

## Invalidity of Argument.

2002

Tuesday

① 1.  $A \supset B$   
 2.  $C \supset D$   
 3.  $A \vee D \quad \therefore (B \vee C)$

⑨ 1.  $A \equiv (B \supset C)$   
 2.  $B \equiv (\neg A \cdot \neg C)$   
 3.  $C \equiv (A \vee \neg B)$   
 4.  $B \quad \therefore A \vee C$

② 1.  $P \supset R$   
 2.  $C \supset R \quad \therefore P \supset C$

⑩ 1.  $S \vee \neg G$   
 2.  $\neg (\neg T \cdot P)$   
 3.  $\neg (\neg S \cdot \neg P) \quad \therefore \neg G \supset T$

③ 1.  $M \supset (N \vee O)$   
 2.  $N \supset (P \vee Q)$   
 3.  $Q \supset R$   
 4.  $\neg (R \vee P) \quad \therefore \neg M$

⑪ 1.  $Q \supset R$   
 2.  $\neg S \supset (T \supset U)$   
 3.  $S \vee (Q \vee \neg T)$   
 4.  $\neg S \quad \therefore R \vee U$

④ 1.  $A \vee B$   
 2.  $B \supset C \quad \therefore \neg A \cdot C$

⑫ 1.  $B \supset \neg I$   
 2.  $T \supset D$   
 3.  $\neg D \supset \neg R$   
 4.  $\neg I \quad \therefore B \supset \neg R$

⑤ 1.  $A \supset B$   
 2.  $B \cdot C$   
 3.  $C \vee D \quad \therefore \neg A \vee D$

⑬ 1.  $W \supset X$   
 2.  $(W \supset Y) \supset (Z \vee X)$   
 3.  $(W \cdot X) \supset Y$   
 4.  $\neg Z \quad \therefore \neg X$

⑥ 1.  $B \vee C$   
 2.  $\neg B \supset \neg D$   
 3.  $D \vee E \quad \therefore A \cdot \neg E$

⑭ 1.  $A \supset (B \supset C)$   
 2.  $B \supset (\neg C \supset D)$   
 3.  $(C \vee D) \supset E \quad \therefore A \supset E$

⑦ 1.  $X \supset (Y \vee Z)$   
 2.  $Y \supset (W \vee \neg X)$   
 3.  $N \supset R$   
 4.  $\neg (R \vee W) \quad \therefore \neg X$

⑮ 1.  $X \supset Z$   
 2.  $\neg Y \supset (M \supset C)$   
 3.  $Y \supset (X \vee \neg M)$   
 4.  $\neg Y \quad \therefore Z \vee C$

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MARCH

NOTES

Wednesday

2002

- (16) 1.  $A \equiv (B \vee C)$   
 2.  $B \equiv (C \vee A)$   
 3.  $C \equiv (A \vee B)$   
 4.  $\neg A$   $\therefore B \vee C$

- (17) 1.  $D \supset (E \vee F)$   
 2.  $G \supset (H \vee I)$   
 3.  $E \supset (I \vee J)$   
 4.  $(I \vee G) \cdot (\neg H \supset \neg J)$   
 $\therefore \neg J$

- (18) 1.  $(O \vee P) \supset Q$   
 2.  $Q \supset (P \vee R)$   
 3.  $O \supset (\neg S \supset P)$   
 4.  $(S \supset O) \supset \neg R$   $\therefore P \equiv Q$

- (19) 1.  $\neg (E \cdot F)$   
 2.  $(\neg E \cdot \neg F) \supset (G \cdot H)$   
 3.  $H \supset G$   $\therefore G$

- (20) 1.  $D \supset (E \vee F)$   
 2.  $G \supset (H \vee I)$   
 3.  $\neg E \supset (I \vee J)$   
 4.  $(I \supset G) \cdot (\neg H \supset \neg G)$   
 $\therefore \neg J$

- (21) 1.  $I \vee (J \cdot K)$   
 2.  $(I \vee J) \supset (L \equiv M)$   
 3.  $(M \supset L) \supset (M \cdot \neg N)$   
 4.  $(N \supset O) \cdot (O \supset M)$   
 5.  $(J \supset \neg K) \supset O$   
 $\therefore O$

- (22) 1.  $(A \supset B) \cdot (C \supset D)$   
 2.  $A \vee C$   
 3.  $(B \vee D) \supset (E \cdot F)$   
 4.  $E \supset (F \supset G)$   
 5.  $G \supset (A \supset H)$   $\therefore H$

- (23) 1.  $K \supset (L \cdot M)$   
 2.  $(L \supset N) \vee \neg K$   
 3.  $O \supset (P \vee \neg N)$   
 4.  $(\neg P \vee Q) \cdot \neg Q$   
 5.  $(R \vee \neg P) \vee \neg M$   $\therefore K \supset R$

- (24) 1.  $A \supset (B \supset \neg C)$   
 2.  $(C \supset B) \cdot (E \supset A)$   
 3.  $F \vee C$   $\therefore G \supset \neg H$