SECTION I

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

Exactly eight consumers—F, G, H, J, K, L, M, and N—will be interviewed by market researchers. The eight will be divided into exactly two 4-person groups—group 1 and group 2—before interviews begin. Each person is assigned to exactly one of the two groups according to the following conditions:

> F must be in the same group as J.
> G must be in a different group from M.
> If H is in group 1, then L must be in group 1.
> If N is in group 2, then G must be in group 1.

1. Group 1 could consist of

   (A) F, G, H, and J
   (B) F, H, L, and M
   (C) F, J, K, and L
   (D) G, H, L, and N
   (E) G, K, M, and N

2. If K is in the same group as N, which one of the following must be true?

   (A) G is in group 1.
   (B) H is in group 2.
   (C) J is in group 1.
   (D) K is in group 2.
   (E) M is in group 1.

3. If F is in the same group as H, which one of the following must be true?

   (A) G is in group 2.
   (B) J is in group 1.
   (C) K is in group 1.
   (D) L is in group 2.
   (E) M is in group 2.

4. If L and M are in group 2, then a person who could be assigned either to group 1 or, alternatively, to group 2 is

   (A) F
   (B) G
   (C) H
   (D) J
   (E) K

5. Each of the following is a pair of people who could be in group 1 together EXCEPT

   (A) F and G
   (B) F and H
   (C) F and L
   (D) H and G
   (E) H and N

6. If L is in group 2, then each of the following is a pair of people who could be in group 1 together EXCEPT

   (A) F and M
   (B) G and N
   (C) J and N
   (D) K and M
   (E) M and N

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Questions 7–11

Five people—Harry, Iris, Kate, Nancy, and Victor—are to be scheduled as contestants on a television show, one contestant per day, for five consecutive days from Monday through Friday. The following restrictions governing the scheduling of contestants must be observed:

    Nancy is not scheduled for Monday.
    If Harry is scheduled for Monday, Nancy is scheduled for Friday.
    If Nancy is scheduled for Tuesday, Iris is scheduled for Monday.
    Kate is scheduled for the next day after the day for which Victor is scheduled.

7. Victor can be scheduled for any day EXCEPT

  (A) Monday
  (B) Tuesday
  (C) Wednesday
  (D) Thursday
  (E) Friday

8. If Iris is scheduled for the next day after Harry, which one of the following lists all those days any one of which could be the day for which Harry is scheduled?

  (A) Monday, Tuesday
  (B) Monday, Wednesday
  (C) Monday, Thursday
  (D) Monday, Tuesday, Wednesday
  (E) Monday, Wednesday, Thursday

9. If Kate is scheduled for Wednesday, which one of the following could be true?

  (A) Iris is scheduled for Friday.
  (B) Nancy is scheduled for Tuesday.
  (C) Nancy is scheduled for an earlier day than the day for which Harry is scheduled.
  (D) Nancy is scheduled for an earlier day than the day for which Iris is scheduled.
  (E) Nancy is scheduled for an earlier day than the day for which Kate is scheduled.

10. If Kate is scheduled for Friday, which one of the following must be true?

  (A) Harry is scheduled for Tuesday.
  (B) Harry is scheduled for Wednesday.
  (C) Iris is scheduled for Monday.
  (D) Iris is scheduled for Wednesday.
  (E) Nancy is scheduled for Wednesday.

11. If Iris is scheduled for Wednesday, which one of the following must be true?

  (A) Harry is scheduled for an earlier day than the day for which Nancy is scheduled.
  (B) Harry is scheduled for an earlier day than the day for which Kate is scheduled.
  (C) Kate is scheduled for an earlier day than the day for which Harry is scheduled.
  (D) Nancy is scheduled for an earlier day than the day for which Kate is scheduled.
  (E) Nancy is scheduled for an earlier day than the day for which Iris is scheduled.

<u>Questions 12–17</u>

An art teacher will schedule exactly six of eight lectures—fresco, history, lithography, naturalism, oils, pastels, sculpture, and watercolors—for three days—1, 2, and 3. There will be exactly two lectures each day—morning and afternoon. Scheduling is governed by the following conditions:

Day 2 is the only day for which oils can be scheduled.
Neither sculpture nor watercolors can be scheduled for the afternoon.
Neither oils nor pastels can be scheduled for the same day as lithography.
If pastels is scheduled for day 1 or day 2, then the lectures scheduled for the day immediately following pastels must be fresco and history, not necessarily in that order.

12. Which one of the following is an acceptable schedule of lectures for days 1, 2, and 3, respectively?

(A) Morning: lithography, history, sculpture
Afternoon: pastels, fresco, naturalism
(B) Morning: naturalism, oils, fresco
Afternoon: lithography, pastels, history
(C) Morning: oils, history, naturalism
Afternoon: pastels, fresco, lithography
(D) Morning: sculpture, lithography, naturalism
Afternoon: watercolors, fresco, pastels
(E) Morning: sculpture, pastels, fresco
Afternoon: lithography, history, naturalism

13. If lithography and fresco are scheduled for the afternoons of day 2 and day 3, respectively, which one of the following is a lecture that could be scheduled for the afternoon of day 1?

(A) history
(B) oils
(C) pastels
(D) sculpture
(E) watercolors

14. If lithography and history are scheduled for the mornings of day 2 and day 3, respectively, which one of the following lectures could be scheduled for the morning of day 1?

(A) fresco
(B) naturalism
(C) oils
(D) pastels
(E) sculpture

15. If oils and lithography are scheduled for the mornings of day 2 and day 3, respectively, which one of the following CANNOT be scheduled for any day?

(A) fresco
(B) history
(C) naturalism
(D) pastels
(E) sculpture

16. If neither fresco nor naturalism is scheduled for any day, which one of the following must be scheduled for day 1?

(A) history
(B) lithography
(C) oils
(D) pastels
(E) sculpture

17. If the lectures scheduled for the mornings are fresco, history, and lithography, not necessarily in that order, which one of the following could be true?

(A) Lithography is scheduled for day 3.
(B) Naturalism is scheduled for day 2.
(C) Fresco is scheduled for the same day as naturalism.
(D) History is scheduled for the same day as naturalism.
(E) History is scheduled for the same day as oils.

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Questions 18–24

The population of a small country is organized into five clans—N, O, P, S, and T. Each year exactly three of the five clans participate in the annual harvest ceremonies. The rules specifying the order of participation of the clans in the ceremonies are as follows:

Each clan must participate at least once in any two consecutive years.

No clan participates for three consecutive years.

Participation takes place in cycles, with each cycle ending when each of the five clans has participated three times. Only then does a new cycle begin.

No clan participates more than three times within any cycle.

18. If the clans participating in the first year of a given cycle are N, O, and P, which one of the following could be the clans participating in the second year of that cycle?

(A) N, O, S
(B) N, O, T
(C) N, P, S
(D) O, P, T
(E) O, S, T

19. Which one of the following can be true about the clans' participation in the ceremonies?

(A) N participates in the first, second, and third years.
(B) N participates in the second, third, and fourth years.
(C) Both O and S participate in the first and third years.
(D) Both N and S participate in the first, third, and fifth years.
(E) Both S and T participate in the second, third, and fifth years.

20. Any cycle for the clans' participation in the ceremonies must be completed at the end of exactly how many years?

(A) five
(B) six
(C) seven
(D) eight
(E) nine

21. Which one of the following must be true about the three clans that participate in the ceremonies in the first year?

(A) At most two of them participate together in the third year.
(B) At least two of them participate together in the second year.
(C) All three of them participate together in the fourth year.
(D) All three of them participate together in the fifth year.
(E) None of them participates in the third year.

22. If, in a particular cycle, N, O, and S participate in the ceremonies in the first year, which one of the following must be true?

(A) N participates in the second and third years.
(B) O participates in the third and fourth years.
(C) N and O both participate in the third year.
(D) P and T both participate in the fifth year.
(E) S and T both participate in the fifth year.

23. If, in a particular cycle, N, O, and T participate in the first year and if O and P participate in the fourth year, any of the following could be a clan that participates in the third year EXCEPT

(A) N
(B) O
(C) P
(D) S
(E) T

24. If, in a particular cycle, N, O, and S participate in the ceremonies in the first year and O, S, and T participate in the third year, then which one of the following could be the clans that participate in the fifth year?

(A) N, O, P
(B) N, O, S
(C) N, P, S
(D) O, P, S
(E) P, S, T

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.