SECTION I

Time—35 minutes

24 Questions

<u>Directions:</u> 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

Eight new students—R, S, T, V, W, X, Y, Z—are being divided among exactly three classes--class 1, class 2, and class 3. Classes 1 and 2 will gain three new students each; class 3 will gain two new students. The following restrictions apply:

R must be added to class 1.

S must be added to class 3.

Neither S nor W can be added to the same class as Y.

V cannot be added to the same class as Z.

If T is added to class 1, Z must also be added to class 1.

1. Which one of the following is an acceptable assignment of students to the three classes?

1	2	3
R, T, Y	V, W, X	S, Z
R, T, Z	S, V, Y	W, X
R, W, X	V, Y, Z	S, T
R, X, Z	T, V, Y	S, W
R, X, Z	V, W, Y	S, T
	R, T, Z R, W, X R, X, Z	R, T, Y V, W, X R, T, Z S, V, Y R, W, X V, Y, Z R, X, Z T, V, Y

- 2. Which one of the following is a complete and accurate list of classes any one of which could be the class to which V is added?
 - (A) class 1
 - (B) class 3
 - (C) class 1, class 3
 - (D) class 2, class 3
 - (E) class 1, class 2, class 3
- 3. If X is added to class 1, which one of the following is a student who must be added to class 2?
 - (A) T
 - (B) V
 - (C) W
 - (D) Y
 - (E) Z

- 4. If X is added to class 3, each of the following is a pair of students who can be added to class 1 EXCEPT
 - (A) Y and Z
 - (B) W and Z
 - (C) V and Y
 - (D) V and W
 - (E) T and Z
- 5. If T is added to class 3, which one of the following is a student who must be added to class 2?
 - (A) V
 - (B) W
 - (C) X
 - (D) Y
 - (E) Z
- 6. Which one of the following must be true?
 - (A) If T and X are added to class 2, V is added to class 3.
 - (B) If V and W are added to class 1, T is added to class 3.
 - (C) If V and W are added to class 1, Z is added to class 3.
 - (D) If V and X are added to class 1, W is added to
 - (E) If Y and Z are added to class 2, X is added to class 2.

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Questions 7-12

Four lions—F, G, H, J—and two tigers—K and M—will be assigned to exactly six stalls, one animal per stall. The stalls are arranged as follows:

First Row: 1 2 3

Second Row: 4 5 6

The only stalls that face each other are stalls 1 and 4, stalls 2 and 5, and stalls 3 and 6. The following conditions apply:

The tigers' stalls cannot face each other.

A lion must be assigned to stall 1.

H must be assigned to stall 6.

J must be assigned to a stall numbered one higher than K's stall.

K cannot be assigned to the stall that faces H's stall.

- 7. Which one of the following must be true?
 - (A) F is assigned to an even-numbered stall.
 - (B) F is assigned to stall 1.
 - (C) J is assigned to stall 2 or else stall 3.
 - (D) J is assigned to stall 3 or else stall 4.
 - (E) K is assigned to stall 2 or else stall 4.
- 8. Which one of the following could be true?
 - (A) F's stall is numbered one higher than J's stall.
 - (B) H's stall faces M's stall.
 - (C) J is assigned to stall 4.
 - (D) K's stall faces I's stall.
 - (E) K's stall is in a different row than J's stall.
- 9. Which one of the following must be true?
 - (A) A tiger is assigned to stall 2.
 - (B) A tiger is assigned to stall 5.
 - (C) K's stall is in a different row from M's stall.
 - (D) Each tiger is assigned to an even-numbered stall
 - (E) Each lion is assigned to a stall that faces a tiger's stall.

- 10. If K's stall is in the same row as H's stall, which one of the following must be true?
 - (A) F's stall is in the same row as J's stall.
 - (B) F is assigned to a lower-numbered stall than G.
 - (C) G is assigned to a lower-numbered stall than M.
 - (D) G's stall faces H's stall.
 - (E) M's stall is in the same row as G's stall.
- 11. If J is assigned to stall 3, which one of the following could be true?
 - (A) F is assigned to stall 2.
 - (B) F is assigned to stall 4.
 - (C) G is assigned to stall 1.
 - (D) G is assigned to stall 4.
 - (E) M is assigned to stall 5.
- 12. Which one of the following must be true?
 - (A) A tiger is assigned to stall 2.
 - (B) A tiger is assigned to stall 4.
 - (C) A tiger is assigned to stall 5.
 - (D) A lion is assigned to stall 3.
 - (E) A lion is assigned to stall 4.

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Questions 13–18

On an undeveloped street, a developer will simultaneously build four houses on one side, numbered consecutively 1, 3, 5, and 7, and fos on the opposite side, numbered consecutively 2, 4, 6, and 8. Houses 2, 4, 6, and 8 will face houses 1, 3, 5, and 7, respectively. Each house will be exactly one of three styles—ranch, split-level, or Tudor—according to the following conditions:

Adjacent houses are of different styles. No split-level house faces another split-level house. Every ranch house has at least one Tudor house adjacent to it.

House 3 is a ranch house.

House 6 is a split-level house.

- 13. Any of the following could be a Tudor house EXCEPT house
 - (A) 1
 - (B) 2
 - (C) 4
 - (D) 7
 - (E) 8
- 14. If there is one ranch house directly opposite another ranch house, which one of the following could be true?
 - (A) House 8 is a ranch house.
 - (B) House 7 is a split-level house.
 - (C) House 4 is a Tudor house.
 - (D) House 2 is a split-level house.
 - (E) House 1 is a ranch house.
- 15. If house 4 is a Tudor house, then it could be true that house
 - (A) 1 is a Tudor house
 - (B) 2 is a Tudor house
 - (C) 5 is a ranch house
 - (D) 7 is a Tudor house
 - (E) 8 is a ranch house

- 16. On the street, there could be exactly
 - (A) one ranch house
 - (B) one Tudor house
 - (C) two Tudor houses
 - (D) four ranch houses
 - (E) five ranch houses
- 17. If no house faces a house of the same style, then it must be true that house
 - (A) 1 is a split-level house
 - (B) 1 is a Tudor house
 - (C) 2 is a ranch house
 - (D) 2 is a split-level house
 - (E) 4 is a Tudor house
- 18. If the condition requiring house 6 to be a split-level house is suspended but all other original conditions remain the same, then any of the following could be an accurate list of the styles of houses 2, 4, 6, and 8, respectively, EXCEPT:
 - (A) ranch, split-level, ranch, Tudor
 - (B) split-level, ranch, Tudor, split-level
 - (C) split-level, Tudor, ranch, split-level
 - (D) Tudor, ranch, Tudor, split-level
 - (E) Tudor, split-level, ranch, Tudor

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Questions 19-24

Within a tennis league each of five teams occupies one of five positions, numbered 1 through 5 in order of rank, with number 1 as the highest position. The teams are initially in the order R, J, S, M, L, with R in position 1. Teams change positions only when a lower-positioned team defeats a higher-positioned team. The rules are as follows:

Matches are played alternately in odd-position rounds and in even-position rounds.

In an odd-position round, teams in positions 3 and 5 play against teams positioned immediately above them

In an even-position round, teams in positions 2 and 4 play against teams positioned immediately above them.

When a lower-positioned team defeats a higher - positioned team, the two teams switch positions after the round is completed.

- 19. Which one of the following could be the order of teams, from position 1 through position 5 respectively, after exactly one round of even-position matches if no odd-position round has yet been played?
 - (A) J, R, M, L, S
 - (B) J, R, S, L, M
 - (C) R, J, M, L, S
 - (D) R, J, M, S, L
 - (E) R, S, J, L, M
- 20. If exactly two rounds of matches have been played, beginning with an odd-position round, and if the lower-positioned teams have won every match in those two rounds, then each of the following must be true EXCEPT:
 - (A) L is one position higher than J.
 - (B) R is one position higher than L.
 - (C) S is one position higher than R.
 - (D) J is in position 4.
 - (E) M is in position 3.

- 21. Which one of the following could be true after exactly two rounds of matches have been played?
 - (A) I has won two matches.
 - (B) L has lost two matches.
 - (C) R has won two matches.
 - (D) L's only match was played against J.
 - (E) M played against S in two matches.
- 22. If after exactly three rounds of matches M is in position 4, and J and L have won all of their matches, then which one of the following can be true?
 - (A) J is in position 2.
 - (B) J is in position 3.
 - (C) L is in position 2.
 - (D) R is in position 1.
 - (E) S is in position 3.
- 23. If after exactly three rounds M has won three matches and the rankings of the other four teams relative to each other remain the same, then which one of the following must be in position 3?
 - (A)
 - (B) L
 - (C) M
 - (D) R
 - (E) S
- 24. If after exactly three rounds the teams, in order from first to fifth position, are R, J, L, S, and M, then which one of the following could be the order, from first to fifth position, of the teams after the second round?
 - (A) J, R, M, S, L
 - (B) J, L, S, M, R
 - (C) R, J, S, L, M
 - (D) R, L, M, S, J
 - (E) R, M, L, S, J