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 1–7

Seven consecutive time slots for a broadcast, numbered in chronological order 1 through 7, will be filled by six song tapes—G, H, L, O, P, S—and exactly one news tape. Each tape is to be assigned to a different time slot, and no tape is longer than any other tape. The broadcast is subject to the following restrictions:

 L must be played immediately before O.
 The news tape must be played at some time after L.
 There must be exactly two time slots between G and
  P, regardless of whether G comes before P or
  whether G comes after P.

1. If G is played second, which one of the following tapes must be played third?

 (A) the news
 (B) H
 (C) L
 (D) O
 (E) S

2. The news tape can be played in any one of the following time slots EXCEPT the

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

3. If H and S are to be scheduled as far from each other as possible, then the first, the second, and the third time slots could be filled, respectively, by

 (A) G, H, and L
 (B) S, G, and the news
 (C) H, G, and L
 (D) H, L, and O
 (E) L, O, and S

4. If P is played fifth, L must be played

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

5. What is the maximum number of tapes that can separate S from the news?

 (A) 1
 (B) 2
 (C) 3
 (D) 4
 (E) 5

6. Which one of the following is the latest time slot in which L can be played?

 (A) the third
 (B) the fourth
 (C) the fifth
 (D) the sixth
 (E) the seventh

7. The time slot in which O must be played is completely determined if G is assigned to which one of the following time slots?

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

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Questions 8–12

Doctor Yamata works only on Mondays, Tuesdays, Wednesdays, Fridays, and Saturdays. She performs four different activities—lecturing, operating, treating patients, and conducting research. Each working day she performs exactly one activity in the morning and exactly one activity in the afternoon. During each week her work schedule must satisfy the following restrictions:

She performs operations on exactly three mornings.
If she operates on Monday, she does not operate on Tuesday.
She lectures in the afternoon on exactly two consecutive calendar days.
She treats patients on exactly one morning and exactly three afternoons.
She conducts research on exactly one morning.
On Saturday she neither lectures nor performs operations.

8. Which one of the following must be a day on which Doctor Yamata lectures?

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

9. On Wednesday Doctor Yamata could be scheduled to

(A) conduct research in the morning and operate in the afternoon
(B) lecture in the morning and treat patients in the afternoon
(C) operate in the morning and lecture in the afternoon
(D) operate in the morning and conduct research in the afternoon
(E) treat patients in the morning and treat patients in the afternoon

10. Which one of the following statements must be true?

(A) There is one day on which the doctor treats patients both in the morning and in the afternoon.
(B) The doctor conducts research on one of the days on which she lectures.
(C) The doctor conducts research on one of the days on which she treats patients.
(D) The doctor lectures on one of the days on which she treats patients.
(E) The doctor lectures on one of the days on which she operates.

11. If Doctor Yamata operates on Tuesday, then her schedule for treating patients could be

(A) Monday morning, Monday afternoon, Friday morning, Friday afternoon
(B) Monday morning, Friday afternoon, Saturday morning, Saturday afternoon
(C) Monday afternoon, Wednesday morning, Wednesday afternoon, Saturday afternoon
(D) Wednesday morning, Wednesday afternoon, Friday afternoon, Saturday afternoon
(E) Wednesday afternoon, Friday afternoon, Saturday morning, Saturday afternoon

12. Which one of the following is a pair of days on both of which Doctor Yamata must treat patients?

(A) Monday and Tuesday
(B) Monday and Saturday
(C) Tuesday and Friday
(D) Tuesday and Saturday
(E) Friday and Saturday

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Questions 13–18

Each of seven judges voted for or else against granting Datalog Corporation's petition. Each judge is categorized as conservative, moderate, or liberal, and no judge is assigned more than one of those labels. Two judges are conservatives, two are moderates, and three are liberals. The following is known about how the judges voted:

> If the two conservatives and at least one liberal voted the same way as each other, then both moderates voted that way.
> If the three liberals voted the same way as each other, then no conservative voted that way.
> At least two of the judges voted for Datalog, and at least two voted against Datalog.
> At least one conservative voted against Datalog.

13. If the two moderates did not vote the same way as each other, then which one of the following could be true?

   (A) No conservative and exactly two liberals voted for Datalog.
   (B) Exactly one conservative and exactly one liberal voted for Datalog.
   (C) Exactly one conservative and all three liberals voted for Datalog.
   (D) Exactly two conservatives and exactly one liberal voted for Datalog.
   (E) Exactly two conservatives and exactly two liberals voted for Datalog.

14. Which one of the following must be true?

   (A) At least one conservative voted for Datalog.
   (B) At least one liberal voted against Datalog.
   (C) At least one liberal voted for Datalog.
   (D) At least one moderate voted against Datalog.
   (E) At least one moderate voted for Datalog.

15. If the three liberals all voted the same way as each other, which one of the following must be true?

   (A) Both moderates voted for Datalog.
   (B) Both moderates voted against Datalog.
   (C) One conservative voted for Datalog and one conservative voted against Datalog.
   (D) One moderate voted for Datalog and one moderate voted against Datalog.
   (E) All three liberals voted for Datalog.

16. If exactly two judges voted against Datalog, then which one of the following must be true?

   (A) Both moderates voted for Datalog.
   (B) Exactly one conservative voted for Datalog.
   (C) No conservative voted for Datalog.
   (D) Exactly two liberals voted for Datalog.
   (E) Exactly three liberals voted for Datalog.

17. Each of the following could be a complete and accurate list of those judges who voted for Datalog EXCEPT

   (A) two liberals
   (B) one conservative, one liberal
   (C) two moderates, three liberals
   (D) one conservative, two moderates, two liberals
   (E) one conservative, two moderates, three liberals

18. If the two conservatives voted the same way as each other, but the liberals did not all vote the same way as each other, then each of the following must be true EXCEPT:

   (A) Both conservatives voted against Datalog.
   (B) Both moderates voted for Datalog.
   (C) At least one liberal voted against Datalog.
   (D) Exactly two liberals voted for Datalog.
   (E) Exactly five of the judges voted against Datalog.

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Questions 19–24

An official is assigning five runners—Larry, Ned, Olivia, Patricia, and Sonja—to parallel lanes numbered consecutively 1 through 5. The official will also assign each runner to represent a different charity—F, G, H, J, and K—not necessarily in order of the runner's names as given. The following ordering restrictions apply:

The runner representing K is assigned to lane 4.
Patricia is assigned to the only lane between the lanes of the runners representing F and G.
There are exactly two lanes between Olivia's lane and the lane of the runner representing G.
Sonja is assigned to a higher-numbered lane than the lane to which Ned is assigned.

19. Which one of the following is a possible assignment of runners to lanes by the charity they represent?

	1	2	3	4	5
(A)	F	G	H	K	J
(B)	G	H	J	K	F
(C)	G	K	F	J	H
(D)	H	J	G	K	F
(E)	J	H	F	K	G

20. The lane to which Patricia is assigned must be a lane that is

(A) next to the lane to which Larry is assigned
(B) next to the lane to which Ned is assigned
(C) separated by exactly one lane from the lane to which Ned is assigned
(D) separated by exactly one lane from the lane to which Olivia is assigned
(E) separated by exactly one lane from the lane to which Sonja is assigned

21. If Olivia is assigned to lane 2, which one of the following assignments must be made?

	Charity	Lane
(A)	F	1
(B)	G	5
(C)	H	1
(D)	H	3
(E)	J	5

22. Which one of the following, is a complete and accurate list of runners each of whom could be the runner representing F?

(A) Larry, Ned
(B) Patricia, Sonja
(C) Larry, Ned, Olivia
(D) Larry, Ned, Sonja
(E) Ned, Patricia, Sonja

23. If Ned is the runner representing J, then it must be true that

(A) the runner representing G is assigned to lane 1
(B) the runner representing H is assigned to lane 2
(C) Larry is the runner representing K
(D) Olivia is the runner representing F
(E) Patricia is the runner representing H

24. If Larry represents J, which one of the following could be the assignment of runners to lanes?

	1	2	3	4	5
(A)	Larry	Olivia	Ned	Patricia	Sonja
(B)	Larry	Ned	Olivia	Sonja	Patricia
(C)	Larry	Sonja	Patricia	Ned	Olivia
(D)	Ned	Olivia	Larry	Patricia	Sonja
(E)	Ned	Sonja	Olivia	Patricia	Larry

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.