Conditionals Extra Practice Drill #3

Instructions: Symbolize the following rules. Be sure to symbolize contrapositives as well.

Each rule includes an indication as to what kind of game it is associated with. Ordering games consist solely of ordered spots. Binary games consist solely of two groups, one of which should be considered the "yes" group, with the other as the "no" group. Grouping games consist of more than two groups. Hybrid games consist of both ordered spots and an excluded (or "no") group.

1. If they accept F, they must accept G. (Binary game)

2. If assigned to a room, H is assigned to room 1. (Hybrid game)

3. She cannot cut the J unless she cuts the K. (Binary game)

4. If L is accepted, then either M or N (but not both) is accepted. (Binary game)

5. If O, P, or both are broken, then so is Q. (Binary game)

6. If R is connected, then neither S nor T can be connected. (Binary game)

7. If U is in the recipe, then V is not. (Binary game)

8. If W is demonstrated in the morning, X is also demonstrated in the morning. (Grouping game)

9. If Y is emitted, Z must be emitted. (Binary game)

10. If F received any award, G and H did also. (Hybrid game)

11. J is not filed in a given cabinet unless either K or else L is also filed in that cabinet. (Grouping game)

12. If M is given, then both N and O are also given. (Binary game)

13. If P visits the site on day 3, Q visits the site on day 5. (Ordering game)

14. Whenever screen R is green, screen S must be green. (Grouping game)

15. Any jar containing a T also contains at least one U; any jar containing a U also contains at least one T. (Grouping game)

16. V is not included in the road team if W is not included in the road team. (Grouping game)

17. If X is in California, then both Y and Z are in Oregon. (Binary game)

18. If F enters the chili contest, both G and H enter the pie contest. (Grouping game)

19. If J is loaded, K must be loaded. (Binary game)

20. L is taller than M if both are constructed. (Hybrid game)

Answers:

1. $F \rightarrow G$
    $\sim G \rightarrow \sim F$

2. $H \rightarrow H_1$
    (A contrapositive does not make sense here. You could also use a barbell for H between spot 1 and the "no" group.)

3. $\sim K \rightarrow \sim J$
    $J \rightarrow K$

4. $L \rightarrow M$ OR N BUT NOT BOTH
    $\sim M$ OR $\sim N \rightarrow \sim L$
    M AND $N \rightarrow \sim L$
    (The "not both" feature is hard to deal with using traditional conditional symbols; you have to split it up among several symbols. Fortunately, it's rare on the LSAT.)

5. O OR $P \rightarrow Q$
    $\sim Q \rightarrow \sim O$ AND $\sim P$

6. $R \rightarrow \sim S$ AND $\sim T$
    S OR $T \rightarrow \sim R$

7. $U \rightarrow \sim V$
    $V \rightarrow \sim U$

8. $W_M \rightarrow X_M$
    $\sim X_M \rightarrow \sim W_M$

9. $Y \rightarrow Z$
    $\sim Z \rightarrow \sim Y$

10. $F \rightarrow G$ AND H
    $\sim H$ OR $\sim Q \rightarrow \sim F$
    (You might expect other rules in this Hybrid game to refer to the order, but this one does not.)

11. $\sim K$ AND $\sim L \rightarrow \sim J$
    $J \rightarrow K$ OR L

12. $M \rightarrow N$ AND O
    $\sim O$ or $\sim N \rightarrow \sim M$

13. $P_3 \rightarrow Q_5$
    $\sim Q_5 \rightarrow \sim P_3$

14. $R_G \rightarrow S_G$
    $\sim S_G \rightarrow \sim R_G$

15. $T \rightarrow \sim U$
    $U \rightarrow \sim T$
    $\sim T \rightarrow U$
    $\sim U \rightarrow T$
    (A better symbol would be a TU block.)

16. $\sim W_R \rightarrow \sim V_R$
    $V_R \rightarrow \sim W_R$

17. $X \rightarrow \sim Y$ AND $\sim Z$
    Y OR $Z \rightarrow \sim X$
    (Assuming California is the "yes" group)

18. $F_C \rightarrow G_P$ AND H_P
    $\sim H_P$ OR $\sim G_P \rightarrow \sim F_C$

19. $J \rightarrow K$
    $\sim K \rightarrow \sim J$

20. L AND $M \rightarrow L$—M
    (Assuming that the taller elements are to the left. A contrapositive here does not make sense. You could also use an anti-relative order symbol showing that M cannot be taller than L.)