

## NOTES

## Deductive Proof (RR)

MARCH

14

2002

Thursday

- ① 1.  $\neg A \vee B$   
2.  $C \cdot A$   $\therefore B$
- ② 1.  $\neg(A \cdot B)$   
2.  $A$   $\therefore \neg B \vee C$
- ③ 1.  $A \equiv B$   
2.  $\neg B$   $\therefore \neg A$
- ④ 1.  $A \supset \neg B$   
2.  $C \cdot A$   $\therefore C \cdot \neg B$
- ⑤ 1.  $G \supset H$   
2.  $I \supset \neg H$   $\therefore I \supset \neg G$
- ⑥ 1.  $V \supset W$   
2.  $W \supset \neg X$   $\therefore X \supset \neg V$
- ⑦ 1.  $Z \supset Y$   
2.  $Y \supset M$   
3.  $T \supset \neg M$   $\therefore Z \supset \neg T$
- ⑧ 1.  $X \supset Z$   
2.  $Y \cdot \neg Z$   $\therefore \neg X \cdot \neg Z$
- ⑨ 1.  $A \supset B$   
2.  $C \cdot A$   $\therefore B \vee D$
- ⑩ 1.  $M \vee N$   
2.  $T \cdot \neg M$   $\therefore N \cdot \neg M$
- ⑪ 1.  $\neg X \supset Y$   
2.  $C \cdot \neg Y$   $\therefore X \vee D$
- ⑫ 1.  $(P \vee Q) \supset \neg C$   
2.  $A \cdot C$   $\therefore \neg Q \cdot A$
- ⑬ 1.  $(P \vee Q) \supset (A \cdot B)$   
2.  $D \cdot P$   $\therefore B \vee T$
- ⑭ 1.  $(A \vee B) \supset (C \cdot D)$   
2.  $\neg C$   $\therefore \neg A \vee \neg C$
- ⑮ 1.  $X \supset \neg(Y \cdot Z)$   
2.  $Y \cdot X$   $\therefore \neg Z \cdot Y$
- ⑯ 1.  $R \vee G$   
2.  $\neg G \cdot P$   $\therefore R \cdot \neg G$
- ⑰ 1.  $P \supset (Q \vee C)$   
2.  $A \cdot P$   
3.  $\neg Q$   $\therefore C \cdot \neg Q$
- ⑱ 1.  $(A \supset B) \cdot (C \supset D)$   
2.  $C \supset (A \vee C)$   
3.  $E \cdot C$   $\therefore B \vee D$
- ⑲ 1.  $X \supset Z$   
2.  $Y \supset X$   
3.  $Y \vee X$   $\therefore (Z \vee X) \cdot (Y \supset X)$

|           |              |       |
|-----------|--------------|-------|
| <b>15</b> | <b>MARCH</b> | NOTES |
| Friday    | <b>2002</b>  |       |

  

②⑥ 1.  $A \vee (B \supset A)$   
2.  $\sim A \cdot C$   $\therefore \sim B \cdot \sim A$

②⑦ 1.  $(A \cdot B) \supset F$   
2.  $F \supset K$   
3.  $B \cdot A$   $\therefore A \cdot K$

②⑧ 1.  $A \supset S$   
2.  $\sim M \cdot \sim S$   
3.  $\sim M \supset D$   $\therefore \sim A \cdot D$

②⑨ 1.  $A \supset B$   
2.  $C \supset \sim B$   $\therefore A \supset \sim C$

②⑩ 1.  $(P \supset Q) \cdot (R \supset Q)$   
2.  $\sim A \vee (P \vee R)$   
3.  $A$   $\therefore Q \vee D$

②⑪ 1.  $\sim B \vee (C \cdot D)$   $\therefore B \supset C$   
2.

②⑫ 1.  $E \vee (F \cdot G)$   $\therefore E \vee G$

②⑬ 1.  $H \cdot (I \cdot J)$   $\therefore J \cdot (I \cdot H)$

②⑭ 1.  $O \supset P$   
2.  $P \supset \sim P$   $\therefore \sim O$

②⑮ 1.  $T \supset U$   
2.  $\sim (U \vee V)$   $\therefore \sim T$

③⑰ 1.  $(Z \vee A) \vee B$   
2.  $\sim A$   $\therefore Z \vee B$

③⑱ 1.  $A \equiv B$   
2.  $\sim A$   $\therefore \sim B$

③⑲ 1.  $(M \vee N) \supset (O \cdot P)$   
2.  $\sim O$   $\therefore \sim M \vee \sim N$

③⑳ 1.  $A \supset B$   
2.  $(A \cdot B) \supset C$   
3.  $\sim (A \cdot C)$   $\therefore \sim A$

③㉑ 1.  $X \supset (Y \cdot Z)$   
2.  $\sim Y \supset \sim Z$   
3.  $Y \supset (Z \cdot C)$   
4.  $\sim Z \vee \sim C$   $\therefore \sim (X \vee Y)$

③㉒ 1.  $(X \supset Y) \cdot (Z \supset R)$   
2.  $\sim A \vee (\sim Y \vee \sim R)$   
3.  $C \cdot A$   $\therefore \sim X \vee \sim Z$

③㉓ 1.  $A \vee (B \supset A)$   
2.  $\sim A \cdot C$   $\therefore \sim B \cdot \sim A$

③㉔ 1.  $P \supset Q$   
2.  $(P \supset C) \supset (D \vee Q)$   
3.  $(P \cdot Q) \supset C$   
4.  $\sim D$   $\therefore Q$

③㉕ 1.  $R \supset (Q \cdot S)$   
2.  $\sim Q \vee \sim S$   
3.  $Q$   $\therefore P \cdot \sim S$