What does it mean if you receive a flashing red light from the control tower while in the take-off position on the active runway? clear the active runway

7. What does it indicate when the airport rotating beacon is operating during daylight hours? IFR conditions are present.

(Period four of six periods)

1. What is the meaning of the term "Hooded Instrument Flight"? artificial limitation of the pilot's vision.

2. Name one of the instruments required for instrument flight that is not required for VFR night flight? heading indic, clock, V.S.I.

3. State the VFR and IFR fuel reserve requirements. VFR 30 min.
IFR 45 min.

4. Write the IFR cruising altitude rule. odd thousands eastbound (0°-179°); even thousands westbound, (180°-359°).

5. Define the term "Cruising Altitude." a constant M.S.L. altimeter reading.

6. State the take off weather minimums for an Army helicopter pilot with a standard instrument rating. 100 foot ceiling, 1/4 mile(s) visibility or RVR 1600 feet.

7. State the rule, used by Army helicopter pilots, when selecting an alternate aerodrome which has an approach procedure or radar minima published in the Flight Information Publications. Precision approach 600 foot ceiling and 1 mile(s) visibility. Nonprecision approach 800 foot ceiling and 1 mile(s) visibility, from 1 hour before to 1 hour after ETA.

(Period five of six periods)

1. State the weather requirements for a non-instrument rated Army aviator (3-3) desiring to change his destination on a VFR flight within the local flying area. the destination and enroute must be predicted VFR for the trip plus 1 hour after ETA

2. What are the Army helicopter copilot requirements for an IFR flight into forecast instrument conditions? copilot must be instrument rated and current in the the aircraft being flown.

3. Other than approaches, what is the minimum altitude that may be used by Army aviators for practicing hooded instrument flight? 1000 AGL.

4. An Army aviator who deviates from AR 95-2 must report the noncompliance to his Unit Commander within 24 hours after the incident occurs and furnish a copy to his immediate superior.

5. The maximum altitude which may be used by Army aviators without the use of oxygen is 14,000 feet.

DEPARTMENT OF ROTARY WING TRAINING
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File 3816-6(U)

PRACTICAL EXERCISE NO. 1

FLIGHT REGULATIONS

NOTE: ANSWER AS MANY OF THE FOLLOWING QUESTIONS AS POSSIBLE WITHOUT REFERRING TO NOTES.

1. The continental control area begins at 14,500 feet but excludes that airspace within 1500 feet of the terrain.

2. Control areas, other than the continental control area, begin at 700 feet or 1,200 feet above the terrain or as indicated on aeronautical charts.

3. Control zones start at the ground, are 5 stat mi in radius, and extend 14,500.

4. The weather requirements for VFR flight within the continental control area are, cloud clearance 1000 feet below, 1000 feet above, 1 mi horizontally and visibility 5 mi.

5. The weather minimums for VFR flight in that area between 10,000 feet MSL and the base of the continental control area are, cloud clearance 1000 feet below, 1000 feet above, and 1 mi horizontally, and 5 mi visibility.

6. The weather requirements for VFR flight in control areas below 10,000 feet MSL are, cloud clearance 500 feet below, 1000 feet above, and 2000 feet horizontally, and 3 mi visibility.

7. The weather requirements for VFR flight in control zones below 10,000 feet MSL are, ceiling 1000 feet, cloud clearance 500 feet below, 1000 feet above, and 2,000 horizontally, and 3 mi visibility.

8. The requirements for special VFR clearance within a control zone are, ATC clearance, visibility none specified, and stay out of clouds.

9. Weather minimums for helicopters conducting VFR flights in uncontrolled airspace below 1200 feet absolute are:

   a. Flat terrain - daylight hours, ceiling 500' feet and 1/2 mile visibility.

   b. Flat terrain - night, ceiling 500 feet and 1 mi visibility.

   c. Mountainous terrain, daylight hours, ceiling 300' feet and 1/2 mi visibility.

   d. Mountainous terrain - night, ceiling 1000 feet and 1 mi visibility.

10. Airport traffic areas are 5 statute miles in radius and extend from the surface up to, but not including, 2,000 AGL feet.

11. Except where a waiver has been obtained two-way radio communications is required for VFR flight in Air Port Traffic area which has a United States operated control tower.

12. An airport advisory area consists of an uncontrolled airport with no control tower but at which a flight service station is located.

13. A helicopter approaching to land in an airport advisory area should do which of the following:

(a) Avoid the flow of fixed wing traffic. ✓

b. Take at least a double interval on fixed wing traffic because of difference in approach speed.

c. Proceed directly to the landing area since helicopter traffic has the right-of-way over fixed wing traffic in the landing pattern.

d. Conform to the normal flow of traffic in the landing pattern and attempt to maintain a normal landing interval.

14. Uncontrolled airspace starts at the surface and terminates at 14,500 feet MSL ~~feet~~.

15. Match the following special use airspace with the appropriate definition:

1 a. Prohibited Area
3 b. Restricted Area
4 c. Warning Area
2 d. Alert Area
6 e. Climb Corridor
5 f. Air Defense Identification Zone (ADIZ)

~~1.~~ Flight prohibited by Executive order of the President of the United States.

~~2.~~ Visible hazards to air navigation.

~~3.~~ Invisible hazards to air navigation and pilot must have permission to fly through.

(4.) Invisible hazards to air navigation but is located beyond continental limits of USA.

(5.) An area in which a DVFR or IFR flight plan is required.

~~6.~~ A joint use restricted area used by high performance aircraft.

16. According to the VFR cruising altitude rule an aircraft flying (at or above) 3000 feet absolute must fly at ODD or EVEN altitudes plus 500 feet. (True/False) [TRUE]

17. In order to determine direction of flight so that he can apply the VFR cruising altitude rule (ODD or EVEN plus 500 feet) the pilot should use which of the following?

a. magnetic heading.

(b) magnetic course.

c. true heading.

d. true course.

18. Which Federal Aviation Regulation covers air traffic rules? 91.

19. List, by category, the right-of-way of air traffic:

a. Distress.

b. Ballons.

c. gliders.

d. airships or blimps.

e. aircraft or helicopts.

20. Two aircraft of the same category are approaching head-on. Who has the right-of-way? no one. What action should be taken by the pilots? break right.

21. What is the minimum altitude required for helicopters flying over congested areas such as cities and towns? the minimum safe altitude for a safe forced landing.

22. List the five instruments required for night VFR flight in the TH-13T.

a. air speed indicator.

b. magnetic compass.

c. altimeter.

d. attitude indicator.

e. turn and bank indicator.

23. Aircraft navigation lights should be turned on from dusk sunset to dawn sunrise.

24. When should the anticollision (Grimes) light be turned on for VFR night operations? when on the hours of flight.

25. Match the following control tower visual signals to the correct action required:

3	a. Stop	1.	Steady Green.
1	b. Cleared to Land	2.	Flashing Green.
X 2	c. Cleared to Continue Taxiing	3.	Steady Red.
X 24	d. Return for Landing	4.	Flashing Red.
4	e. Aerodrome Unsafe, Do Not Land	5.	Flashing White.
6	f. Exercise Extreme Caution	6.	Alternating Red and Green.
5	g. Return to Starting Point on Aerodrome		

26. A pilot approaching an aerodrome at night sees a rotating beacon which he identifies as a split white light and a green light. He knows that he is approaching a military airport.

27. A pilot approaching a heliport at night could identify it by looking for what type of beacon? a rapidly (30 rpm) rotating white-white beacon

28. How would instrument flight conditions be indicated at an aerodrome during daylight hours? the beacon light on; At night? the wind T would flash.

29. When is VFR flight authorized in Restricted Areas? when prior permission from the using agency.

30. An aircraft is flying in an easterly direction above scattered clouds with tops at 3200 feet MSL. In accordance with the VFR cruising altitude rule what would be the minimum altitude at which he could cruise? 5,500 feet.

31. A UH-1B is overtaking a (TH-13T) from behind. Which aircraft has the right-of-way in this passing situation? the faster aircraft may pass (smaller). What action is required by the pilot of the TH-13T? none. What action is required by the pilot of the UH-1B? pass left on right side.

32. Aircraft navigation lights must be turned on any time the flight visibility is less than 3 miles. (True/(False)) night only

33. An aircraft with the anticollision light inoperative would have the navigation (running) lights switch in the (steady/(flash)) position.

34. By definition, which of the following would be classified as "Controlled Airspace"?

a. Caution, warning, restricted, and prohibited areas.

b. Only control zones and transition areas.

c. Only climb corridors, control zones, and extensions thereof.

(d) Continental control area, control area, control zone, or transition area within which some or all aircraft may be subject to air traffic control.

35. A Control Zone differs from a Control Area in that:

a. A control zone is larger than a control area.

b. Traffic in a control zone is controlled by Air Traffic Control only.

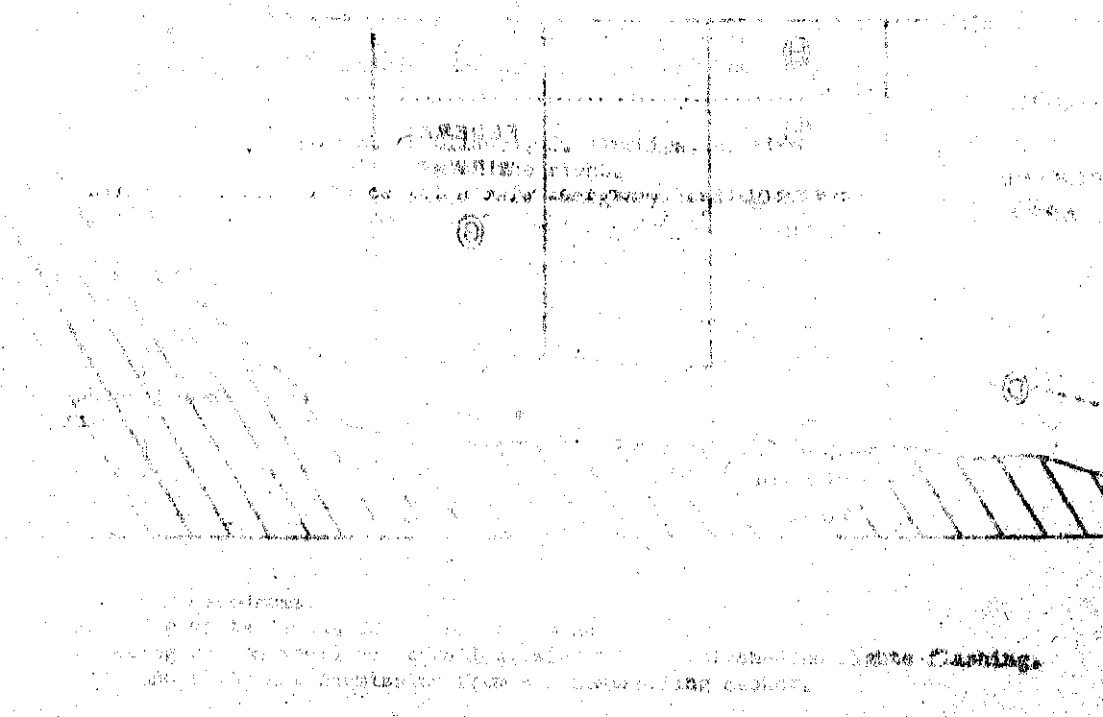
(c) A control zone extends from the surface upwards while a control area starts at 700 feet above the surface until designated from 1200 feet or more.

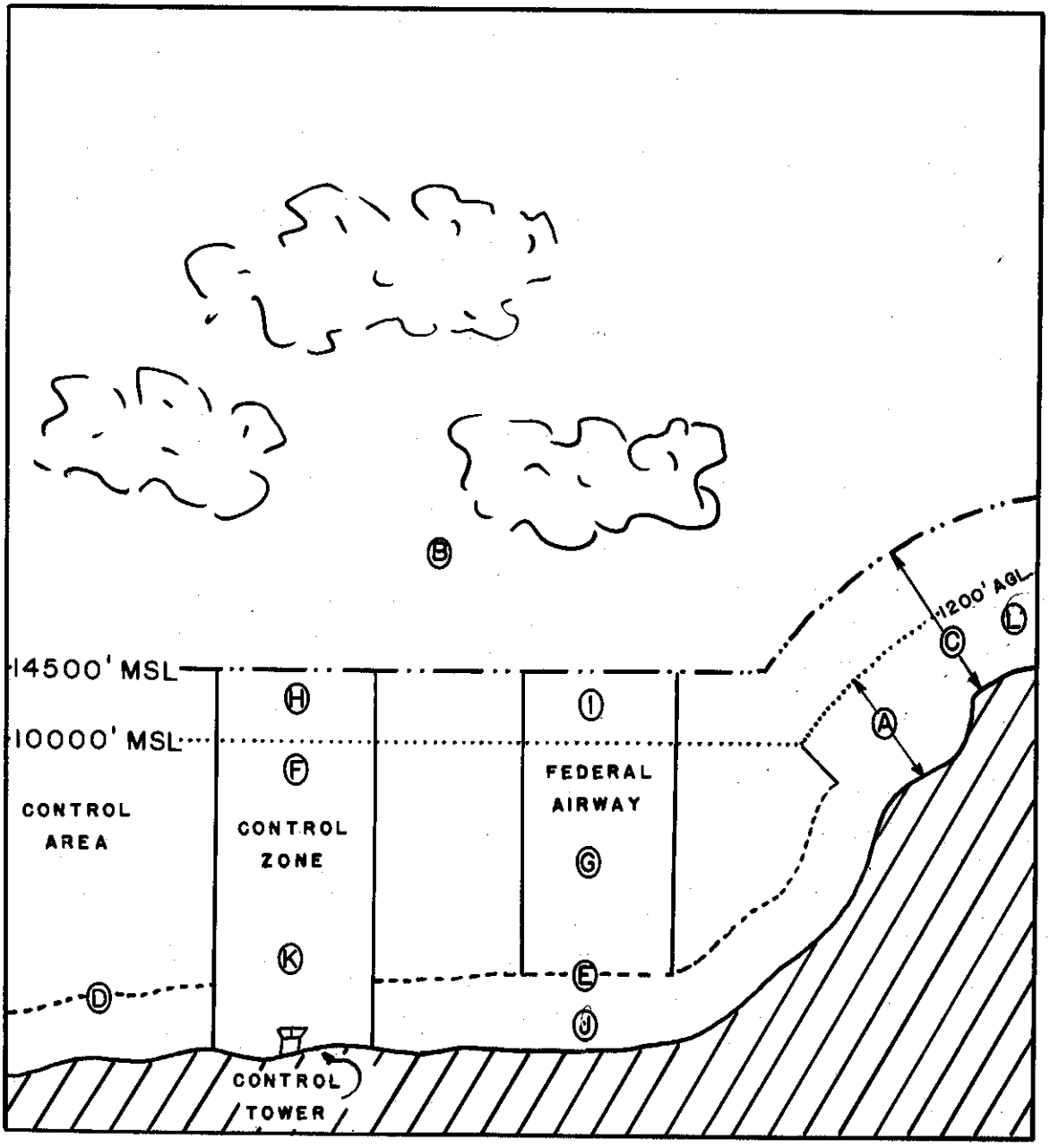
d. A control zone does not extend from the surface upwards.

(P.E. continued on page 24)

ceiling + visibility in

(NOTES)




14500' MSL
10000' MSL
CONTROL AREA
CONTROL ZONE
FEDERAL AIRWAY
1200' AGL
CONTROL TOWER
A
B
C
D
E
F
G
H
I
J
K
L

REFER TO THE CHART ON PAGE 26 TO ANSWER THE FOLLOWING QUESTIONS:

36. What is the elevation of line "D"? 700 ' AGL.

37. How wide is space "A"? 1,200 ' AGL.

X 38. What visibility is required for VFR flight at position "B"? 5 mi.

39. What is the width of the Control Zone? 10 stat mi.

X 40. What would be the elevation of line "E"? ~~700' AGL~~ DESIGNATED ON CHART.

X 41. What visibility is required for VFR flight at position "G"? 3 mi.

42. What cloud clearance is required for VFR flight at position "F"? 500' below 1000' above 1,000' horizontally.

43. What visibility is required for VFR flight at position"H"? ~~5~~ mi.

44. What visibility is required for VFR flight at position "J" during daylight hours? 1/2 mi.

45. How wide is space "C"? 1,500 feet.

46. What cloud clearance is required for VFR flight at position "I"? 1000 above 1000' below 1 mi horizontally.

47. What cloud clearance is required for VFR flight at position "J"? Clear of clouds.

48. Could VFR flight be conducted in this Control Zone with 2 miles visibility? yes special VFR.

49. How wide is the Federal Airway? 8 nat mi.

50. What is the maximum authorized airspeed at position "K"? 156 KTS; At position "B"? NONE; At position "G"? 250 KTS.

51. What is the minimum visibility for VFR flight at position "L" during daylight hours? 1/2 mi; during night hours? 1 mi.

52. What minimum visibility, if any, is required for acrobatic flight at position "G"? no acrobatics on federal airways.

53. What cloud clearance is required for VFR flight at position "H"? 1000' above 1000 below 1 mi horizontal.

DEPARTMENT OF ROTARY WING TRAINING
UNITED STATES ARMY AVIATION SCHOOL
FORT RUCKER, ALABAMA

File No. 3816-6(U)

PRACTICAL EXERCISE NO. 2

FLIGHT REGULATIONS

NOTE: ANSWER AS MANY OF THE FOLLOWING QUESTIONS AS POSSIBLE WITHOUT REFERRING TO NOTES.

1. What is the definition of Instrument Flight? flying an aircraft with no reference to the ground, only instruments to determine attitude.

2. What is the definition of Hooded Instrument Flight? limiting the vision by means of hoods, to the instruments only.

3. What is the definition of Actual Instruments ~~when referring to instrument flight~~? when weather causes you to use instrument to control attitude of aircraft.

4. If weather is below authorized minimums for VFR flight the Army aviator must file an instrument flight plan (IFR) and may log all of his flight time as Actual Instruments (W). (True/False)

5. List the eight instruments required for IFR flight in Army helicopters.

   a. airspeed ind.
   b. altimeter.
   c. turn and Bank ind.
   d. attitude ind.
   e. clock (sweep second hand)
   f. gyro heading indicator or rmi
   g. navigation radios current calibration card
   h. pitot heat, natural speed

6. List the four items of radio equipment required for instrument flight.

   a. A O F.
   b. transmitter and receiver
   c. OMNI if using VOR.
   d. marker beacon receiver.

7. An Army aircraft not equipped with anti-icing/deicing equipment is not allowed to conduct flight even into light icing conditions. (True/False)

8. Fuel reserve required for Army aircraft conducting VFR flight is 30 minutes.

9. Fuel required for IFR flight must be sufficient to reach the destination and alternate airport (if required) plus 45 min reserve.

10. Army aircraft will not be operated above a cloud or fog layer or overcast under VFR rules for more than 30 min unless the aircraft is equipped for instrument flight and all instrument flight rules and requirements can be met.

11. Define the term "cruising altitude." a constant altimeter reading according to MSL.

12. In accordance with the IFR cruising altitude rule an aircraft operating IFR in uncontrolled airspace, heading in an easterly direction, should cruise at an (ODD/EVEN) altitude? odd + 500'. over 3000'

13. What are the IFR take-off minimums for an Army helicopter pilot with a standard instrument rating? 100' ceiling 1/4 mi. visib. or RVR 1600'.

14. When selecting the Minimum Enroute Altitude (MEA) for an IFR flight off airways, over flat terrain, the Army aviator must select an MEA of at least 1000 feet above the highest obstacle within 4 NM of the course and over mountainous terrain the MEA must be at least 2,000 feet above the highest obstacle within 22 NM.

15. The present weather and the forecast weather for the destination listed in an (IFR) flight plan must be equal to or better than the published approach minimums for the appropriate approach. (True/False)

16. Army helicopter pilots are not required to select an alternate airport on an IFR flight if the destination weather is forecast to be at least 1000 feet above the appropriate approach minimums and 2 miles visibility or published visibility, whichever is greater from 1 hr before to 1 hr after ETA at the destination.

17. Alternate minimums for Army helicopter pilots selecting airfields for which an instrument procedure or radar minima is provided in authorized publications are: PRECISION APPROACH - 600' feet ceiling, visibility 1 mi RVR
NONPRECISION APPROACH - 800 feet ceiling, visibility 1 mi
or as published in Flight Information Publications (FLIP) if higher, from 1 hr before to 1 hr after ETA at the alternate.

18. If forced to select an alternate for which there is no instrument approach procedure authorized the Army helicopter pilot must have the following weather conditions forecast: VFR descent approach, landing with at least 1 1/4 mi visib., from 1 hour before to 1 hour after ETA at alternate.

19. An Army aviator is planning an IFR flight off airways over mountainous terrain. If his flight is in a westerly direction and the maximum terrain elevation is 6000 feet, the minimum enroute altitude that he could select would be 8,000 feet.

20. An Army aviator with a 3-3 rating and a Tactical Instrument Card has the same clearing authority for VFR flights as an aviator with a Standard Instrument Rating. (True/False)

21. Under what conditions may an Army aviator with a 3-3 designation and a Tactical Instrument Card clear his own aircraft for an IFR flight? under combat conditions only.

22. List three of the items for which the flight plan clearing authority is responsible when clearing a flight.

a. That the flight rules will be followed.

b. That the equipment is in proper condition.

c. the pilot is rated. he has complied with regulations.

23. According to AR 95-2 what are the IFR copilot requirements for Army helicopters?
the same as the pilots.

24. Except for approaches, the minimum flight altitude authorized for hooded flight is 1000 feet above the terrain.

25. There are two different absolute altitudes authorized for hooded approaches. State each minimum and the conditions under which it applies.

a. 500' if there is not rated observer.

b. 100' if the observer is rated and exact.

26. In the event of noncompliance with AR 95-2 the Army aviator must report, in writing, the full details of the incident direct to his unit commander within 24 hours hours after the incident occurs and furnish a copy to his immediate superior.

27. An emergency situation which results in no deviation from Federal Aviation Regulations, but which does result in Air Traffic Control giving priority over other air traffic, requires the pilot to submit a report, on request only, to the facility chief within 48 hours. An Army aviator must submit a copy of this report to his immediate superior.

28. Upon arrival at the destination the weather is reported below authorized minimums for an instrument approach. According to AR 95-2 what action is the Army aviator authorized to take?

a. He may make an approach so long as he does not descend below the published ceiling.
(b) He may not attempt an instrument approach but he may request clearance to hold if the forecast is favorable.
c. He may clear himself for the approach if he is a Special Instrument Rated pilot.
d. He may commence the approach if cleared to do so by the controller handling the flight.

29. A 3-2 Army aviator is cleared to fly VFR-on-top of a 5000 foot overcast on an IFR flight. If he is flying the flight on a heading of 080° what minimum altitude could he select in accordance with the cruising altitude rule?

a. 5500 feet.
b. 6000 feet.
c. 7000 feet.
(d) 7500 feet.

30. The maximum altitude authorized for Army aviators flying aircraft not equipped for oxygen flight is 14,000 feet.

31. What is the minimum radio equipment required for instrument flights? ADF and a transmitter + receiver of usable freq..

32. What do the letters MEA stand for? Minimum Enroute Altitude.

33. Other than obstruction clearance, what does the MEA guarantee the pilot? an altitude where he can receive and use are radio nav. aids.

34. What are the take off minimums for an Army aviator with a Special (1) instrument rating? none - (0-0).

35. You intend to select an alternate airport which has a published NDB (ADF) approach with minimums of 400 & 1. What minimum weather must be forecast at the alternate and for what period of time? 800 and 1 or better for 1 hour before and 1 hr after ETA.

36. If the NDB (ADF) approach described in question 35 above was published in a publication other than FLIP, what must be the forecast and for what period of time? 800 and 1 3/4 of 1 hr before + 1 hr after ETA

37. Must an Army aviator with a 1-1 designation have Air Traffic Control clearance for an IFR take off in controlled airspace? (Yes)/No)

38. Does the Army aviator with a Special Instrument Rating have to comply with published landing minima? (Yes)/No)

39. What is the requirement for hooded flight "on top"? observer must be instrum rated in type and category aircraft.

40. If an aircraft is instrument rated and the pilot possesses an instrument card, for what period of time may the aircraft be flown over-the-top? indefinate period.

41. An aircraft is on a Magnetic Heading of 185°. The Magnetic Course being flown is 175°. In uncontrolled airspace, over flat terrain, what altitude must the pilot select to fly during IFR conditions? odd thousand feet

42. What do the letters RVR mean? runway visual range, dist. seen down strip

43. What is the minimum RVR authorized Army helicopter pilots for take off? 1600' RVR; for landing? 1,600' RVR.

44. Under certain conditions Army helicopter pilots may reduce the published visibility factor by as much as _____%, but never less than RVR _____, or visibility _____mile(s).

45. An Army aviator arrives at his destination and finds out from Approach Control that it is below minimums for an instrument approach. If the forecast is favorable may he request permission to hold? (Yes)/No)

46. An Army helicopter pilot is conducting a straight-in instrument approach and is about half way between the final approach fix and the end of the runway. Approach Control informs him that the field has just gone below minimums for his type aircraft. What must he do? _____.

RATING	TOTAL HOURS	HOOD	AI	YEARS	OTHER
ARMY AVIATOR	200 hours, 75 must be solo, approved school				approved school may be waived for reserves (AR 600-106)
SENIOR ARMY AVIATOR	1500 SP, P, CP, IP (Mil or Civ)			7 years 4 years as Army aviator	current instrument card
MASTER ARMY AVIATOR	3000 IP, P, CP, SP, (Mil or Civ)			8 years Senior or 15 years total. 12 years min. as Army avia.	current special instrument card
STANDARD INSTRUMENT CARD (INITIAL)	500 P, SP, (Mil or Civ) or graduate of approved school	50 P, SP, or CP 20 in last 12 months 10 in aircraft category			flight examination in accordance AR 95-63 except instrument T.O. 50 hrs AI may be waived
SPECIAL INSTRUMENT CARD (INITIAL)	2000 IP, P, CP (Mil or Civ)	100 IP or P. 50 must be AI 5 in aircraft category in past 12 months		5 years rated experience (Mil or Civ)	sound judgement and safe flying record Completed flt exam for Std card incl instrument T.O.
TACTICAL INSTRUMENT CARD (INITIAL)	500 P, SP (Mil or Civ) or grad of app school				stand. flt check but incl standard ADF, tactical ADF & GCA only
RENEWAL OF STANDARD CARD					flight status and examination No I.T.O.
RENEWAL OF SPECIAL CARD			5 IP, P, in the past 12 months		same as standard but includes instrument T.O
RENEWAL OF TACTICAL CARD					same as standard except includes standard ADF, tactical ADF & GCA only No I.T.O.

Reference AR 600 - 106 and AR 95-63.

I.T.O. - Instrument Takeoff

STUDENT HANDOUT No. 2

FLIGHT REGULATIONS

HELICOPTER IFR WEATHER MINIMA REQUIREMENTS

Takeoff - Standard Card	100' ceiling, ¼ mile visibility or RVR 1600'
Takeoff - Tactical Card	100' ceiling, ¼ mile visibility, Tactical or Simulated Tactical situation only.
Approach - Minima published in authorized publications.	Lowest appropriate civil or military minimums forecast at ETA. NOTE: Helicopters may reduce published visibility or RVR by as much as 50% but not less than ¼ mile or RVR 1600'.
Alternate Airport - When not required.	If destination weather is forecast to be 1000' above appropriate landing minimum, 2 miles visibility or published minimum visibility if greater, for 1 hour before to 1 hour after ETA at destination.
Alternate minimums - if required.	
Airfields without instrument approach.	VFR descent, approach, and landing and not less than 1⅛ miles visibility forecast for 1 hour before to 1 hour after ETA.
Airfield with approach procedure appearing in authorized publications.	Precision Approach - ~~600 /~~ [illegible] Nonprecision Approach - 800 ~~/~~ [illegible] or as published in FLIP if higher. From 1 hour before to 1 hour after ETA. NOTE: Helicopters may reduce this basic visibility factor by 50% (AR 95-2).
Airfields with approach procedure published but not in FLIP MIN - INT. APP.	Ceiling 400', visibility ~~3/4~~ 3/8 mile above appropriate published minima from 1 hour before to 1 hour after ETA.
Helicopter copilot requirements	Must be helicopter instrument rated and qualified in the aircraft being flown.
Hooded Flight	Must have dual controls. Observer must be qualified in helicopters.
Hooded Flight - altitudes	Except for approaches and takeoff- 1000' absolute. Approach with observer not currently proficient in type - 500' minimum altitude. Approach with observer qualified as pilot in aircraft being flown - 100' minimum altitude.

DEPARTMENT OF ROTARY WING TRAINING
UNITED STATES ARMY AVIATION SCHOOL
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File No. 3816-6(U)

PERFORMANCE CHECK KEY

FLIGHT REGULATIONS

(Period one of six periods)

1. 1000, 1000, and 1 mile.
2. 1000, 1000, and 1 mile.
3. 500, 1000, and 2000 feet.
4. 5 statute miles, the surface.
5. Flight Service Station (FSS).
6. 1000, 500, 2000 feet, 1 mile.

(Period two of six periods)

1. a. Prohibited Area, b. Restricted Area, c. Warning Area, d. Alert Area, , e. Climb Corridor (Joint Use Restricted Area), f. Air Defense Identification Zone (ADIZ).
2. ODD plus 500' EASTBOUND (0° thru 179°) and EVEN plus 500' WESTBOUND (180° thru 359°).
3. has the right-of-way.
4. True .
5. 1000' ceiling and 1 mile visibility.
6. Clear the landing area immediately.
7. The airport is below VFR conditions and an IFR or Special VFR clearance is required.

(Period four of six periods)

1. Flight where the pilot's vision is artificially limited.
2. Clock with sweep second hand, Heading Indicator, Vertical Speed Indicator.
3. VFR 30 minutes, IFR 45 minutes.
4. ODD thousands EASTBOUND (0° thru 179°) and EVEN thousands WESTBOUND (179° thru 359°).
5. A constant altimeter reading in relation to MSL.
6. 100', ½, or RVR 1600'.
7. 600 / 1, 800 / 1, from 1 hour before to 1 hour after ETA.

(Period five of six periods)

1. Ceiling and visibility enroute and at final destination must be reported to be VFR and forecast to remain so until ETA plus 1 hour.
2. Copilot must be instrument rated in the aircraft being flown.
3. 1000 feet above the terrain.
4. 24 hours.
5. 14,000 feet.

DEPARTMENT OF ROTARY WING TRAINING
UNITED STATES ARMY AVIATION SCHOOL
FORT RUCKER, ALABAMA

File No. 3816-6(U)

PRACTICAL EXERCISE NO. 1 KEY

FLIGHT REGULATIONS

1. 14,500', 1500'.
2. 700' or 1200'.
3. the surface, 5 statute miles, ~~upward. (No defined upper limit)~~ (14,000)
4. 1000' below, 1000' above, 1 mile horizontally and 5 miles visibility.
5. 1000' below, 1000' above, 1 mile horizontally and 5 miles visibility.
6. 500' below, 1000' above, 2000' horizontally and visibility 3 miles.
7. 1000' , 500' below, 1000' above, 2000' horizontally and 3 miles visibility.
8. ATC clearance, NO minimum visibility, stay clear of clouds.
9. a. ceiling 300' visibility ½ mile.
   b. ceiling 500' visibility 1 mile.
   c. ceiling 300' visibility ½ mile. (Ceiling above highest obstacle along route)
   d. ceiling 1000' visibility 1 mile. (Ceiling above highest obstacle along route)
10. 5 statute miles, 2000 feet.
11. an Airport Traffic Area.
12. FSS (Flight Service Station).
13. a.
14. 14,500' MSL.
15. a. - 1
    b. - 3
    c. - 4
    d. - 2
    e. - 6
    f. - 5
16. False (Only use VFR cruising altitude rule at or above 3000' absolute)
17. b.
18. Part 91.
19. a.Distress, b. Balloons, c. Gliders, d. Airships, e. Airplanes & Rotorcraft.
20. Neither, Both pilots give way to the right.
21. An altitude which will permit a safe emergency landing with no hazard to persons or property on the ground.
22. a. Airspeed Indicator.
    b. Altimeter.
    c. Magnetic Compass.
    d. Turn and bank Indicator.
    e. Attitude Indicator.
23. sunset to sunrise.
24. When cleared for active runway.
25. a. - 3
    b. - 1
    c. - 2
    d. - 2
    e. - 4
    f. - 6
    g. - 5
26. Military aerodrome.
27. Flashing white (about 30 flashes per minute)
28. Rotating beacon would be operating, Wind "T" or tetrahedron lights flashing.
29. When the pilot has permission from the controlling agency.
30. 5500'

31. The TH-13T, None, Give way to the right.
32. False (Only at night).
33. Flash.
34. d.
35. c.
36. 700 feet AGL.
37. 1200 feet.
38. 5 miles.
39. 10 statute miles.
40. As designated on the chart.
41. 3 miles.
42. 1000 feet above, 500 feet below, and 2000 feet horizontally.
43. 5 miles.
44. ½ mile.
45. 1500 feet.
46. 1000 feet above, 1000 feet below and 1 mile horizontally.
47. Clear of clouds.
48. Yes, Special VFR.
49. 8 nautical miles.
50. Position "K" - 156 knots, position "B" - None, position "G" - 250 knots.
51. ½ mile daylight, 1 mile night.
52. Acrobatic flight not authorized on Federal Airway.
53. 1000 feet above, 1000 feet below and 1 mile horizontally.

DEPARTMENT OF ROTARY WING TRAINING
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PRACTICAL EXERCISE NO. 2 KEY

FLIGHT REGULATIONS

1. Flight path and attitude are controlled by instruments.
2. Flight where pilot's vision is artificially limited.
3. Vision limited by atmospheric conditions and it is impossible to control aircraft by visual reference to ground or clouds.
4. False - must meet requirements of answer No. 3 above to log Actual Instruments.
5. a. Airspeed Indicator.
   b. Sensitive Altimeter.
   c. Turn and Bank Indicator.
   d. Clock with sweep second hand.
   e. Compass with current card.
   f. Attitude Indicator.
   g. Heading Indicator.
   h. Vertical Speed Indicator.
6. a. Transmitter and receiver with appropriate frequencies available.
   b. ADF (low frequency) receiver.
   c. OMNI receiver - if VOR facilities to be used.
   d. Marker beacon receiver - if considered essential for flight.
7. True.
8. 30 minutes.
9. 45 minutes reserve.
10. 30 minutes.
11. A constant altimeter reading in relation to MSL.
12. At ODD altitude.
13. 100' ceiling, ½ mile visibility, or RVR 1600'.
14. 1000' within 4 NM either side of centerline, 2000' within 22 NM of centerline.
15. False (Forecast weather only).
16. 1000', 2 miles visibility, 1 hour before to 1 hour after.
17. 600 foot ceiling and 1 mile visibility, 800 foot ceiling and 1 mile visibility, from 1 hour before to 1 hour after.
18. weather conditions which will permit a VFR descent, approach, and landing and not less than 1½ miles visibility.
19. 8000 feet (MEA over mountains 2000 above highest obstacle within 22 NM.
20. True.
21. In a tactical or simulated tactical situation only.
22. a. Proper flight rules are used (VFR or IFR).
    b. Pilot has complied with regulations.
    c. Aircraft is suitable for flight.
    d. The pilot is qualified.
23. A copilot is required for instrument flights who is instrument qualified in aircraft being flown.
24. 1000 feet.
25. a. 500' minimum if observer is not currently proficient in type.
    b. 100' minimum if observer is qualified in aircraft being flown.
26. 24
27. Facility chief within 48 hours.
28. b.
29. d. (The same rule applies for VFR-on-top as applies to VFR)
30. 14,000 feet.

31. ADF and transmitter and receiver with appropriate frequencies.
32. Minimum Enroute Altitude.
33. Radio reception.
34. None. (0 - 0)
35. 800 - 1, forecast for 1 hour before until 1 hour after ETA at the alternate.
36. 800 - 1 3/4, for 1 hour before until 1 hour after ETA at the alternate.
37. Yes.
38. Yes.
39. Observer must be instrument rated in category aircraft being flown.
40. Indefinitely.
41. Odd.
42. Runway Visual Range - the distance that can be seen horizontally down the runway from the approach end.
43. 1600', 1600'
44. 50% 1600' 1/4
45. Yes.
46. Continue the approach to the MDA or DH as appropriate.