T E M A: 0320 INSTRUCTOR_ADVANCED_05_WEATHER & WEATHER SERV.

COD_PREG:	P R E G U N T A:	RPTA:
6161	In what part of the atmosphere does most weather occur?	B
OPCION A:	Tropopause.	
OPCION B:	Troposphere.	
OPCION C:	Stratosphere.	
6162	Which is the primary driving force of weather on the Earth?	A
OPCION A:	The Sun.	
OPCION B:	Coriolis.	
OPCION C:	Rotation of the Earth.	
6163	The average lapse rate in the troposphere is	A
OPCION A:	2.0° C per 1,000 feet.	
OPCION B:	3.0° C per 1,000 feet.	
OPCION C:	5.4° C per 1,000 feet.	
6164	The most frequent type of ground- or surface-based temperature inversion is that produced by	A
OPCION A:	terrestrial radiation on a clear, relatively still night.	
OPCION B:	warm air being lifted rapidly aloft in the vicinity of mountainous terrain.	
OPCION C:	the movement of colder air under warm air or the movement of warm air over cold air.	
6165	Which weather conditions should be expected beneath a low-level temperature inversion layer when the relative humidity is high?	B
OPCION A:	Light wind shear and poor visibility due to light rain.	
OPCION B:	Smooth air and poor visibility due to fog, haze, or low clouds.	
OPCION C:	Turbulent air and poor visibility due to fog, low stratus type clouds, and showery precipitation.	
6166	If the air temperature is +6 °C at an elevation of 700 feet and a standard (average) temperature lapse rate exists, what will be the approximate freezing level?	B
OPCION A:	6,700 feet MSL.	
OPCION B:	3,700 feet MSL.	
OPCION C:	2,700 feet MSL.	
6167	If the air temperature is +12 °C at an elevation of 1,250 feet and a standard (average) temperature lapse rate exists, what will be the approximate freezing level?	A
OPCION A:	7,250 feet MSL.	
OPCION B:	5,250 feet MSL.	
OPCION C:	4,250 feet MSL.	
6168	An altimeter indicates 1,850 feet MSL when set to 30.18. What is the approximate pressure altitude?	A
OPCION A:	1,590 feet.	
OPCION B:	1,824 feet.	
OPCION C:	2,110 feet.	
6169	An aircraft is flying at a constant power setting and constant indicated altitude. If the outside air temperature (OAT) increases, true airspeed will	B
OPCION A:	increase and true altitude will decrease.	
OPCION B:	increase and true altitude will increase.	
OPCION C:	decrease and true altitude will increase.	
6170	An aircraft is flying at a constant power setting and constant indicated altitude. If the outside air temperature (OAT) decreases, true airspeed will	A
OPCION A:	decrease, and true altitude will decrease.	
OPCION B:	increase, and true altitude will increase.	
OPCION C:	increase, and true altitude will decrease.	

6171 As density altitude increases, which will occur if a constant indicated airspeed is maintained in a no-wind condition? C
OPCION A: True airspeed increases; groundspeed decreases.
OPCION B: True airspeed decreases; groundspeed decreases.
OPCION C: True airspeed increases; groundspeed increases.

6172 Density altitude may be determined by correcting B
OPCION A: true altitude for nonstandard temperature.
OPCION B: pressure altitude for nonstandard temperature.
OPCION C: indicated altitude for temperature variations.

6173 What are the standard temperature and pressure values for mean sea level? C
OPCION A: 15 °F and 29.92" Hg.
OPCION B: 59 °C and 29.92 mb.
OPCION C: 59 °F and 1013.2 mb.

6174 What causes wind? B
OPCION A: Coriolis force.
OPCION B: Pressure differences.
OPCION C: The rotation of the Earth.

6175 The windflow around a low pressure is A
OPCION A: cyclonic.
OPCION B: adiabatic.
OPCION C: anticyclonic.

6176 Winds at 5,000 feet AGL on a particular flight are southwesterly while most of the surface winds are southerly. This difference in direction is primarily due to C
OPCION A: local terrain effects on pressure.
OPCION B: stronger Coriolis force at the surface.
OPCION C: friction between the wind and the surface.

6180 Which statement is true regarding high- or low-pressure systems? B
OPCION A: A high-pressure area or ridge is an area of rising air.
OPCION B: A low-pressure area or trough is an area of rising air.
OPCION C: A high-pressure area is a trough of descending air.

6181 Which is an operational consideration regarding actual air temperature and dewpoint temperature spread? B
OPCION A: The temperature spread decreases as the relative humidity decreases.
OPCION B: The temperature spread decreases as the relative humidity increases.
OPCION C: The temperature spread increases as the relative humidity increases.

6182 The ratio of the existing water vapor in the air, as compared to the maximum amount that could exist at a given temperature, is called C
OPCION A: the dewpoint.
OPCION B: saturation point.
OPCION C: relative humidity.

6183 What is the process by which ice can form on a surface directly from water vapor on a cold, clear night? A
OPCION A: Sublimation.
OPCION B: Condensation.
OPCION C: Supersaturation.

6184 Which precipitation type usually indicates freezing rain at higher altitudes? C
OPCION A: Snow.
OPCION B: Hail.
OPCION C: Ice pellets.

6185 When warm air moves over a cold lake, what weather phenomenon is likely to occur on the leeward side of the lake? — A
OPCION A: Fog.
OPCION B: Showers.
OPCION C: Cloudiness.

6186 Streamers of precipitation trailing beneath clouds but evaporating before reaching the ground are known as — A
OPCION A: virga.
OPCION B: sublimation.
OPCION C: condensation trails.

6187 From which measurement of the atmosphere can stability be determined? — A
OPCION A: Ambient lapse rate.
OPCION B: Atmospheric pressure.
OPCION C: Difference between standard temperature and surface temperature.

6188 The formation of either predominantly stratiform or predominantly cumuliform clouds is dependent upon the — B
OPCION A: source of lift.
OPCION B: stability of the air being lifted.
OPCION C: percent of moisture content of the air being lifted.

6189 At approximately what altitude above the surface would you expect the base of cumuliform clouds if the surface air temperature is 77 °F and the dewpoint is 53 °F? — C
OPCION A: 9,600 feet AGL.
OPCION B: 8,000 feet AGL.
OPCION C: 5,500 feet AGL.

6190 At approximately what altitude above the surface would you expect the base of cumuliform clouds if the surface air temperature is 33 °C and the dewpoint is 15 °C? — C
OPCION A: 4,100 feet AGL.
OPCION B: 6,000 feet AGL.
OPCION C: 7,200 feet AGL.

6191 If clouds form as a result of very stable, moist air being forced to ascend a mountain slope, the clouds will be — C
OPCION A: cirrus type with no vertical development or turbulence.
OPCION B: cumulonimbus with considerable vertical development and heavy rains.
OPCION C: stratus type with little vertical development and little or no turbulence.

6192 The height of the bases of the middle clouds in the middle latitudes ranges from — B
OPCION A: 1,000 to 10,000 feet.
OPCION B: 6,500 to 23,000 feet.
OPCION C: 16,500 to 45,000 feet.

6193 Which middle level clouds are characterized by rain, snow, or ice pellets posing a serious icing problem if temperatures are near or below freezing? — A
OPCION A: Nimbostratus.
OPCION B: Altostratus lenticular.
OPCION C: Altocumulus castellanus.

6194 Consider the following air mass characteristics: A

1. Cumuliform clouds.
2. Stable lapse rate.
3. Unstable lapse rate.
4. Stratiform clouds and fog.
5. Smooth air (above the friction level) and poor visibility.
6. Turbulence up to about 10,000 feet and good visibility except in areas of precipitation.

A moist air mass, which is colder than the surface over which it passes, frequently has which of the above characteristics?

OPCION A: 1, 3, and 6.
OPCION B: 3, 4, and 5.
OPCION C: 2, 4, and 5.

6195 The weather condition normally associated with unstable air is C
OPCION A: stratiform clouds.
OPCION B: fair to poor visibility.
OPCION C: good visibility, except in blowing sand or snow.

6196 A moist, unstable air mass is characterized by B
OPCION A: poor visibility and smooth air.
OPCION B: cumuliform clouds and showery precipitation.
OPCION C: stratiform clouds and continuous precipitation.

6197 What type weather is associated with an advancing warm front that has moist, unstable air? C
OPCION A: Stratiform clouds, lightning, steady precipitation.
OPCION B: Cumuliform clouds, smooth air, steady precipitation.
OPCION C: Cumuliform clouds, turbulent air, showery-type precipitation.

6198 A moist, cold air mass that is being warmed from below is characterized, in part, by B
OPCION A: fog and drizzle.
OPCION B: showers and thunderstorms.
OPCION C: continuous heavy precipitation.

6199 What is a characteristic of stable air? B
OPCION A: excellent visibility.
OPCION B: Restricted visibility.
OPCION C: Showery-type precipitation.

6200 What type weather can one expect from moist, unstable air and very warm surface temperature? C
OPCION A: Fog and low stratus clouds.
OPCION B: Continuous heavy precipitation.
OPCION C: Strong updrafts and cumulonimbus clouds.

6201 What is a typical characteristic of a stable air mass? C
OPCION A: Cumuliform clouds.
OPCION B: Showery precipitation.
OPCION C: Continuous precipitation.

6202 A moist, warm air mass that is being cooled from below is characterized, in part, by A
OPCION A: smooth air.
OPCION B: cumuliform clouds.
OPCION C: showers and thunderstorms.

6203 Frontal waves normally form on C
OPCION A: stationary or occluded fronts.
OPCION B: slow-moving warm fronts or occluded fronts.
OPCION C: slow-moving cold fronts or stationary fronts.

6204 Cool air moving over a warm surface is generally characterized by — A
OPCION A: instability and showers.
OPCION B: stability, fog, and drizzle.
OPCION C: instability and continuous precipitation.

6206 Which statement is true regarding a cold front occlusion? — A
OPCION A: The air ahead of the warm front is warmer than the air behind the overtaking cold front.
OPCION B: The air ahead of the warm front has the same temperature as the air behind the overtaking cold front.
OPCION C: The air between the warm front and cold front is colder than either the air ahead of the warm front or the air behind the overtaking cold front.

6207 Consider the following statements about mountain waves: — A

1. Mountain waves always develop in a series on the upwind (windward) side of mountain ridges.

2. In a mountain wave, the air dips sharply downward immediately to the lee side of a ridge, before rising and falling in a wave motion for a considerable distance downstream.

3. If the air is humid and the wave is of large amplitude, lenticular (lens-shaped) clouds mark the wave's crest.

4. In a typical wave, the greatest amplitude is seldom more than 1,000 feet above the ridge crest elevation.

From the statements above, select those which are true.
OPCION A: 2 and 3.
OPCION B: 1, 2, and 3.
OPCION C: 1, 3, and 4.

6208 When flying low over hilly terrain, ridges, or mountain ranges, the greatest potential danger from turbulent air currents will usually be encountered on the — B
OPCION A: leeward side when flying with the wind.
OPCION B: leeward side when flying into the wind.
OPCION C: windward side when flying into the wind.

6209 Low-level wind shear, which results in a sudden change of wind direction, may occur — C
OPCION A: after a warm front has passed.
OPCION B: when surface winds are light and variable.
OPCION C: when there is a low-level temperature inversion with strong winds above the inversion.

6210 Which condition could be expected if a strong temperature inversion exists near the surface? — B
OPCION A: Strong, steady downdrafts and an increase in OAT.
OPCION B: A wind shear with the possibility of a sudden loss of airspeed.
OPCION C: An OAT increase or decrease with a constant wind condition.

6211 Which situation would most likely result in freezing rain? — A
OPCION A: Rain falling from air which has a temperature of more than 0 °C into air having a temperature of 0 °C or less.
OPCION B: Rain falling from air which has a temperature of 0 °C or less into air having a temperature of more than 0 °C.
OPCION C: Rain which has a supercooled temperature of 0 °C or less falling into air having a temperature of more than 0 °C.

6212 The most rapid accumulation of clear ice on an aircraft in flight may occur with temperatures between 0 °C to -15 °C in — A
OPCION A: cumuliform clouds.
OPCION B: stratiform clouds.
OPCION C: any clouds or dry snow.

6213 Which is an operational consideration regarding aircraft structural icing? — C
OPCION A: It is unnecessary for an aircraft to fly through rain or cloud droplets for structural ice to form.
OPCION B: Clear ice is most likely to form on an airplane when flying through stratified clouds or light drizzle.
OPCION C: In order for structural ice to form, the temperature at the point where moisture strikes the aircraft must be 0 °C (32 °F) or colder.

6214 What are the minimum requirements for the formation of a thunderstorm? B
OPCION A: Sufficient moisture and a lifting action.
OPCION B: Sufficient moisture, an unstable lapse rate, and lifting action.
OPCION C: Towering cumulus clouds, sufficient moisture, and a frontal zone.

6215 Select the true statement pertaining to the life cycle of a thunderstorm. B
OPCION A: The initial stage of a thunderstorm is always indicated by the development of a nimbus cloud.
OPCION B: The beginning of rain at the Earth's surface indicates the mature stage of the thunderstorm.
OPCION C: The beginning of rain at the Earth's surface indicates the dissipating stage of the thunderstorm.

6216 Tornadoes are most likely to occur with which type of thunderstorms? C
OPCION A: Tropical thunderstorms during the mature stage.
OPCION B: Squall line thunderstorms that form ahead of warm fronts.
OPCION C: Steady-state thunderstorms associated with cold fronts or squall lines.

6217 What feature is associated with the cumulus stage of a thunderstorm? B
OPCION A: Frequent lightning.
OPCION B: Continuous updrafts.
OPCION C: Beginning of rain at the surface.

6218 Which type of cloud is associated with violent turbulence and a tendency toward the production of funnel clouds? A
OPCION A: Cumulonimbus mamma.
OPCION B: Standing lenticular.
OPCION C: Altocumulus castellanus.

6219 A squall line is usually associated with a B
OPCION A: stationary front.
OPCION B: fast-moving cold front.
OPCION C: fast-moving warm front.

6220 Consider the following statements regarding hail as an in-flight hazard and select those which are correct. A

1. There is a correlation between the visual appearance of thunderstorms and the amount of hail within them.

2 Large hail is most commonly found in thunderstorms which have strong updrafts and large liquid water content.

3 Hail may be found at any level within a thunderstorm but not in the clear air outside of the storm cloud.

4 Hail is usually produced during the mature stage of the thunderstorm's lifespan.

5 Hailstones may be thrown upward and outward from a storm cloud for several miles.

The true statements are:
OPCION A: 2, 4, and 5.
OPCION B: 1, 2, and 3.
OPCION C: 1, 2, 4, and 5.

6221 Which statement is true concerning the in-flight hazard of hail? C
OPCION A: Hail is usually produced by altocumulus clouds.
OPCION B: Rain at the surface indicates the absence of hail aloft.
OPCION C: Hailstones may be thrown outward from a storm cloud for several miles.

6222 Hail, an in-flight hazard, is most likely to be associated with C
OPCION A: cumulus clouds.
OPCION B: stratocumulus clouds.
OPCION C: cumulonimbus clouds.

6223 Hail will most likely be encountered — A
OPCION A: beneath the anvil cloud of a large cumulonimbus.
OPCION B: during the dissipating stage of the cumulonimbus.
OPCION C: above the cumulonimbus cloud well above the freezing level.

6224 One condition necessary for the formation of fog is — C
OPCION A: calm air.
OPCION B: visible moisture.
OPCION C: high relative humidity.

6225 Radiation fog is most likely to occur under what conditions? — B
OPCION A: Warm, moist air being forced upslope by light winds resulting in the air being cooled and condensed.
OPCION B: High humidity during the early evening, cool cloudless night with light winds, and favorable topography.
OPCION C: Low temperature/dewpoint spread, calm wind conditions, the presence of hydroscopic nuclei, low overcast, and favorable topography.

6226 Advection fog is formed as a result of — A
OPCION A: moist air moving over a colder surface.
OPCION B: the addition of moisture to a mass of cold air as it moves over a body of water.
OPCION C: the ground cooling adjacent air to the dewpoint temperature on clear, calm nights.

6227 With respect to advection fog, which statement is true? — C
OPCION A: It forms almost exclusively at night or near daybreak.
OPCION B: It forms when unstable air is cooled adiabatically.
OPCION C: It can appear suddenly during day or night, and it is more persistent than radiation fog.

6228 Which in-flight hazard is most commonly associated with warm fronts? — C
OPCION A: Ground fog.
OPCION B: Advection fog.
OPCION C: Precipitation-induced fog.

6229 Fog associated with a warm front is a result of saturation due to — B
OPCION A: nocturnal cooling.
OPCION B: evaporation of precipitation.
OPCION C: evaporation of surface moisture.

6230 In reference to clear air turbulence (CAT), areas to be avoided are those where horizontal wind shear exceeds — A
OPCION A: 40 knots per 150 miles.
OPCION B: 10 knots per 50 miles.
OPCION C: 6 knots per 1,000 feet.

6247 Fig. 3 — A
Which station is reporting the wind as calm?
OPCION A: KDAL.
OPCION B: KFTW.
OPCION C: KTYR.

6248 Fig. 3 — B
What is the reported duration of the rain at the time of the observation at KAUS?
OPCION A: 25 minutes.
OPCION B: 26 minutes.
OPCION C: 36 minutes.

6249 Consider the following statements regarding an Aviation Routine Weather Report (METAR). A

1. A vertical visibility entry does not constitute a ceiling.
2. Fog (FG) can be reported only if the visibility is less than 5/8 mile.
3. The ceiling layer will be designated by a "C".
4. Mist (BR) can be reported only if the visibility is 5/8 mile up to six miles.
5. Temperatures reported below zero will be prefixed with a "-".
6. There is no provision to report partial obscurations.

Select the true statements.
OPCION A: 2, 4, and 6.
OPCION B: 2, 3, and 5.
OPCION C: 1, 2, 5, and 6.

6250 Fig. 3 B
Which station is reporting the lowest ceiling?
OPCION A: KAMA.
OPCION B: KFTW.
OPCION C: KDAL.

6251 Fig. 3 A
The temperature/dew point spread at KAUS is
OPCION A: 4°C.
OPCION B: 4°F
OPCION C: 7°C

6252 Fig. 3 C
In the report for KBRO, what is the reported ceiling?
OPCION A: 2,000 feet.
OPCION B: 13,000 feet.
OPCION C: 25,000 feet.

6253 GIVEN: B

KOUN 151355Z AUTO 22010KT 10SM CLR BLO 120 13/10 A2993 RMK A02 $.

The ASOS report indicates that the location is
OPCION A: reporting a temperature of 45 °F.
OPCION B: possibly in need of maintenance.
OPCION C: augmented with a weather observer.

6254 GIVEN: C

KPNC 131215 AUTO 33025KT 1/2SM OVC005 00M03 A2990 RMK A02 SLPNO.

This ASOS report indicates that the
OPCION A: temperature is missing.
OPCION B: station reports every 15 minutes.
OPCION C: sea level pressure is not available.

6255 Which statement is true concerning ASOS/AWOS weather reporting systems? B
OPCION A: Each AWOS station is part of a nationwide network of weather reporting stations.
OPCION B: ASOS locations perform weather observing functions necessary to generate METAR reports.
OPCION C: Both ASOS and AWOS have the capability of reporting density altitude, as long as it exceeds the airport elevation by more than 1,000 feet.

6265 Vertical visibility is shown on METAR/TAF reports when the sky is B
OPCION A: overcast.
OPCION B: obscured.
OPCION C: partially obscured.

6313 What is the expected duration of an individual microburst? C

OPCION A: One microburst may continue for as long as an hour.
OPCION B: Five minutes with maximum winds lasting approximately 2 to 4 minutes.
OPCION C: Seldom longer than 15 minutes from the time the burst strikes the ground until dissipation.

6314 Maximum downdrafts in a microburst encounter may be as strong as A

OPCION A: 6,000 feet per minute.
OPCION B: 4,500 feet per minute.
OPCION C: 1,500 feet per minute.

6315 How long do the maximum intensity winds last in an individual microburst? A

OPCION A: 2 to 4 minutes.
OPCION B: 5 to 10 minutes.
OPCION C: 15 minutes.