

SECTION II

Time—35 minutes

22 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

Henri has exactly five electrical appliances in his dormitory room: a hairdryer, a microwave oven, a razor, a television, and a vacuum. As a consequence of fire department regulations, Henri can use these appliances only in accordance with the following conditions:

Henri cannot use both the hairdryer and the razor simultaneously.

Henri cannot use both the hairdryer and the television simultaneously.

When Henri uses the vacuum, he cannot at the same time use any of the following: the hairdryer, the razor, and the television.

1. Which one of the following is a pair of appliances Henri could be using simultaneously?
 - (A) the hairdryer and the razor
 - (B) the hairdryer and the television
 - (C) the razor and the television
 - (D) the razor and the vacuum
 - (E) the television and the vacuum
2. Assume that Henri is using exactly two appliances and is not using the microwave oven. Which one of the following is a list of all the appliances, other than the microwave oven, that Henri CANNOT be using?
 - (A) hairdryer
 - (B) razor
 - (C) vacuum
 - (D) hairdryer, razor
 - (E) hairdryer, vacuum
3. Which one of the following CANNOT be true?
 - (A) Henri uses the hairdryer while using the microwave oven.
 - (B) Henri uses the microwave oven while using the razor.
 - (C) Henri uses the microwave oven while using two other appliances.
 - (D) Henri uses the television while using two other appliances.
 - (E) Henri uses the vacuum while using two other appliances.
4. If Henri were to use exactly three appliances, then what is the total number of different groups of three appliances any one of which could be the group of appliances he is using?
 - (A) one
 - (B) two
 - (C) three
 - (D) four
 - (E) five
5. Which one of the following statements, if true, guarantees that Henri is using no more than one of the following: the hairdryer, the razor, the television?
 - (A) Henri is using the hairdryer.
 - (B) Henri is using the television.
 - (C) Henri is not using the hairdryer.
 - (D) Henri is not using the microwave oven.
 - (E) Henri is not using the vacuum.
6. Which one of the following must be true?
 - (A) Henri uses at most three appliances simultaneously.
 - (B) Henri uses at most four appliances simultaneously.
 - (C) Henri uses at most one other appliance while using the microwave oven.
 - (D) Henri uses at most one other appliance while using the razor.
 - (E) Henri uses at least two other appliances while using the hairdryer.

GO ON TO THE NEXT PAGE.

Questions 7–12

A farmer harvests eight separate fields—G, H, J, K, L, M, P, and T. Each field is harvested exactly once, and no two fields are harvested simultaneously. Once the harvesting of a field begins, no other fields are harvested until the harvesting of that field is complete. The farmer harvests the fields in an order consistent with the following conditions:

- Both P and G are harvested at some time before K.
- Both H and L are harvested at some time before J.
- K is harvested at some time before M but after L.
- T is harvested at some time before M.

7. Which one of the following could be true?
 - (A) J is the first field harvested.
 - (B) K is the second field harvested.
 - (C) M is the sixth field harvested.
 - (D) G is the seventh field harvested.
 - (E) T is the eighth field harvested.
8. If M is the seventh field harvested, then any one of the following could be the fifth field harvested EXCEPT:
 - (A) H
 - (B) J
 - (C) K
 - (D) L
 - (E) P
9. Which one of the following CANNOT be the field that is harvested fifth?
 - (A) G
 - (B) J
 - (C) M
 - (D) P
 - (E) T

10. If J is the third field harvested, then which one of the following must be true?
 - (A) L is the first field harvested.
 - (B) H is the second field harvested.
 - (C) T is the fourth field harvested.
 - (D) K is the seventh field harvested.
 - (E) M is the eighth field harvested.
11. If H is the sixth field harvested, then which one of the following must be true?
 - (A) G is harvested at some time before T.
 - (B) H is harvested at some time before K.
 - (C) J is harvested at some time before M.
 - (D) K is harvested at some time before J.
 - (E) T is harvested at some time before K.
12. If L is the fifth field harvested, then which one of the following could be true?
 - (A) J is harvested at some time before G.
 - (B) J is harvested at some time before T.
 - (C) K is harvested at some time before T.
 - (D) M is harvested at some time before H.
 - (E) M is harvested at some time before J.

GO ON TO THE NEXT PAGE.

Questions 13–17

In a repair facility there are exactly six technicians: Stacy, Urma, Wim, Xena, Yolanda, and Zane. Each technician repairs machines of at least one of the following three types—radios, televisions, and VCRs—and no other types.

The following conditions apply:

Xena and exactly three other technicians repair radios.

Yolanda repairs both televisions and VCRs.

Stacy does not repair any type of machine that Yolanda repairs.

Zane repairs more types of machines than Yolanda repairs.

Wim does not repair any type of machine that Stacy repairs.

Urma repairs exactly two types of machines.

13. For exactly how many of the six technicians is it possible to determine exactly which of the three types of machines each repairs?
- (A) one
(B) two
(C) three
(D) four
(E) five
14. Which one of the following must be true?
- (A) Of the types of machines repaired by Stacy there is exactly one type that Urma also repairs.
(B) Of the types of machines repaired by Yolanda there is exactly one type that Xena also repairs.
(C) Of the types of machines repaired by Wim there is exactly one type that Xena also repairs.
(D) There is more than one type of machine that both Wim and Yolanda repair.
(E) There is more than one type of machine that both Urma and Wim repair.
15. Which one of the following must be false?
- (A) Exactly one of the six technicians repairs exactly one type of machine.
(B) Exactly two of the six technicians repair exactly one type of machine each.
(C) Exactly three of the six technicians repair exactly one type of machine each.
(D) Exactly one of the six technicians repairs exactly two types of machines.
(E) Exactly three of the six technicians repair exactly two types of machines each.
16. Which one of the following pairs of technicians could repair all and only the same types of machines as each other?
- (A) Stacy and Urma
(B) Urma and Yolanda
(C) Urma and Xena
(D) Wim and Xena
(E) Xena and Yolanda
17. Which one of the following must be true?
- (A) There is exactly one type of machine that both Urma and Wim repair.
(B) There is exactly one type of machine that both Urma and Xena repair.
(C) There is exactly one type of machine that both Urma and Yolanda repair.
(D) There is exactly one type of machine that both Wim and Yolanda repair.
(E) There is exactly one type of machine that both Xena and Yolanda repair.

GO ON TO THE NEXT PAGE.

Questions 18–22

Three folk groups—Glenside, Hilltopper, Levon—and three rock groups—Peasant, Query, Tinhead—each perform on one of two stages, north or south. Each stage has three two-hour performances: north at 6, 8, and 10; south at 8, 10, and 12. Each group performs individually and exactly once, consistent with the following conditions:

Peasant performs at 6 or 12.

Glenside performs at some time before Hilltopper.

If any rock group performs at 10, no folk group does.

Levon and Tinhead perform on different stages.

Query performs immediately after a folk group, though not necessarily on the same stage.

18. Which one of the following could be a complete and accurate ordering of performances on the north stage, from first to last?
- (A) Glenside, Levon, Query
 - (B) Glenside, Query, Hilltopper
 - (C) Hilltopper, Query, Peasant
 - (D) Peasant, Levon, Tinhead
 - (E) Peasant, Query, Levon
19. Which one of the following groups must perform earlier than 10?
- (A) Glenside
 - (B) Hilltopper
 - (C) Levon
 - (D) Peasant
 - (E) Tinhead

20. Which one of the following groups could perform at 6?
- (A) Glenside
 - (B) Hilltopper
 - (C) Levon
 - (D) Query
 - (E) Tinhead
21. If Query performs at 12, then which one of the following could be an accurate ordering of the performances on the north stage, from first to last?
- (A) Glenside, Levon, Query
 - (B) Peasant, Hilltopper, Tinhead
 - (C) Peasant, Tinhead, Glenside
 - (D) Peasant, Tinhead, Hilltopper
 - (E) Peasant, Tinhead, Levon
22. If a rock group performs at 10, then which one of the following must be true?
- (A) A folk group performs at 6.
 - (B) A folk group performs at 8.
 - (C) A folk group performs at 12.
 - (D) A rock group performs at 8.
 - (E) A rock group performs at 12.

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.