

## SECTION II

Time—35 minutes

24 Questions

**Directions:** Each group of questions in this section is based on a set of conditions. In answering some of the questions, it may be useful to draw a rough diagram. Choose the response that most accurately and completely answers each question and blacken the corresponding space on your answer sheet.

Questions 1–6

John receives one grade for each of the following six courses: economics, geology, history, Italian, physics, and Russian. From highest to lowest, the possible grades are A, B, C, D, and E. E is the only failing grade. Two letter grades are consecutive if and only if they are adjacent in the alphabet.

John's grades in geology and physics are consecutive.

His grades in Italian and Russian are consecutive.

He receives a higher grade in economics than in history.

He receives a higher grade in geology than in physics.

1. If John receives the same grade in economics and Italian, and if he fails Russian, which one of the following must be true?
  - (A) John's geology grade is a B.
  - (B) John's history grade is a D.
  - (C) John's history grade is an E.
  - (D) John's physics grade is a B.
  - (E) John's physics grade is a C.
2. If John passes all his courses and receives a higher grade in geology than in either language, which one of the following must be true?
  - (A) He receives exactly one A.
  - (B) He receives exactly one B.
  - (C) He receives exactly two Bs.
  - (D) He receives at least one B and at least one C.
  - (E) He receives at least one C and at least one D.
3. If John receives a higher grade in physics than in economics and receives a higher grade in economics than in either language, which one of the following allows all six of his grades to be determined?
  - (A) His grade in history is D.
  - (B) His grade in Italian is D.
  - (C) His grades in history and Italian are identical.
  - (D) His grades in history and Russian are identical.
  - (E) His grade in history is higher than his grade in Russian.
4. If John receives a higher grade in physics than in economics and receives a higher grade in history than in Italian, exactly how many of his grades can be determined?
  - (A) 2
  - (B) 3
  - (C) 4
  - (D) 5
  - (E) 6
5. Assume that John's grade in physics is higher than his grade in Italian and consecutive with it and that his grades in Russian and physics differ. Which one of the following must be true?
  - (A) John receives both an A and a B.
  - (B) John receives both an A and a C.
  - (C) John receives both a B and a D.
  - (D) John receives both a B and an E.
  - (E) John receives both a D and an E.
6. Assume that John receives a lower grade in economics than in physics. He must have failed at least one course if which one of the following is also true?
  - (A) He receives a lower grade in Italian than in economics.
  - (B) He receives a lower grade in Italian than in physics.
  - (C) He receives a lower grade in physics than in Italian.
  - (D) He receives a lower grade in Russian than in economics.
  - (E) He receives a lower grade in Russian than in history.

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Questions 7–11

A store sells shirts only in small, medium, and large sizes, and only in red, yellow, and blue colors. Casey buys exactly three shirts from the store.

A shirt type consists of both a size and a color.

Casey does not buy two shirts of the same type.

Casey does not buy both a small shirt and a large shirt.

No small red shirts are available.

No large blue shirts are available.

7. Which one of the following must be false?
- (A) Two of the shirts that Casey buys are small and two are red.
  - (B) Two of the shirts that Casey buys are medium and two are red.
  - (C) Two of the shirts that Casey buys are large and two are red.
  - (D) Two of the shirts that Casey buys are small, one is yellow, and one is blue.
  - (E) Two of the shirts that Casey buys are medium, one is yellow, and one is blue.
8. If Casey buys a small blue shirt, which one of the following must be false?
- (A) Casey buys two blue shirts.
  - (B) Casey buys two red shirts.
  - (C) Casey buys two yellow shirts.
  - (D) Casey buys two small shirts.
  - (E) Casey buys two medium shirts.
9. If Casey does not buy a medium yellow shirt, which one of the following must be true?
- (A) Casey buys either a medium red shirt or a small blue shirt.
  - (B) Casey buys either a medium red shirt or a medium blue shirt.
  - (C) Casey buys either a large red shirt or a small blue shirt.
  - (D) Casey buys either a large red shirt or a medium red shirt.
  - (E) Casey buys either a large yellow shirt or a small yellow shirt.
10. If Casey buys exactly one medium shirt and does not buy two shirts of the same color, then she cannot buy which one of the following?
- (A) a medium red shirt
  - (B) a medium yellow shirt
  - (C) a medium blue shirt
  - (D) a large red shirt
  - (E) a large yellow shirt
11. If neither large red shirts nor small blue shirts are available, which one of the following must Casey buy?
- (A) a red shirt
  - (B) a medium yellow shirt
  - (C) either a large shirt or a small shirt
  - (D) either a medium red shirt or a medium blue shirt
  - (E) either a large yellow shirt or a medium blue shirt

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## Questions 12–17

A hobbyist is stocking her aquarium with exactly three fish of different types and with exactly two species of plants. The only fish under consideration are a G, an H, a J, a K, and an L, and the only kinds of plants under consideration are of the species W, X, Y, and Z. She will observe the following conditions:

If she selects the G, she can select neither the H nor a Y.  
 She cannot select the H unless she selects the K.  
 She cannot select the J unless she selects a W.  
 If she selects the K, she must select an X.

12. Which one of the following is an acceptable selection of fish and plants for the aquarium?

	<u>Fish</u>	<u>Plants</u>
(A)	G, H, K	W, Y
(B)	G, J, K	W, X
(C)	G, J, L	X, Z
(D)	H, J, L	W, Z
(E)	H, K, L	Y, Z

13. If the hobbyist selects the H, which one of the following must also be true?

- (A) She selects at least one W.  
 (B) She selects at least one X.  
 (C) She selects the J, but no Y's.  
 (D) She selects the K, but no X's.  
 (E) She selects at least one X, but no Y's.

14. If the hobbyist selects both X's and Z's, which one of the following could be the group of fish she selects?

- (A) G, H, K  
 (B) G, J, K  
 (C) G, K, L  
 (D) H, J, L  
 (E) J, K, L

15. The hobbyist could select any of the following groups of fish for the aquarium EXCEPT

- (A) G, K, L  
 (B) H, J, K  
 (C) H, J, L  
 (D) H, K, L  
 (E) J, K, L

16. If the hobbyist selects a Y, which one of the following must be the group of fish she selects?

- (A) G, H, K  
 (B) H, J, K  
 (C) H, J, L  
 (D) H, K, L  
 (E) J, K, L

17. The hobbyist could select any of the following plant combinations EXCEPT

- (A) W and X  
 (B) W and Y  
 (C) W and Z  
 (D) X and Y  
 (E) X and Z

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Questions 18-24

A committee ranks five towns—Palmdale, Quietville, Riverdale, Seaside, Tidetown—from first (best) to fifth (worst) on each of three criteria: climate, location, friendliness.

For each of the three criteria, none of the five towns receives the same ranking as any other town does.

In climate, Tidetown is ranked third, and Seaside fourth. In location, Quietville is ranked second, Riverdale third, Palmdale fourth.

In friendliness, Tidetown's ranking is better than Palmdale's, Quietville is ranked fourth and Seaside fifth.

Riverdale receives a better ranking in climate than in friendliness.

Quietville's three ranking are all different from each other.

18. Which of the following is a complete and accurate list of the rankings any one of which could be the ranking on climate given to Riverdale?  
(A) first  
(B) first, second  
(C) first, fifth  
(D) second, fifth  
(E) first, second, fifth
19. Which of the following is a town that CANNOT be ranked fifth on any one of the three criteria?  
(A) Palmdale  
(B) Quietville  
(C) Riverdale  
(D) Seaside  
(E) Tidetown
20. Which of the following could be true?  
(A) Palmdale is ranked first in both climate and friendliness.  
(B) Quietville is ranked second in both climate and location.  
(C) Riverdale is ranked first in climate and third in both location and friendliness.  
(D) Seaside is ranked fifth in friendliness and fourth in both climate and location.  
(E) Tidetown is ranked third in both climate and friendliness.

21. If Quietville is ranked first in climate, then it must be true that  
(A) Palmdale is ranked second in climate  
(B) Palmdale is ranked third in friendliness  
(C) Riverdale is ranked second in friendliness  
(D) Riverdale is ranked third in friendliness  
(E) Tidetown is ranked fifth in location
22. If Palmdale is ranked second in climate, then which one of the following can be true?  
(A) Palmdale is ranked second in friendliness.  
(B) Quietville is ranked first in climate.  
(C) Riverdale is ranked first in friendliness.  
(D) Riverdale is ranked fifth in climate.  
(E) Tidetown is ranked third in friendliness.
23. If Tidetown is ranked first in location and Riverdale is ranked second in friendliness, then it is possible to deduce with certainty all three rankings for exactly how many of the towns?  
(A) One  
(B) Two  
(C) Three  
(D) Four  
(E) Five
24. Which one of the following statements CANNOT be true?  
(A) Palmdale is ranked first in climate.  
(B) Quietville is ranked fifth in climate.  
(C) Riverdale is ranked third in friendliness.  
(D) Seaside is ranked first in location.  
(E) Tidetown is ranked second in friendliness.

S T O P

IF YOU FINISH BEFORE TIME IS CALLED, YOU MAY CHECK YOUR WORK ON THIS SECTION ONLY.  
DO NOT WORK ON ANY OTHER SECTION IN THE TEST.