
TEMA: 0119	ATP - (CHAP. 08) METEOROLOGY AND WEATHER SERVICES	
COD_PREG: 9130	PREGUNTA: What is the expected duration of an individual microburst?	RPTA: C
OPCION A:	Five minutes with maximum winds lasting approximately 2 to 4 minutes.	
OPCION B:	One microburst may continue for as long as an hour.	
OPCION C:	Seldom longer than 15 minutes from the time the burst strikes the ground until dissipation.	
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9131	Maximum downdrafts in a microburst encounter may be as strong as	C
OPCION A:	1,500 ft/min.	
OPCION B:	4,500 ft/min.	
OPCION C:	6,000 ft/min.	
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9132	An aircraft that encounters a headwind of 40 knots, within a microburst, may expect a total shear across the microburst of	B
OPCION A:	40 knots.	
OPCION B:	80 knots.	
OPCION C:	90 knots.	
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9133	Which INITIAL cockpit indications should a pilot be aware of when a headwind shears to a calm wind?	C
OPCION A:	Indicated airspeed decreases, aircraft pitches up, and altitude decreases.	
OPCION B:	Indicated airspeed increases, aircraft pitches down, and altitude increases.	
OPCION C:	Indicated airspeed decreases, aircraft pitches down, and altitude decreases.	
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9134	Which condition would INITIALLY cause the indicated airspeed and pitch to increase and the sink rate to decrease?	C
OPCION A:	Sudden decrease in a headwind component.	
OPCION B:	Tailwind which suddenly increases in velocity.	
OPCION C:	Sudden increase in a headwind component.	
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9135	Which INITIAL cockpit indications should a pilot be aware of when a constant tailwind shears to a calm wind?	C
OPCION A:	Altitude increases; pitch and indicated airspeed decrease.	
OPCION B:	Altitude, pitch, and indicated airspeed decrease.	
OPCION C:	Altitude, pitch, and indicated airspeed increase.	
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9136	What is the recommended technique to counter the loss of airspeed and resultant lift from wind shear?	C
OPCION A:	Lower the pitch attitude and regain lost airspeed.	
OPCION B:	Avoid overstressing the aircraft, "pitch to airspeed," and apply maximum power.	
OPCION C:	Maintain, or increase, pitch attitude and accept the lower-than-normal airspeed indications.	
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9137	Which wind-shear condition results in a loss of airspeed?	B
OPCION A:	Decreasing headwind or tailwind.	
OPCION B:	Decreasing headwind and increasing tailwind.	
OPCION C:	Increasing headwind and decreasing tailwind.	
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9138	Which wind-shear condition results in an increase in airspeed?	C
OPCION A:	Increasing tailwind and decreasing headwind.	
OPCION B:	Increasing tailwind and headwind.	
OPCION C:	Decreasing tailwind and increasing headwind.	
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9139	Which is a definition of "severe wind shear"?	B
OPCION A:	Any rapid change of horizontal wind shear in excess of 25 knots; vertical shear excepted.	
OPCION B:	Any rapid change in wind direction or velocity which causes airspeed changes greater than 15 knots or vertical speed changes greater than 500 ft/min.	
OPCION C:	Any rapid change of airspeed greater than 20 knots which is sustained for more than 20 seconds or vertical speed changes in excess of 100 ft/min.	
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9141	Which airplane performance characteristics should be recognized during takeoff when encountering a tailwind shear that increases in intensity?	A
OPCION A:	Loss of, or diminished, airspeed performance.	
OPCION B:	Decreased takeoff distance.	

OPCION C: Increased climb performance immediately after takeoff.

9142 Thrust is being managed to maintain desired indicated airspeed and the glide slope is being flown. Which characteristics should be observed when a tailwind shears to a constant headwind? B

OPCION A: PITCH ATTITUDE: Increases. VERTICAL SPEED: Increases. INDICATED AIRSPEED: Decreases, then increases to approach speed.

OPCION B: PITCH ATTITUDE: Increases. VERTICAL SPEED: Decreases. INDICATED AIRSPEED: Increases, then decreases.

OPCION C: PITCH ATTITUDE: Increases. VERTICAL SPEED: Increases. INDICATED AIRSPEED: Decreases, then increases to approach speed.

9143 Maximum downdrafts in a microburst encounter may be as strong as C

OPCION A: 8,000 ft/min.

OPCION B: 7,000 ft/min.

OPCION C: 6,000 ft/min.

9144 An aircraft that encounters a headwind of 45 knots, within a microburst, may expect a total shear across the microburst of C

OPCION A: 40 knots.

OPCION B: 80 knots.

OPCION C: 90 knots.

9145 Ref. Figure 144 C

If involved in a microburst encounter, in which aircraft positions will the most severe downdraft occur?

OPCION A: 4 and 5.

OPCION B: 2 and 3.

OPCION C: 3 and 4.

(Ver figura referencial 144 en el Manual de Figuras)

9146 Ref. Figure 144 C

When penetrating a microburst, which aircraft will experience an increase in performance without a change in pitch or power?

OPCION A: 3.

OPCION B: 2.

OPCION C: 1.

(Ver figura referencial 144 en el Manual de Figuras)

9147 Fig. 144 C

What effect will a microburst encounter have upon the aircraft in position 3?

OPCION A: Decreasing headwind.

OPCION B: Increasing tailwind.

OPCION C: Strong downdraft.

(Ver figura referencial 144 en el Manual de Figuras)

9148 Fig. 144 A

What effect will a microburst encounter have upon the aircraft in position 4?

OPCION A: Strong tailwind.

OPCION B: Strong updraft.

OPCION C: Significant performance increase.

(Ver figura referencial 144 en el Manual de Figuras)

9149 Fig. 144 B

How will the aircraft in position 4 be affected by a microburst encounter?

OPCION A: Performance increasing with a tailwind and updraft.

OPCION B: Performance decreasing with a tailwind and downdraft.

OPCION C: Performance decreasing with a headwind and downdraft.

(Ver figura referencial 144 en el Manual de Figuras)

9150 What is the expected duration of an individual microburst? C

OPCION A: Two minutes with maximum winds lasting approximately 1 minute.

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- OPCION B:** One microburst may continue for as long as 2 to 4 hours.
OPCION C: Seldom longer than 15 minutes from the time the burst strikes the ground until dissipation.
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9151 What is a characteristic of the troposphere? B

- OPCION A:** It contains all the moisture of the atmosphere.
OPCION B: There is an overall decrease of temperature with an increase of altitude.
OPCION C: The average altitude of the top of the troposphere is about 6 miles.
-

9152 What is the primary cause of all changes in the Earth's weather? A

- OPCION A:** Variations of solar energy at the Earth's surface.
OPCION B: Changes in air pressure over the Earth's surface.
OPCION C: Movement of air masses from moist areas to dry areas.
-

9153 What characterizes a ground-based inversion? C

- OPCION A:** Convection currents at the surface.
OPCION B: Cold temperatures.
OPCION C: Poor visibility.
-

9154 What feature is associated with a temperature inversion? A

- OPCION A:** A stable layer of air.
OPCION B: An unstable layer of air.
OPCION C: Air mass thunderstorms.
-

9155 When does minimum temperature normally occur during a 24-hour period? A

- OPCION A:** After sunrise.
OPCION B: About 1 hour before sunrise.
OPCION C: At midnight.
-

9156 Which area or areas of the Northern Hemisphere experience a generally east to west movement of weather systems? B

- OPCION A:** Arctic only
OPCION B: Arctic and subtropical
OPCION C: Subtropical only
-

9157 At lower levels of the atmosphere, friction causes the wind to flow across isobars into a low because the friction A

- OPCION A:** decreases windspeed and Coriolis force.
OPCION B: decreases pressure gradient force.
OPCION C: creates air turbulence and raises atmospheric pressure.
-

9158 Which type wind flows downslope becoming warmer and dryer? C

- OPCION A:** Land breeze.
OPCION B: Valley wind.
OPCION C: Katabatic wind.
-

9159 What is a feature of air movement in a high pressure area? B

- OPCION A:** Ascending from the surface high to lower pressure at higher altitudes.
OPCION B: Descending to the surface and then outward.
OPCION C: Moving outward from the high at high altitudes and into the high at the surface.
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9160 Where is the usual location of a thermal low? C

- OPCION A:** Over the arctic region.
OPCION B: Over the eye of a hurricane.
OPCION C: Over the surface of a dry, sunny region.
-

9161 Freezing rain encountered during climb is normally evidence that B

- OPCION A:** a climb can be made to a higher altitude without encountering more than light icing.
OPCION B: a layer of warmer air exists above.
OPCION C: ice pellets at higher altitudes have changed to rain in the warmer air below.
-

9162 What temperature condition is indicated if precipitation in the form of wet snow occurs during flight? A

- OPCION A:** The temperature is above freezing at flight altitude.
-

OPCION B: The temperature is above freezing at higher altitudes.
OPCION C: There is an inversion with colder air below.

9165 What term describes an elongated area of low pressure?

A

OPCION A: Trough.
OPCION B: Ridge.
OPCION C: Hurricane or typhon.

9166 What is an important characteristic of wind shear?

C

OPCION A: It is primarily associated with the lateral vortices generated by thunderstorms.
OPCION B: It usually exists only in the vicinity of thunderstorms, but may be found near a strong temperature inversion.
OPCION C: It may be associated with either a wind shift or a windspeed gradient at any level in the atmosphere.

9167 What information from the control tower is indicated by the following transmission?

C

"SOUTH BOUNDARY WIND ONE SIX ZERO AT TWO FIVE, WEST BOUNDARY WIND TWO FOUR ZERO AT THREE FIVE".

OPCION A: A downburst is located at the center of the airport.
OPCION B: Wake turbulence exists on the west side of the active runway.
OPCION C: There is a possibility of wind shear over or near the airport.

9168 Where is a common location for an inversion?

B

OPCION A: At the tropopause.
OPCION B: In the stratosphere.
OPCION C: At the base of cumulus clouds.

9169 What condition produces the most frequent type of ground- or surface-based temperature inversion?

C

OPCION A: The movement of colder air under warm air or the movement of warm air over cold air.
OPCION B: Widespread sinking of air within a thick layer aloft resulting in heating by compression.
OPCION C: Terrestrial radiation on a clear, relatively calm night.

9170 Which term applies when the temperature of the air changes by compression or expansion with no heat added or removed?

C

OPCION A: Katabatic.
OPCION B: Advection.
OPCION C: Adiabatic.

9171 What is the approximate rate unsaturated air will cool flowing upslope?

A

OPCION A: 3° per 1,000 feet.
OPCION B: 2° per 1,000 feet.
OPCION C: 4° per 1,000 feet.

9175 Isobars on a surface weather chart represent lines of equal pressure

B

OPCION A: at the surface
OPCION B: reduced to sea level
OPCION C: at a given atmospheric pressure altitude

9176 At which location does Coriolis force have the least effect on wind direction?

C

OPCION A: At the poles.
OPCION B: Middle latitudes (30° to 60°).
OPCION C: At the Equator.

9177 How does Coriolis force affect wind direction in the Southern Hemisphere?

A

OPCION A: Causes clockwise rotation around a low.
OPCION B: Causes wind to flow out of a low toward a high.
OPCION C: Has exactly the same effect as in the Northern Hemisphere.

9178 Which weather condition is defined as an anticyclone?

B

OPCION A: Calm.
OPCION B: High pressure area.

OPCION C: COL.

9179 Which conditions result in the formation of frost? C

OPCION A: The temperature of the collecting surface is at or below freezing and small droplets of moisture are falling.

OPCION B: Dew collects on the surface and then freezes because the surface temperature is lower than the air temperature.

OPCION C: Temperature of the collecting surface is below the dewpoint and the dewpoint is also below freezing.

9180 What condition is indicated when ice pellets are encountered during flight? B

OPCION A: Thunderstorms at higher levels.

OPCION B: Freezing rain at higher levels.

OPCION C: Snow at higher levels.

9181 When will frost most likely form on aircraft surfaces? A

OPCION A: On clear nights with stable air and light winds.

OPCION B: On overcast nights with freezing drizzle precipitation.

OPCION C: On clear nights with convective action and a small temperature/dewpoint spread.

9182 What is the result when water vapor changes to the liquid state while being lifted in a thunderstorm? A

OPCION A: Latent heat is released to the atmosphere.

OPCION B: Latent heat is transformed into pure energy.

OPCION C: Latent heat is absorbed from the surrounding air by the water droplet.

9183 What is a feature of supercooled water? B

OPCION A: The water drop sublimates to an ice particle upon impact.

OPCION B: The unstable water drop freezes upon striking an exposed object.

OPCION C: The temperature of the water drop remains at 0 °C until it impacts a part of the airframe, then clear ice accumulates.

9184 What is indicated about an air mass if the temperature remains unchanged or decreases slightly as altitude is increased? C

OPCION A: The air is unstable.

OPCION B: A temperature inversion exists.

OPCION C: The air is stable.

9185 What weather condition occurs at the altitude where the dewpoint lapse rate and the dry adiabatic lapse rate converge? A

OPCION A: Cloud bases form.

OPCION B: Precipitation starts.

OPCION C: Stable air changes to unstable air.

9186 Which process causes adiabatic cooling? A

OPCION A: Expansion of air as it raises.

OPCION B: Movement of air over a colder surface.

OPCION C: Release of latent heat during the vaporization process.

9187 When saturated air moves downhill, its temperature increases B

OPCION A: at a faster than dry air because of the release of latent heat.

OPCION B: at a slower rate than dry air because vaporization uses heat.

OPCION C: at a slower rate than dry air because condensation releases heat.

9188 Which condition is present when a local parcel of air is stable? A

OPCION A: The parcel of air resists convection.

OPCION B: The parcel of air cannot be forced uphill.

OPCION C: As the parcel of air moves upward, its temperature becomes warmer than the surrounding air.

9189 Convective clouds which penetrate a stratus layer can produce which threat to instrument flight? C

OPCION A: Freezing rain.

OPCION B: Clear air turbulence.

OPCION C: Embedded thunderstorms.

9190	Which type clouds are indicative of very strong turbulence?	B
OPCION A:	Nimbostratus.	
OPCION B:	Standing lenticular.	
OPCION C:	Cirrocumulus.	
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9191	What is a feature of a stationary front?	C
OPCION A:	The warm front surface moves about half the speed of the cold front surface.	
OPCION B:	Weather conditions are a combination of strong cold front and strong warm front weather.	
OPCION C:	Surface winds tend to flow parallel to the frontal zone.	
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9192	Which event usually occurs after an aircraft passes through a front into the colder air?	C
OPCION A:	Temperature/dewpoint spread decreases.	
OPCION B:	Wind direction shifts to the left.	
OPCION C:	Atmospheric pressure increases.	
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9193	What minimum thickness of cloud layer is indicated if precipitation is reported as light or greater intensity?	A
OPCION A:	4,000 feet thick.	
OPCION B:	2,000 feet thick.	
OPCION C:	A thickness which allows the cloud tops to be higher than the freezing level.	
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9194	Which condition produces weather on the lee side of a large lake?	A
OPCION A:	Warm air flowing over a colder lake may produce fog.	
OPCION B:	Cold air flowing over a warmer lake may produce advection fog.	
OPCION C:	Warm air flowing over a cool lake may produce rain showers.	
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9195	How can the stability of the atmosphere be determined?	A
OPCION A:	Ambient temperature lapse rate.	
OPCION B:	Atmospheric pressure at various levels.	
OPCION C:	Surface temperature/dewpoint spread.	
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9196	Which weather phenomenon signals the beginning of the mature stage of a thunderstorm?	B
OPCION A:	The appearance of an anvil top.	
OPCION B:	The start of rain at the surface.	
OPCION C:	Growth rate of the cloud is at its maximum.	
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9197	During the life cycle of a thunderstorm, which stage is characterized predominately by downdrafts?	B
OPCION A:	Cumulus.	
OPCION B:	Dissipating.	
OPCION C:	Mature.	
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9198	What feature is normally associated with the cumulus stage of a thunderstorm?	C
OPCION A:	Beginning of rain at the surface.	
OPCION B:	Frequent lightning.	
OPCION C:	Continuous updraft.	
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9199	What is indicated by the term "embedded thunderstorms"?	C
OPCION A:	Severe thunderstorms are embedded in a squall line.	
OPCION B:	Thunderstorms are predicted to develop in a stable air mass.	
OPCION C:	Thunderstorms are obscured by other types of clouds.	
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9200	Where do squall lines most often develop?	B
OPCION A:	In an occluded front.	
OPCION B:	Ahead of a cold front.	
OPCION C:	Behind a stationary front.	
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9201	Where can the maximum hazard zone caused by wind shear associated with a thunderstorm be found?	C
OPCION A:	In front of the thunderstorm cell (anvil side) and on the southwest side of the cell.	
OPCION B:	Ahead of the roll cloud or gust front and directly under the anvil cloud.	
OPCION C:	On all sides and directly under the thunderstorm cell.	

9202	Atmospheric pressure changes due to a thunderstorm will be at the lowest value	B
OPCION A:	during the downdraft and heavy rain showers.	
OPCION B:	when the thunderstorm is approaching.	
OPCION C:	immediately after the rain showers have stopped.	
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9203	Why are downdrafts in a mature thunderstorm hazardous?	A
OPCION A:	Downdrafts are kept cool by cold rain which tends to accelerate the downward velocity.	
OPCION B:	Downdrafts converge toward a central location under the storm after striking the surface.	
OPCION C:	Downdrafts become warmer than the surrounding air and reverse into an updraft before reaching the surface.	
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9204	What is a difference between an air mass thunderstorm and a steady-state thunderstorm?	B
OPCION A:	Air mass thunderstorms produce precipitation which falls outside of the updraft.	
OPCION B:	Air mass thunderstorm downdrafts and precipitation retard and reverse the updrafts.	
OPCION C:	Steady-state thunderstorms are associated with local surface heating.	
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9205	Which type storms are most likely to produce funnel clouds or tornadoes?	B
OPCION A:	Air mass thunderstorms.	
OPCION B:	Cold front or squall line thunderstorms.	
OPCION C:	Storms associated with icing and supercooled water.	
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9206	When advection fog has developed, what may tend to dissipate or lift the fog into low stratus clouds?	B
OPCION A:	Temperature inversion.	
OPCION B:	Wind stronger than 15 knots.	
OPCION C:	Surface radiation.	
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9207	Which conditions are necessary for the formation of upslope fog?	A
OPCION A:	Moist, stable air behind moved over gradually rising ground by a wind.	
OPCION B:	A clear sky, little or no wind, and 100 percent relative humidity.	
OPCION C:	Rain falling through stratus clouds and a 10- to 25-knot wind moving the precipitation up the slope.	
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9208	How are haze layers cleared or dispersed?	B
OPCION A:	By convective mixing in cool night air.	
OPCION B:	By wind or the movement of air.	
OPCION C:	By evaporation similar to the clearing of fog.	
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9209	Which feature is associated with the tropopause?	C
OPCION A:	Absence of wind and turbulence.	
OPCION B:	Absolute upper limit of cloud formation.	
OPCION C:	Abrupt change of temperature lapse rate.	
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9210	Which type 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:	Stratocumulus.	
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9211	A clear area in a line of thunderstorm echoes on a radar scope indicates	C
OPCION A:	the absence of clouds in the area.	
OPCION B:	an area of no convective turbulence.	
OPCION C:	an area where precipitation drops are not detected.	
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9212	When flying over the top of a severe thunderstorm, the cloud should be overflown by at least	A
OPCION A:	1,000 feet for each 10 knots windspeed.	
OPCION B:	2,500 feet.	
OPCION C:	500 feet above any moderate to a severe turbulence layer.	
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9213	What type weather change is to be expected in an area where frontolysis is reported?	B
OPCION A:	The frontal weather is becoming stronger.	
OPCION B:	The front is dissipating.	

OPCION C: The front is moving at a faster speed.	
9214 Which weather condition is an example of a nonfrontal instability band?	A
OPCION A: Squall line.	
OPCION B: Advection fog.	
OPCION C: Frontogenesis.	
9215 Which atmospheric factor cause rapid movement of surface fronts?	A
OPCION A: Upper winds blowing across the front.	
OPCION B: Upper low located directly over the surface low.	
OPCION C: The cold front overtaking and lifting the warm front.	
9216 In which meteorological conditions can frontal waves and low pressure areas form?	B
OPCION A: Warm fronts or occluded fronts.	
OPCION B: Slow-moving cold fronts or stationary fronts.	
OPCION C: Cold front occlusions.	
9217 What weather difference is found on each side of a "dry line"?	B
OPCION A: Extreme temperature difference.	
OPCION B: Dewpoint difference.	
OPCION C: Stratus versus cumulus clouds.	
9218 Under what conditions would clear air turbulence (CAT) most likely be encountered?	A
OPCION A: When constant pressure charts show 20-knot isotachs less than 60 NM apart.	
OPCION B: When constant pressure charts show 60-knot isotachs less than 20 NM apart	
OPCION C: When a sharp trough is moving at a speed less than 20 knots.	
9219 What action is recommended when encountering turbulence due to a wind shift associated with a sharp pressure trough?	A
OPCION A: Establish a course across the trough.	
OPCION B: Climb or descend to a smoother level.	
OPCION C: Increase speed to get out of the trough as soon as possible.	
9220 In comparison to an approach in a moderate headwind, which is an indication of a possible wind shear due to a decreasing headwind when descending on the glide slope?	B
OPCION A: Less power is required.	
OPCION B: Higher pitch attitude is required.	
OPCION C: Lower descent rate is required.	
9221 What condition is necessary for the formation of structural icing in flight?	C
OPCION A: Supercooled water drops.	
OPCION B: Water vapor.	
OPCION C: Visible water.	
9223 Which type precipitation is an indication that supercooled water is present?	B
OPCION A: Wet snow.	
OPCION B: Freezing rain.	
OPCION C: Ice pellets.	
9224 Which type of icing is associated with the smallest size of water droplet similar to that found in low-level stratus clouds?	C
OPCION A: Clear ice.	
OPCION B: Frost ice.	
OPCION C: Rime ice.	
9225 Which is a necessary condition for the occurrence of a low-level temperature inversion wind shear?	B
OPCION A: The temperature differential between the cold and warm layers must be at least 10 °C.	
OPCION B: A calm or light wind near the surface and a relatively strong wind just above the inversion.	
OPCION C: A wind direction difference of at least 30° between the wind near the surface and the wind just above the inversion.	

9226	What is the lowest cloud in the stationary group associated with a mountain wave?	A
OPCION A:	Rotor cloud.	
OPCION B:	Standing lenticular.	
OPCION C:	Low stratus.	
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9227	Where is the normal location of the jetstream relative to surface lows and fronts?	A
OPCION A:	The jetstream is located north of the surface systems.	
OPCION B:	The jetstream is located south of the low and warm front.	
OPCION C:	The jetstream is located over the low and crosses both the warm front and the cold front.	
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9228	Which type frontal system is normally crossed by the jetstream?	C
OPCION A:	Cold front and warm front.	
OPCION B:	Warm front.	
OPCION C:	Occluded front.	
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9229	Which type clouds may be associated with the jetstream?	B
OPCION A:	Cumulonimbus cloud line where the jetstream crosses the cold front.	
OPCION B:	Cirrus clouds on the equatorial side of the jetstream.	
OPCION C:	Cirrostratus cloud band on the polar side and under the jetstream.	
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9230	Which action is recommended if jetstream turbulence is encountered with a direct headwind or tailwind?	C
OPCION A:	Increase airspeed to get out of the area quickly.	
OPCION B:	Change occurs to fly on the polar side of the jetstream.	
OPCION C:	Change altitude or course to avoid a possible elongated area.	
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9231	Which action is recommended regarding an altitude change to get out of jetstream turbulence?	A
OPCION A:	Descend if ambient temperature is falling.	
OPCION B:	Descend if ambient temperature is rising.	
OPCION C:	Maintain altitude if ambient temperature is not changing.	
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9232	Clear air turbulence (CAT) associated with a mountain wave may extend as far as	B
OPCION A:	1,000 miles or more downstream of the mountain.	
OPCION B:	5,000 feet above the tropopause.	
OPCION C:	100 miles or more upwind of the mountain.	
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9235	Turbulence encountered above 15,000 feet AGL, not associated with cloud formations, should be reported as	C
OPCION A:	convective turbulence.	
OPCION B:	high altitude turbulence.	
OPCION C:	clear air turbulence.	
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9237	What is likely location of clear air turbulence?	A
OPCION A:	In an upper trough on the polar side of a jetstream.	
OPCION B:	Near a ridge aloft on the equatorial side of a high pressure flow.	
OPCION C:	Downstream of the equatorial side of a jetstream.	
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9238	Where do the maximum winds associated with the jetstream usually occur?	A
OPCION A:	In the vicinity of breaks in the tropopause on the polar side of the jet core.	
OPCION B:	Below the jet core where a long straight stretch of the jetstream is located.	
OPCION C:	On the equatorial side of the jetstream where moisture has formed cirriform clouds.	
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9239	Which type jetstream can be expected to cause the greater turbulence?	C
OPCION A:	A straight jetstream associated with a high pressure ridge.	
OPCION B:	A jetstream associated with a wide isotherm spacing.	
OPCION C:	A curving jetstream associated with a deep low pressure trough.	
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9240	What weather feature occurs at altitude levels near the tropopause?	A
OPCION A:	Maximum winds and narrow wind shear zones.	
OPCION B:	Abrupt temperature increase above the tropopause.	
OPCION C:	Thin layers of cirrus (ice crystal) clouds at the tropopause level.	

9241	Where are jetstreams normally located?	B
OPCION A:	In areas of strong low pressure systems in the stratosphere.	
OPCION B:	At the tropopause where intensified temperature gradients are located.	
OPCION C:	In a single continuous band, encircling the Earth, where there is a break	
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9243	What is the single source reference that contains information regarding volcanic eruption, turbulence, and icing conditions for a specific region?	B
OPCION A:	Weather Depiction Chart	
OPCION B:	In flight weather advisories	
OPCION C:	Area forecast	
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9244	Which primary source contains information regarding the expected weather at the destination airport, at the ETA?	C
OPCION A:	Low-Level Prog Chart.	
OPCION B:	Radar Summary and Weather Depiction Charts.	
OPCION C:	Terminal Aerodrome Forecast.	
<hr/>		
9245	Weather conditions expected to occur in the vicinity of the airport, but not at the airport, are denoted by the letters "VC". When VC appears in a Terminal Aerodrome Forecast, it covers a geographical area of	A
OPCION A:	a 5 to 10 statute mile radius from the airport.	
OPCION B:	a 5-mile radius of the center of a runway complex.	
OPCION C:	10 miles of the station originating the forecast.	
<hr/>		
9246	Which are the only cloud types forecast in the Terminal Aerodrome Forecast?	B
OPCION A:	Altostratus.	
OPCION B:	Cumulonimbus.	
OPCION C:	Stratocumulus.	
<hr/>		
9248	What weather is predicted by the term VCTS in a Terminal Aerodrome Forecast?	A
OPCION A:	Thunderstorms are expected in the vicinity.	
OPCION B:	Thunderstorms may occur over the station and within 50 miles of the station.	
OPCION C:	Thunderstorms are expected between 5 and 25 miles of the runway complex.	
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9263	What type turbulence should be reported when it causes in altitude and/or attitude more than two-thirds of the time, with the aircraft remaining in positive control at all times?	B
OPCION A:	Continuous severe chop.	
OPCION B:	Continuous moderate turbulence.	
OPCION C:	Intermittent moderate turbulence.	
<hr/>		
9264	What type turbulence should be reported when it momentarily causes slight, erratic changes in altitude and/or attitude, one-third to two-thirds of the time?	C
OPCION A:	Occasional light chop.	
OPCION B:	Moderate chop.	
OPCION C:	Intermittent light turbulence.	
<hr/>		
9266	Fig. 145 What was the local Central Standard Time of the Aviation Routine Weather Report at Austin (KAUS)?	A
OPCION A:	11:53 a.m.	
OPCION B:	5:53 p.m.	
OPCION C:	10:53 p.m.	
	(Ver figura referencial 145 en el Manual de Figuras)	
<hr/>		
9271	Ref. Figure 145 The peak wind at KAMA was reported to be from 320° true at 39 knots.	A
OPCION A:	wich occurred at 1743Z	
OPCION B:	with gusts to 43 knots	
OPCION C:	with 43 of an inch liquid precipitation since the last report	
	(Ver figura referencial 145 en el Manual de Figuras)	

9272 SPECI KGLS 131802Z 10012G21KT 060V140
2SM+SHRA SCT005BKN035 OVC050CB24/23 A2980
RMK RAB57 WS TKO RW09L WSHFT 58 FROPA.

B

This SPECI report at Galveston (KGLS) indicates which condition?

- OPCION A:** Wind steady at 100° magnetic at 12 knots, gusts to 21.
OPCION B: Precipitation started at 57 after the hour.
OPCION C: 5,000 feet overcast with towering cumulus.

9274 METAR KMAF 131756Z 02020KT 12SM BKN025 OVC250 27/18 A3009 RMK RAE44.

A

Which weather condition is indicated by this METAR report at Midland (KMAF)?

- OPCION A:** Rain of unknown intensity ended 16 minutes before the hour.
OPCION B: The ceiling was at 25,000 feet MSL.
OPCION C: Wind was 020° magnetic at 20 knots.

9275 METAR KSPS 131757Z 09014KT 6SM -RA SCT025 OVC090 24/22 A3005.
SPECI KSPS 131820Z 01025KT 3SM +RA FC OVC015 22/21 A3000.

C

Which change took place at Wichita Falls (KSPS) between 1757 and 1820 UTC?

- OPCION A:** The rain became lighter.
OPCION B: Atmospheric pressure increased.
OPCION C: A funnel cloud was observed.

9277 METAR KHRO 131753Z 09007KT 7SM FEW020 BKN040 30/27 A3001.
SPECI KHRO 131815Z 13017G26KT 3SM +TSRA SCT020 BKN045TCU 29/24 A2983 RMK
RAB12 WS TKO LDG RW14R FRQ LTGICCG VC.

B

What change has taken place between 1753 and 1815 UTC at Harrison (KHRO)?

- OPCION A:** The ceiling lowered and cumulonimbus clouds developed.
OPCION B: Thundershowers began at 12 minutes past the hour.
OPCION C: Visibility reduced to IFR conditions.

9278 A PROB40 (PROBability) HHhh group in an International Terminal Aerodrome Forecast (TAF) indicates the probability of

A

- OPCION A:** thunderstorms or other precipitation.
OPCION B: precipitation or low visibility.
OPCION C: thunderstorms or high wind.

9279 Fig. 147

A

At which time is IFR weather first predicted at Lubbock (KLBB)?

- OPCION A:** 0100Z.
OPCION B: 2100Z.
OPCION C: 0400Z.

(Ver figura referencial 147 en el Manual de Figuras)

9283 Vertical wind shear can be determined by comparing winds on vertically adjacent constant pressure charts. The vertical wind shear that is critical for probability of turbulence is

B

- OPCION A:** 4 knots or greater per 1,000 feet.
OPCION B: 6 knots or more pre 1,000 feet
OPCION C: greater than 8 knots per 1,000 feet

9286 Which type weather conditions are covered in the Convective SIGMET

A

- OPCION A:** Embedded thunderstorms, lines of thunderstorms, and thunderstorms with 3/4-inch hail or tornadoes.
OPCION B: Cumulonimbus clouds with tops above the tropopause and thunderstorms with 1/2-inch hail or funnel clouds.
OPCION C: Any thunderstorm with a severity level of VIP 2 or more

9440 Which is an effect of ice, snow, or frost formation on an airplane?

C

- OPCION A:** Increased stall speed.
OPCION B: Increased pitchup tendencies.
OPCION C: Increased angle of attack for stalls.

9442 The purpose of diluting ethylene glycol deicing fluid with water in non-precipitation conditions is to

B

- OPCION A:** raise the eutectic point.
OPCION B: decrease the freeze point.
OPCION C: increase the minimum freezing point (onset of crystallization).

9443 Which procedure increases holding time when deicing/anti-icing an airplane using a two-step process?

A

- OPCION A:** Heated Type 1 fluid followed by cold Type 2 fluid.
OPCION B: Cold Type 2 fluid followed by hot Type 2 fluid.
OPCION C: Heated Type 1 or 2 fluid followed by cold Type 1 fluid.

9449 Which is an effect of ice, snow, or frost formation on an airplane?

A

- OPCION A:** Increased stall speed
OPCION B: Increased pitchdown tendencies
OPCION C: Increased angle of attack for stalls

9450 Freezing Point Depressant (FPD) fluids used for deicing

B

- OPCION A:** provide ice protection during flight.
OPCION B: are intended to provide ice protection on the ground only.
OPCION C: on the ground, cause no performance degradation during takeoff.

9451 Test data indicate that ice, snow, or frost having a thickness and roughness similar to medium or coarse sandpaper on the leading edge and upper surface of a wing can

C

- OPCION A:** reduce lift by as much as 40 percent and increase drag by 30 percent.
OPCION B: increase drag and reduce lift by as much as 40 percent.
OPCION C: reduce lift by as much as 30 percent and increase drag by 40 percent.

9452 Snow on top of deicing or anti-icing fluids

B

- OPCION A:** need not be considered as adhering to the aircraft.
OPCION B: must be considered as adhering to the aircraft.
OPCION C: must be considered as adhering to the aircraft, but a safe takeoff can be made as it will blow off.

9454 Freezing Point Depressant (FPD) fluid residue on engine fan or compressor blades

C

- OPCION A:** can increase performance and cause stalls or surges.
OPCION B: could cause FDP vapors to enter the aircraft but would have no affect on engine thrust or power.
OPCION C: can reduce engine performance and cause surging and/or compressor stalls.

9695 The adverse effects of ice, snow, or frost on aircraft performance and flight characteristics include decreased lift and

C

- OPCION A:** increased thrust.
OPCION B: a decreased stall speed.
OPCION C: an increased stall speed.

9699 Test data indicate that ice, snow, or frost having a thickness and roughness similar to medium or coarse sandpaper on the leading edge and upper surface of a wing can

B

- OPCION A:** reduce lift by as much as 40 percent and increase drag by 30 percent.
OPCION B: reduce lift by as much as 30 percent and increase drag by 40 percent.
OPCION C: increase drag and reduce lift by as much as 40 percent.

9700 What is the effect of Freezing Point Depressant (FPD) fluid residue on engine fan or compressor blades?

C

- OPCION A:** could cause FPD vapors to enter the aircraft but would have no affect on engine thrust or power.
OPCION B: It can increase performance and cause stalls or surges.
OPCION C: It can reduce engine performance and cause surging and/or compressor stalls.

9701 The horizontal wind shear, critical for turbulence (moderate or greater) per 150 miles is

B

- OPCION A:** 18 knots or less.
OPCION B: greater than 18 knots.
OPCION C: not a factor, only vertical shear is a factor.

9706	A severe thunderstorm is one in which the surface wind is	A
OPCION A:	50 knots greater and/or surface hail is 3/4 inch or more in diameter.	
OPCION B:	55 knots or greater and/or surface hail is 1/2 inch or more in diameter.	
OPCION C:	45 knots or greater and/or surface hail is 1 inch or more in diameter.	
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9707	On the constant pressure analysis chart, satellite and aircraft observations are used in the analysis over areas of sparse data. A satellite observation is plotted using	C
OPCION A:	a station circle at the cloud top location.	
OPCION B:	a square at the cloud top location.	
OPCION C:	a star at the cloud top location.	
<hr/>		
9708	A squall line is a sudden increase of at least 15 knots in average wind speed to a sustained speed of	B
OPCION A:	24 knots or more for at least 1 minute.	
OPCION B:	22 knots or more for at least 2 minutes.	
OPCION C:	20 knots or more for at least 1 minute.	
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9709	A calm wind that is forecast, in the International Terminal Aerodrome Forecast (TAF), is encoded as	B
OPCION A:	VRB00KT.	
OPCION B:	00000KT.	
OPCION C:	00003KT.	
<hr/>		
9710	In the International Terminal Aerodrome Forecast (TAF), a variable wind direction is noted by "VRB" where the three digit direction usually appears. A calm wind appears in the TAF as	C
OPCION A:	00003KT.	
OPCION B:	VRB00KT.	
OPCION C:	00000KT.	
<hr/>		
9711	On the constant pressure analysis chart, aircraft and satellite observations are used in the analysis over areas of sparse data. An aircraft observation is plotted using	B
OPCION A:	a station circle at the aircraft location.	
OPCION B:	a square at the aircraft location.	
OPCION C:	a star at the aircraft location.	
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9716	The prevailing visibility in the following METAR is	A
	METAR KFSM 131756Z AUTO 00000KT M1/4SM R25/0600V1000FT -RA FG VV004 06/05 A2989 RMK AO2 \$	
OPCION A:	less than 1/4 statute mile.	
OPCION B:	measured 1/4 statute mile.	
OPCION C:	a mean (average) of 1/4 statute mile.	
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9718	The VV001 in the following METAR indicates	B
	METAR KFSM 131756Z AUTO 00000KT M1/4SM R25/0600V1000FT -RA FG VV001 A2989 RMK AO2 VIS 3/4 RWY19 CHINO RWY19 \$	
OPCION A:	an observer reported the vertical visibility as 100 feet.	
OPCION B:	a 100 foot indefinite ceiling.	
OPCION C:	the variability value is 100 feet.	
