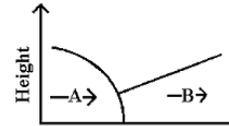


7. The forecasting technique that produces several versions of a forecast model, each beginning with slightly different weather information to reflect errors in the measurements, is called:
- (1) probability forecasting
 - (2) climatology forecasting
 - (3) persistence forecasting
 - (4) random forecasting
 - (5) ensemble forecasting
8. Hurricanes dissipate when:
- (A) they move over colder water.
 - (B) they move over land.
 - (C) surface inflow of air exceeds upper-level outflow of air.
- (1) — (2) B only (3) A, B, or C (4) A only (5) C only
9. What type of air mass would be responsible for refreshing cool, dry breezes after a long summer hot spell in the Central Plains?
- (1) cT (2) cP (3) mP (4) — (5) mT
10. A weather warning indicates that:
- (1) hazardous weather is either imminent or occurring within the forecast area.
 - (2) —
 - (3) hazardous weather is likely to occur within the forecast area during the next 24 hours.
 - (4) the atmospheric conditions are favorable for hazardous weather over a particular region.
 - (5) hazardous weather is frequently observed in a particular region.
11. In the eyewall of a hurricane, the air is _____, and in the center of the eye of a hurricane, the air is _____.
- (1) sinking, sinking (2) rising, rising (3) rising, sinking (4) sinking, rising (5) —
12. *(This is a bonus question worth one extra point. In order to claim the extra point, you need to select one and only one of the following answers. Please choose the answer which best describes your situation. This question is simply an informal opinion poll regarding the quality of the textbook and the usefulness of the publisher's website.)*
- This semester
- (1) I had the new edition of the textbook and I also used the Meteorology Resource Center on the publisher's website, which I found rather useful.
 - (2) I had the new edition of the textbook and I also used the Meteorology Resource Center on the publisher's website, which I did not find particularly useful.
 - (3) I used an old edition of the textbook but in hindsight I wish I had purchased the new edition.
 - (4) I had the new edition of the textbook but I didn't use the Meteorology Resource Center on the publisher's website.
 - (5) I used an old edition of the textbook and was happy with it.
13. The greatest contrast in both temperature and moisture will occur along the boundary separating which two air masses?
- (1) mP and cT (2) mT and cP (3) mP and mT (4) cP and cT (5) cT and mT

14. The diagram represents a side view of a _____ occluded front with the coldest air located at position _____. (Each arrow indicates the direction of motion of the corresponding air-mass.)

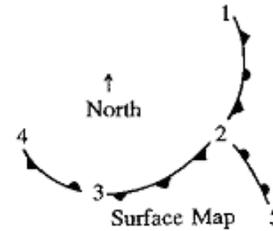


- (1) warm type; B (2) cold type; A (3) — (4) cold type; B (5) warm type; A

15. If you were asked to make a weather forecast right now for the day of Super Bowl XLIII (February 1, 2009 in Tampa), which type of forecast offers you best chances of success?

- (1) climatology forecast (2) — (3) trend forecast (4) — (5) persistence forecast

16. For this and the next two questions, refer to the figure at the right. A cold front is positioned between points:



- (1) 3 and 4. (2) 1 and 2. (3) 2 and 5. (4) 2 and 3. (5) —

17. Refer to the figure above. An occluded front is positioned between points:

- (1) 3 and 4. (2) 2 and 3. (3) 2 and 5. (4) — (5) 1 and 2.

18. Refer to the figure above. A stationary front is positioned between points:

- (1) 2 and 5. (2) 2 and 3. (3) — (4) 1 and 2. (5) 3 and 4.

19. The _____ is a measure of hurricane strength based on hurricane winds and central pressure.

- (1) Beaufort scale (2) Saffir-Simpson scale (3) Fujita scale (4) Richter scale (5) —

20. What type of air mass would be responsible for heavy summer rain showers in southern Arizona?

- (1) cT (2) mT (3) cP (4) mP (5) —

21. Severe thunderstorms are capable of producing:

- (A) large hail.
- (B) tornadoes.
- (C) wind gusts in excess of 58 mi/hr.

- (1) A, B, or C (2) B only (3) A only (4) — (5) C only

22. A forecast method that compares previous years' weather maps and weather patterns to those of the present is:

- (1) the analogue method (2) the persistence method (3) the trend method (4) — (5) —

23. Suppose it is warm and sunny, and a cold front is moving toward your location. Directly at the cold front it is cold and raining. Further behind the front the weather is cold and clearing. If the front is scheduled to pass your area in 6 hours, a trend forecast for your area for 12 hours from now would be:
- (1) cold and clearing (2) — (3) warm and sunny (4) — (5) cold and raining
24. Record breaking low temperatures are associated with which air mass?
- (1) mP (2) mT (3) cP (4) cT (5) —
25. What would be the proper sequence of events in a lightning flash?
- (1) stepped leader, return stroke, dart leader, return stroke
 (2) stepped leader, dart leader, return stroke, return stroke
 (3) dart leader, return stroke, stepped leader, return stroke
 (4) return stroke, stepped leader, return stroke, dart leader
 (5) —
26. Developing low pressure areas generally require the presence of _____ aloft.
- (1) — (2) converging air (3) low pressure (4) diverging air (5) high pressure
27. When upper-level convergence of air above a surface high pressure area is stronger than the divergence of surface air, the surface pressure will _____ and the anticyclone will _____ .
- (1) increase, weaken (2) — (3) decrease, weaken (4) decrease, intensify (5) increase, intensify
28. In the polar front theory of a developing wave cyclone, the warm sector can be observed:
- (1) behind an advancing cold front
 (2) ahead of an advancing warm front
 (3) ahead of an advancing cold front
 (4) behind an advancing occluded front
 (5) ahead of an advancing occluded front
29. An accurate forecast for one particular day:
- (1) —
 (2) shows lack of skill
 (3) may or may not show skill
 (4) definitely shows skill
 (5) —
30. Storms that form in the tropics are given names when:
- (1) they approach to within 250 miles of land.
 (2) they form a well-defined eye.
 (3) they reach tropical storm strength.
 (4) rotation becomes visible on a satellite photograph.
 (5) they become fully developed hurricanes.

31. Before the passage of a cold front, the pressure normally _____ , and after the passage of a cold front, the pressure normally _____ .
- (1) rises, stays constant (2) drops, rises (3) drops, stays constant (4) rises, drops (5) stays constant, rises
32. A line of thunderstorms that forms ahead of an advancing cold front is called a:
- (1) wall cloud. (2) squall line. (3) gust front. (4) front line. (5) roll cloud.
33. Which would you not expect to observe as the eye of a hurricane passes directly over your area?
- (1) —
(2) a very low surface pressure reading
(3) an increase in surface temperature
(4) high winds
(5) little or no precipitation
34. When lightning illuminates the cloud in which it occurs, but its flash can not be seen, the lightning is called:
- (1) bead lightning (2) ribbon lightning (3) dry lightning (4) sheet lightning (5) heat lightning