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 1–5

A producer is positioning exactly seven music pieces—F, G, H, J, K, L, and M—one after another on a music recording, not necessarily in that order. Each piece will fill exactly one of the seven sequential tracks on the recording, according to the following conditions:

F must be second.
J cannot be seventh.
G can come neither immediately before nor immediately after H.
H must be in some track before that of L.
L must be in some track before that of M.

1. Which one of the following could be the order, from first to seventh, of the pieces on the recording?

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

2. If M fills some track before that of J and also before that of K on the recording, which one of the following must be true?

(A) G is first.
(B) K is seventh.
(C) L is third.
(D) H comes either immediately before or immediately after F.
(E) L comes either immediately before or immediately after G.

3. Which one of the following is a complete and accurate list of the pieces any of which could be first on the recording?

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

4. The earliest track that M can fill is the

(A) first
(B) third
(C) fourth
(D) fifth
(E) sixth

5. If G is to come immediately before H but all the other conditions remain in effect, any of the following could be true EXCEPT:

(A) J comes immediately before F.
(B) K comes immediately before G.
(C) J comes immediately after L.
(D) J comes immediately after K.
(E) K comes immediately after M.

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Questions 6–11

Fu, Gunsel, Jackson, Kowalski, Lee, Mayer, and Ordoveza are the only applicants being considered for some positions at a nonprofit organization. Only applicants who are interviewed will be hired. The hiring process must meet the following constraints:

> If Gunsel is interviewed, Jackson is interviewed.
> If Jackson is interviewed, Lee is interviewed.
> Fu is interviewed.
> Fu is not hired, unless Kowalski is interviewed.
> Kowalski is not hired, unless Mayer is interviewed.
> If Mayer is hired, and Lee is interviewed, Ordoveza is hired.

6. Which one of the following could be a complete and accurate list of the applicants that are interviewed?

   (A) Fu, Gunsel
   (B) Fu, Jackson
   (C) Fu, Lee
   (D) Fu, Gunsel, Lee
   (E) Fu, Gunsel, Jackson

7. Which one of the following could be true?

   (A) Lee and Mayer are the only applicants interviewed.
   (B) Fu, Jackson, and Kowalski are the only applicants interviewed.
   (C) Gunsel and one other applicant are the only applicants interviewed.
   (D) Gunsel and two other applicants are the only applicants interviewed.
   (E) Gunsel and three other applicants are the only applicants interviewed.

8. If Mayer is not interviewed, which one of the following must be true?

   (A) Kowalski is not interviewed.
   (B) Kowalski is interviewed but not hired.
   (C) Fu is not hired.
   (D) Fu is hired but Kowalski is not hired.
   (E) Fu is interviewed but Kowalski is not hired.

9. If Gunsel and five other applicants are the only applicants interviewed, and if exactly three applicants are hired, then which one of the following could be an accurate list of the applicants hired?

   (A) Fu, Lee, Mayer
   (B) Fu, Kowalski, Mayer
   (C) Kowalski, Lee, Ordoveza
   (D) Gunsel, Jackson, Mayer
   (E) Gunsel, Jackson, Lee

10. If every applicant that is interviewed is hired, and if Lee is hired, then each of the following applicants must be interviewed EXCEPT:

    (A) Fu
    (B) Jackson
    (C) Kowalski
    (D) Mayer
    (E) Ordoveza

11. If Ordoveza is not interviewed, and if exactly four applicants are hired, then which one of the following must be false?

    (A) Lee is hired.
    (B) Mayer is hired.
    (C) Jackson is interviewed.
    (D) Kowalski is interviewed.
    (E) Gunsel is interviewed.

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Questions 12–18

Exactly six of seven researchers—three anthropologists: Franklin, Jones, and Marquez; and four linguists: Neil, Osborne, Rice, and Samuels—will be included in two three-person teams—team 1 and team 2. No researcher will be included in more than one team. Each team must include at least one anthropologist and at least one linguist. The teams' composition must conform to the following conditions:

Neither team includes both Franklin and Samuels.
Neither team includes both Neil and Rice.
If a team includes Marquez, it includes neither Rice nor Samuels.
If team 1 includes Jones, team 2 includes Rice.

12. Which one of the following could be the list of the researchers on the two teams?

(A) team 1: Franklin, Marquez, Osborne
team 2: Jones, Neil, Rice
(B) team 1: Franklin, Neil, Samuels
team 2: Jones, Osborne, Rice
(C) team 1: Franklin, Osborne, Rice
team 2: Jones, Neil, Samuels
(D) team 1: Jones, Marquez, Neil
team 2: Osborne, Rice, Samuels
(E) team 1: Jones, Osborne, Rice
team 2: Franklin, Marquez, Neil

13. If Jones is on team 1, which one of the following is a pair of researchers that must be on team 2 together?

(A) Franklin and Rice
(B) Marquez and Osborne
(C) Neil and Osborne
(D) Osborne and Samuels
(E) Rice and Samuels

14. If Neil is on team 1, which one of the following is a pair of researchers that could be on team 1 together with Neil?

(A) Franklin and Jones
(B) Jones and Osborne
(C) Jones and Rice
(D) Jones and Samuels
(E) Osborne and Samuels

15. If Franklin is on the same team as Marquez, which one of the following could be true?

(A) Jones is on team 1.
(B) Rice is on team 1.
(C) Samuels is on team 2.
(D) Both Neil and Osborne are on team 1.
(E) Both Neil and Osborne are on team 2.

16. Each of the following is a pair of researchers that could be on team 2 together EXCEPT:

(A) Franklin and Jones
(B) Franklin and Marquez
(C) Franklin and Rice
(D) Jones and Marquez
(E) Jones and Rice

17. Which one of the following could be true?

(A) Franklin is on team 1 and Neil is on team 2.
(B) Franklin is on team 2 and Jones is not on any team.
(C) Franklin is on team 2 and Marquez is on team 2.
(D) Franklin is not on any team and Jones is on team 1.
(E) Jones is on team 1 and Neil is on team 2.

18. If Marquez is on team 2, which one of the following must also be on team 2?

(A) Franklin
(B) Jones
(C) Osborne
(D) Rice
(E) Samuels

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Questions 19–24

Five candidates for mayor—Q, R, S, T, and U—will each speak exactly once at each of three town meetings— meetings 1, 2, and 3. At each meeting, each candidate will speak in one of five consecutive time slots. No two candidates will speak in the same time slot as each other at any meeting. The order in which the candidates will speak will meet the following conditions:

Each candidate must speak either first or second at at least one of the meetings.

Any candidate who speaks fifth at any of the meetings must speak first at at least one of the other meetings.

No candidate can speak fourth at more than one of the meetings.

19. Which one of the following could be the order, from first to fifth, in which the candidates speak at the meetings?

(A)   meeting 1: Q, U, R, T, S
      meeting 2: S, T, R, U, Q
      meeting 3: T, U, Q, R, S
(B)   meeting 1: R, S, Q, T, U
      meeting 2: U, T, S, R, Q
      meeting 3: Q, R, T, U, S
(C)   meeting 1: S, Q, U, T, R
      meeting 2: U, T, Q, R, S
      meeting 3: R, Q, S, T, U
(D)   meeting 1: T, R, S, U, Q
      meeting 2: Q, R, S, T, U
      meeting 3: U, S, R, Q, T
(E)   meeting 1: U, T, R, S, Q
      meeting 2: Q, R, S, T, U
      meeting 3: S, T, U, Q, R

20. If R speaks second at meeting 2 and first at meeting 3, which one of the following is a complete and accurate list of those time slots any one of which could be the time slot in which R speaks at meeting 1?

(A)   fourth, fifth
(B)   first, second, fifth
(C)   second, third, fifth
(D)   third, fourth, fifth
(E)   second, third, fourth, fifth

21. If the order in which the candidates speak at meeting 1 is R, U, S, T, Q, and the order in which they speak at meeting 2 is Q, R, U, S, T, which one of the following could be true of meeting 3?

(A)   Q speaks first.
(B)   R speaks third.
(C)   S speaks first.
(D)   T speaks second.
(E)   U speaks fifth.

22. If R speaks first at meetings 1 and 2, and S speaks first at meeting 3, which one of the following must be true?

(A)   R speaks second at meeting 3.
(B)   R speaks fourth at meeting 3.
(C)   S speaks second at at least one of the meetings.
(D)   S speaks fifth at exactly one of the meetings.
(E)   S speaks fifth at exactly two of the meetings.

23. It could be true that at all three meetings T speaks

(A)   first
(B)   second
(C)   in some time slot after the time slot in which R speaks
(D)   in some time slot after the time slots in which S and U speak
(E)   in some time slot before the time slots in which R and U speak

24. If S, T, and U speak second at meetings 1, 2, and 3, respectively, which one of the following must be true?

(A)   The fifth speaker at at least one of the meetings is either Q or R.
(B)   Either Q speaks first at exactly two of the meetings or else R does so.
(C)   Neither S nor T speaks fifth at any of the meetings.
(D)   Q speaks third at one of the meetings, and R speaks third at another of the meetings.
(E)   Q speaks fourth at one of the meetings, and R speaks fourth at another of the meetings.

## 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.