SECTION I

Time—35 minutes

22 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 1–7

During an international film retrospective lasting six consecutive days—day 1 through day 6—exactly six different films will be shown, one each day. Twelve films will be available for presentation, two each in French, Greek, Hungarian, Italian, Norwegian, and Turkish. The presentation of the films must conform to the following conditions:

    Neither day 2 nor day 4 is a day on which a film in Norwegian is shown.

    A film in Italian is not shown unless a film in Norwegian is going to be shown the next day.

    A film in Greek is not shown unless a film in Italian is going to be shown the next day.

1. Which one of the following is an acceptable order of films for the retrospective, listed by their language, from day 1 through day 6?

    (A)   French, Greek, Italian, Turkish, Norwegian, Hungarian

    (B)   French, Hungarian, Italian, Norwegian, French, Hungarian

    (C)   Hungarian, French, Norwegian, Greek, Norwegian, Italian

    (D)   Norwegian, Turkish, Hungarian, Italian, French, Turkish

    (E)   Turkish, French, Norwegian, Hungarian, French, Turkish

2. If two films in Italian are going to be shown, one on day 2 and one on day 5, then the film shown on day 1 could be in any one of the following languages EXCEPT:

    (A)   French
    (B)   Greek
    (C)   Hungarian
    (D)   Norwegian
    (E)   Turkish

3. If two films in Italian are shown during the retrospective, which one of the following must be false?

    (A)   A film in French is shown on day 3.
    (B)   A film in Greek is shown on day 1.
    (C)   A film in Hungarian is shown on day 6.
    (D)   A film in Norwegian is shown on day 5.
    (E)   A film in Turkish is shown on day 4.

4. Which one of the following is a complete and accurate list of the days, any one of which is a day on which a film in Italian could be shown?

    (A)   day 1, day 3, day 5
    (B)   day 2, day 4, day 5
    (C)   day 2, day 5, day 6
    (D)   day 1, day 3
    (E)   day 2, day 4

5. If two films in French are going to be shown, one on day 3 and one on day 5, which one of the following is a pair of films that could be shown on day 1 and day 6, respectively?

    (A)   a film in French, a film in Turkish
    (B)   a film in Greek, a film in Hungarian
    (C)   a film in Italian, a film in Norwegian
    (D)   a film in Norwegian, a film in Turkish
    (E)   a film in Turkish, a film in Greek

6. If neither a film in French nor a film in Italian is shown during the retrospective, which one of the following must be true?

    (A)   A film in Norwegian is shown on day 1.
    (B)   A film in Norwegian is shown on day 5.
    (C)   A film in Turkish is shown on day 4.
    (D)   A film in Hungarian or else a film in Norwegian is shown on day 3.
    (E)   A film in Hungarian or else a film in Turkish is shown on day 2.

7. If a film in Greek is going to be shown at some time after a film in Norwegian, then a film in Norwegian must be shown on

    (A)   day 1
    (B)   day 3
    (C)   day 5
    (D)   day 1 or else day 3
    (E)   day 3 or else day 5

GO ON TO THE NEXT PAGE.

Questions 8–12

There are exactly five pieces of mail in a mailbox: a flyer, a letter, a magazine, a postcard, and a survey. Each piece of mail is addressed to exactly one of three housemates: Georgette, Jana, or Rini. Each housemate has at least one of the pieces of mail addressed to her. The following conditions must apply:

Neither the letter nor the magazine is addressed to Georgette.

If the letter is addressed to Rini, then the postcard is addressed to Jana.

The housemate to whom the flyer is addressed has at least one of the other pieces of mail addressed to her as well.

8. Which one of the following could be a complete and accurate matching of the pieces of mail to the housemates to whom they are addressed?

(A) Georgette: the flyer, the survey
Jana: the letter
Rini: the magazine

(B) Georgette: the flyer, the postcard
Jana: the letter, the magazine
Rini: the survey

(C) Georgette: the magazine, the survey
Jana: the flyer, the letter
Rini: the postcard

(D) Georgette: the survey
Jana: the flyer, the magazine
Rini: the letter, the postcard

(E) Georgette: the survey
Jana: the letter, the magazine, the postcard
Rini: the flyer

9. Which one of the following is a complete and accurate list of the pieces of mail, any one of which could be the only piece of mail addressed to Jana?

(A) the postcard
(B) the letter, the postcard
(C) the letter, the survey
(D) the magazine, the survey
(E) the letter, the magazine, the postcard

10. Which one of the following CANNOT be a complete and accurate list of the pieces of mail addressed to Jana?

(A) the flyer, the letter, the magazine
(B) the flyer, the letter, the postcard
(C) the flyer, the letter, the survey
(D) the flyer, the magazine, the postcard
(E) the flyer, the magazine, the survey

11. Which one of the following CANNOT be a complete and accurate list of the pieces of mail addressed to Rini?

(A) the magazine, the postcard
(B) the letter, the survey
(C) the letter, the magazine
(D) the flyer, the magazine
(E) the flyer, the letter

12. If the magazine and the survey are both addressed to the same housemate, then which one of the following could be true?

(A) The survey is addressed to Georgette.
(B) The postcard is addressed to Rini.
(C) The magazine is addressed to Jana.
(D) The letter is addressed to Rini.
(E) The flyer is addressed to Jana.

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Questions 13–17

A summer program offers at least one of the following seven courses: geography, history, literature, mathematics, psychology, sociology, zoology. The following restrictions on the program must apply:

> If mathematics is offered, then either literature or sociology (but not both) is offered.
>
> If literature is offered, then geography is also offered but psychology is not.
>
> If sociology is offered, then psychology is also offered but zoology is not.
>
> If geography is offered, then both history and zoology are also offered.

13. Which one of the following could be a complete and accurate list of the courses offered by the summer program?

    (A) history, psychology
    (B) geography, history, literature
    (C) history, mathematics, psychology
    (D) literature, mathematics, psychology
    (E) history, literature, mathematics, sociology

14. If the summer program offers literature, then which one of the following could be true?

    (A) Sociology is offered.
    (B) History is not offered.
    (C) Mathematics is not offered.
    (D) A total of two courses are offered.
    (E) Zoology is not offered.

15. If history is not offered by the summer program, then which one of the following is another course that CANNOT be offered?

    (A) literature
    (B) mathematics
    (C) psychology
    (D) sociology
    (E) zoology

16. If the summer program offers mathematics, then which one of the following must be true?

    (A) Literature is offered.
    (B) Psychology is offered.
    (C) Sociology is offered.
    (D) At least three courses are offered.
    (E) At most four courses are offered.

17. Which one of the following must be false of the summer program?

    (A) Both geography and psychology are offered.
    (B) Both geography and mathematics are offered.
    (C) Both psychology and mathematics are offered.
    (D) Both history and mathematics are offered.
    (E) Both geography and sociology are offered.

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Questions 18–22

Exactly eight computer processor chips—F, G, H, J, K, L, M, and O—are ranked according to their speed from first (fastest) to eighth (slowest). The ranking must be consistent with the following:

    There are no ties.
    Either F or G is ranked first.
    M is not the slowest.
    H is faster than J, with exactly one chip intermediate in speed between them.
    K is faster than L, with exactly two chips intermediate in speed between them.
    O is slower than both J and L.

18. Which one of the following could be true?

    (A)   F is ranked first and M is ranked eighth.
    (B)   G is ranked fifth and O is ranked eighth.
    (C)   J is ranked third and L is ranked seventh.
    (D)   K is ranked second and H is ranked third.
    (E)   M is ranked seventh and L is ranked eighth.

19. H CANNOT be ranked

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

20. If O is faster than F, then which one of the following chips could be ranked second?

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

21. If M is faster than J, then the fastest ranking J could have is

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

22. Which one of the following must be true?

    (A)   J is ranked no faster than fifth.
    (B)   K is ranked no faster than third.
    (C)   L is ranked no faster than fifth.
    (D)   M is ranked no faster than third.
    (E)   O is ranked no faster than eighth.

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.