PRACTICE EXAM 22

1. In the METAR group "24015G25KT," the "G25" indicates:

A. A steady wind of 25 knots from 240°

B. Visibility of 25 statute miles

C. Wind gusts to 25 knots

D. A temperature of 25 degrees Celsius

2. The METAR temperature/dewpoint group "M06/M08" means:

A. Temperature −6°C and dewpoint −8°C

B. Temperature 6°C and dewpoint 8°C

C. A pressure of 608 millibars

D. Visibility of 6 miles and 8 miles

3. In a METAR, the altimeter setting is identified by which prefix?

A. The letter Z, as in "1830Z"

B. The letter A, as in "A2992"

C. The letter G, as in "G25"

D. The letters SM, as in "10SM"

4. A TAF "FM1500" group indicates conditions that:

A. Will exist temporarily for under an hour

B. Become the prevailing conditions from 1500Z onward

C. Have a 50% probability of occurring

D. Occurred in the past at 1500Z

5. The sky condition "OVC008" in a METAR means:

A. A scattered layer at 8,000 feet

B. A few clouds at 800 feet

C. An overcast ceiling at 800 feet

D. Clear skies with 8 miles visibility

6. A SIGMET is issued for weather phenomena that are:

A. Of interest mainly to light aircraft only

B. Routine and expected along most routes

C. A standard part of every area forecast

D. Hazardous to all aircraft, such as severe turbulence or icing

7. In the winds-aloft forecast group "2420+10," the "+10" represents:

A. A wind speed of 10 knots

B. A 10% probability of the wind

C. The temperature of +10°C at that altitude

D. A gust factor of 10 knots

8. The remark "RMK A02" in a METAR indicates the station is:

A. An automated station with a precipitation discriminator

B. Reporting a record-low altimeter setting

C. Located at a 2,000-foot field elevation

D. Operated only during the second shift

9. A TAF covers a forecast period that is typically valid for:

A. 1 hour from issuance

B. 6 hours from issuance

C. 24 to 30 hours from issuance

D. 7 days from issuance

10. The METAR group "1/2SM" indicates:

A. A cloud layer at 1,200 feet

B. One-half statute mile visibility

C. A 50% chance of precipitation

D. A wind shift of half a compass point

11. An AIRMET, compared to a SIGMET, advises of weather that is:

A. More severe than any SIGMET phenomenon

B. Reported only after an accident occurs

C. Less severe but still potentially hazardous, especially to light aircraft

D. Of no concern to VFR pilots

12. On a station model plot, the wind barbs point:

A. In the direction the wind is blowing toward

B. Toward the nearest reporting station

C. From the direction the wind is coming

D. Always toward magnetic north

13. A METAR reporting "BKN025" describes a:

A. Clear sky below 2,500 feet

B. Scattered layer at 250 feet

C. Few clouds at 2,500 feet

D. Broken ceiling at 2,500 feet

14. The TAF change group "TEMPO 1418 BKN015" indicates the broken layer at 1,500 feet is expected to be:

A. Permanent for the remainder of the forecast

B. A gradual change completed by 1800Z

C. A 30% probability between 1400Z and 1800Z

D. Temporary and intermittent between 1400Z and 1800Z

15. The "PROB30" group in a TAF indicates:

A. A 30% probability of the described conditions

B. A 30-knot wind gust expected

C. A 30-mile visibility forecast

D. A pressure of 30.00 inches of mercury

16. In the winds-aloft code "9900," the wind is reported as:

A. Light and variable

B. 99 knots from 000°

C. Calm with no temperature

D. 9,900 feet of visibility

17. A surface analysis chart depicts a cold front using:

A. A line with semicircles pointing toward movement

B. A blue line with triangles pointing toward movement

C. A red line with no symbols

D. A purple line with alternating symbols

18. A METAR beginning with "SPECI" rather than "METAR" indicates:

A. A specially trained observer made the report

B. A forecast rather than an observation

C. An unscheduled special report due to changing conditions

D. A report valid only for special-use airspace

19. The visibility group "10SM" in a METAR means:

A. A ceiling at 10,000 feet

B. Visibility of 10 statute miles

C. A wind of 10 knots

D. A temperature of 10°C

20. A prognostic ("prog") chart is used to show:

A. Current observed conditions at each station

B. Forecast weather features at a future valid time

C. The historical climate averages for a region

D. Only the locations of reporting stations

21. The METAR group "FEW040" indicates:

A. A broken layer at 4,000 feet

B. An overcast ceiling at 400 feet

C. Few clouds at 400 feet

D. Few clouds at 4,000 feet

22. A warm front on a surface analysis chart is depicted by:

A. A line with semicircles on the side toward which it moves

B. A line with triangles pointing toward movement

C. A dashed green line

D. A line with alternating triangles and semicircles

23. The present-weather code "−RA" in a METAR means:

A. Light rain

B. Heavy rain

C. Freezing rain

D. Rain that has ended

24. A station model showing temperature and dewpoint close together indicates:

A. A large temperature/dewpoint spread and dry air

B. A high probability of strong winds

C. A rapidly rising barometric pressure

D. Air near saturation, with clouds or fog likely

25. The "KT" in a METAR wind group specifies the wind speed unit as:

A. Statute miles per hour

B. Kilometers per hour

C. Meters per second

D. Knots

26. A TAF is a forecast specifically for:

A. An entire flight information region

B. A 50-nautical-mile-wide route corridor

C. The area within about 5 statute miles of an airport

D. The continental United States as a whole

27. The present-weather code "BR" in a METAR indicates:

A. A broken cloud layer

B. Blowing sand

C. A thunderstorm

D. Mist

28. An occluded front on a surface analysis chart is depicted with:

A. Only semicircles along the line

B. Only triangles along the line

C. A simple dashed line

D. Alternating triangles and semicircles on the same side

29. The METAR group "VRB03KT" means the wind is:

A. Variable in direction at 3 knots

B. From 030° at variable speed

C. Verified as 3 knots steady

D. Gusting by 3 knots

30. A stationary front on a surface analysis chart is shown with:

A. Only triangles pointing in one direction

B. Only semicircles pointing in one direction

C. A single dashed green line

D. Triangles on one side and semicircles on the opposite side

31. The remark "PK WND 30045/1925" in a METAR reports:

A. A peak visibility of 30 miles at 1925Z

B. A peak wind from 300° at 45 knots at 1925Z

C. A pressure of 300.45 at 1925Z

D. A 30-degree temperature at 0045Z

32. A pilot reading a TAF sees "BECMG 0204." This indicates a change that is:

A. Temporary and intermittent

B. A 20% to 40% probability

C. Permanent but occurring instantly at 0200Z

D. Gradual, occurring between 0200Z and 0400Z

33. The METAR sky-condition abbreviation "SCT" stands for:

A. Scattered, a layer covering 3/8 to 4/8 of the sky

B. A sector of clear sky

C. A special cloud type

D. Surface contact with the terrain

34. A SIGMET for a non-convective hazard would warn of:

A. A 30% chance of light rain

B. Severe icing or severe turbulence

C. Routine scattered clouds

D. Calm winds and clear skies

35. The winds-aloft entry "2735" decodes to wind from:

A. 270° at 35 knots

B. 27° at 35 knots

C. 273° at 5 knots

D. 27 knots from 350°

36. A METAR is normally issued:

A. Once each hour, on a routine schedule

B. Only when conditions are hazardous

C. Once every 24 hours

D. Continuously without interruption

37. The present-weather code "FG" in a METAR indicates:

A. A frontal gust

B. Fog

C. Funnel cloud

D. Light freezing drizzle

38. On a station model, the total sky cover is shown by:

A. The length of the wind barb

B. The amount the station circle is filled in

C. The number printed above the circle

D. The color of the plotted symbol

39. A TAF wind group "00000KT" indicates:

A. A 0°C temperature aloft

B. Visibility of zero miles

C. Calm wind

D. An overcast ceiling at the surface

40. A pilot comparing a SIGMET and an AIRMET should understand that the SIGMET addresses:

A. Conditions of interest only to student pilots

B. Routine forecast conditions along the route

C. More severe, widespread hazardous weather

D. Only ground-based weather observations

ANSWER KEY WITH EXPLANATIONS

1. C — Wind gusts to 25 knots. In "24015G25KT," the G25 reports gusts to 25 knots, with the steady wind 15 knots from 240°. The "G" always precedes the gust value.

2. A — Temperature −6°C and dewpoint −8°C. "M06/M08" decodes as temperature −6°C and dewpoint −8°C, where "M" means minus. The small spread suggests near-saturated, cold air.

3. B — The letter A, as in "A2992." The altimeter setting in a METAR is prefixed by "A," so "A2992" is 29.92 inHg. The "Z" marks time and "SM" marks visibility.

4. B — Become the prevailing conditions from 1500Z onward. "FM1500" marks a rapid, lasting change to the prevailing conditions from 1500Z. It is neither temporary nor a probability group.

5. C — An overcast ceiling at 800 feet. "OVC008" is an overcast layer at 800 feet AGL, which constitutes a ceiling. The three digits are hundreds of feet.

6. D — Hazardous to all aircraft, such as severe turbulence or icing. A SIGMET warns of weather hazardous to all aircraft, such as severe turbulence, severe icing, or widespread dust storms. It is not routine or light-aircraft-only.

7. C — The temperature of +10°C at that altitude. In "2420+10," the +10 is the temperature in Celsius at that altitude, with wind from 240° at 20 knots. Above 24,000 feet the sign is omitted as always negative.

8. A — An automated station with a precipitation discriminator. "A02" denotes an automated station with a precipitation discriminator (it can distinguish rain from snow). "A01" lacks that capability.

9. C — 24 to 30 hours from issuance. A TAF is typically valid for 24 to 30 hours from issuance. It is far longer than a single METAR observation.

10. B — One-half statute mile visibility. "1/2SM" is one-half statute mile visibility, a low value often associated with fog. The "SM" denotes statute miles.

11. C — Less severe but still potentially hazardous, especially to light aircraft. An AIRMET warns of less severe but still hazardous weather, of particular concern to light aircraft. A SIGMET covers the more severe phenomena.

12. C — From the direction the wind is coming. Wind barbs on a station model point from the direction the wind is coming, consistent with how wind direction is named. They do not point toward the destination or north.

13. D — Broken ceiling at 2,500 feet. "BKN025" is a broken layer at 2,500 feet AGL, which is a ceiling. Broken means 5/8 to 7/8 sky cover.

14. D — Temporary and intermittent between 1400Z and 1800Z. "TEMPO 1418" marks temporary, intermittent conditions—here a 1,500-foot broken layer—between 1400Z and 1800Z. It is neither permanent nor a probability.

15. A — A 30% probability of the described conditions. "PROB30" indicates a 30% probability of the described conditions occurring. It is a likelihood, not a wind, visibility, or pressure value.

16. A — Light and variable. The winds-aloft code "9900" means wind light and variable (less than 5 knots). It is a special code, not a literal direction and speed.

17. B — A blue line with triangles pointing toward movement. A cold front is drawn as a blue line with triangles pointing in the direction of movement. Semicircles, by contrast, mark a warm front.

18. C — An unscheduled special report due to changing conditions. "SPECI" marks an unscheduled special observation issued when conditions change significantly between routine reports. It is still an observation, not a forecast.

19. B — Visibility of 10 statute miles. "10SM" is visibility of 10 statute miles, the maximum commonly reported. The "SM" denotes statute miles.

20. B — Forecast weather features at a future valid time. A prog chart shows forecast weather features at a future valid time, aiding flight planning. It is not a current observation or climate average.

21. D — Few clouds at 4,000 feet. "FEW040" is few clouds at 4,000 feet AGL; the three digits are hundreds of feet. "Few" covers 1/8 to 2/8 of the sky.

22. A — A line with semicircles on the side toward which it moves. A warm front is drawn with semicircles on the side toward which it moves. Triangles, by contrast, denote a cold front.

23. A — Light rain. "−RA" is light rain, where the minus sign denotes light intensity. A plus sign would mean heavy.

24. D — Air near saturation, with clouds or fog likely. A small temperature/dewpoint spread on a station model shows air near saturation, making clouds or fog likely. A large spread would indicate dry air.

25. D — Knots. The "KT" in a METAR wind group specifies knots. This is the standard aviation wind-speed unit.

26. C — The area within about 5 statute miles of an airport. A TAF forecasts conditions within roughly 5 statute miles of an airport. It is airport-specific, not regionwide.

27. D — Mist. "BR" in a METAR is the code for mist (visibility reduced but 5/8 mile or more). It is unrelated to broken clouds or thunderstorms.

28. D — Alternating triangles and semicircles on the same side. An occluded front is drawn with alternating triangles and semicircles on the same side of the line. It combines the cold- and warm-front symbols.

29. A — Variable in direction at 3 knots. "VRB03KT" means the wind is variable in direction at 3 knots, common in light-wind conditions. "VRB" replaces a specific direction.

30. D — Triangles on one side and semicircles on the opposite side. A stationary front is drawn with triangles on one side and semicircles on the opposite side, showing neither air mass advancing. The opposing symbols distinguish it.

31. B — A peak wind from 300° at 45 knots at 1925Z. "PK WND 30045/1925" reports a peak wind from 300° at 45 knots occurring at 1925Z. The remark documents the strongest gust.

32. D — Gradual, occurring between 0200Z and 0400Z. "BECMG 0204" marks a gradual, lasting change occurring between 0200Z and 0400Z. It differs from the temporary TEMPO and the rapid FM.

33. A — Scattered, a layer covering 3/8 to 4/8 of the sky. "SCT" stands for scattered, a layer covering 3/8 to 4/8 of the sky. It is not a ceiling.

34. B — Severe icing or severe turbulence. A non-convective SIGMET warns of severe icing, severe turbulence, or similar widespread hazards. Routine or trivial conditions are not SIGMET material.

35. A — 270° at 35 knots. The winds-aloft entry "2735" decodes to wind from 270° at 35 knots. The first two digits are tens of degrees, the last two the speed.

36. A — Once each hour, on a routine schedule. A routine METAR is normally issued once each hour. Special reports (SPECI) supplement it when conditions change.

37. B — Fog. "FG" in a METAR is the code for fog (visibility under 5/8 mile). It is distinct from mist (BR).

38. B — The amount the station circle is filled in. Total sky cover on a station model is shown by how much the station circle is shaded in. A full circle means overcast.

39. C — Calm wind. "00000KT" indicates calm wind—zero direction and zero speed. It is the standard calm-wind encoding.

40. C — More severe, widespread hazardous weather. A SIGMET addresses more severe, widespread hazardous weather affecting all aircraft, while an AIRMET covers less severe conditions. The distinction is one of severity and scope.