8 Friday MARCH 2002

NOTES

Deductive Proof (R.I)

① 1. $R \supset S$
2. $N \cdot R$ /∴ S
3. R·N – 2 comm
4. R – 3 simp
5. S – 1,4 M.P

② 1. $\sim R \supset \sim C$
2. D·C /∴ R.

③ 1. $\sim X \supset Y$
2. $R \cdot \sim X$ / ∴ Y·~X

④ 1. $A \supset S$
2. $\sim M \cdot \sim S$
3. $\sim M \supset \sim D$ /∴ $\sim A \cdot D$

⑤ 1. $(M \vee N) \supset (Q \cdot P)$
2. M /∴ Q

⑥ 1. $(A \vee G) \supset S$
2. A·T /∴ S

⑦ 1. $A \supset \sim B$
2. B ∨ D
3. A /∴ D

⑧ 1. $A \supset B$
2. $A \vee (C \cdot D)$
3. $(\sim B \cdot \sim E)$ /∴ C

⑨ 1. A·B
2. $(A \vee C) \supset D$ /∴ A·D

⑩ 1. $N \supset O$
2. $(N \cdot O) \supset P$
3. $\sim P$ /∴ $\sim N$

⑪ 1. $N \supset O$
2. $(N \cdot O) \supset P$
3. $\sim (N \cdot P)$ /∴ $\sim N$

⑫ 1. $(A \supset B) \vee C$
2. $\sim C \cdot \sim B$ /∴ $A \supset B$

⑬ 1. A
2. $(A \cdot B) \supset F$
3. B
4. $F \supset K$ /∴ A·K

⑭ 1. $C \supset (A \supset B)$
2. C·A /∴ B ∨ D

⑮ 1. $(A \supset B) \vee C$
2. $\sim C \cdot \sim B$ /∴ $A \supset B$. $\sim A$

⑯ 1. $W \supset (B \supset S)$
2. $W \cdot \sim S$ /∴ $\sim B$

⑰ 1. $P \supset Q$
2. $\sim Q \cdot R$ /∴ $\sim P \vee W$

NOTES

MARCH 2002 | 9 Saturday

(18) 1. (P ∨ R) ⊃ X
2. P · Q /∴ X

(19) 1. (H ⊃ I) · (J ⊃ K)
2. K ∨ H
3. ~K /∴ I

(20)
1. P ∨ (H ⊃ C)
2. ~P · (P ⊃ D)
3. H /∴ C ∨ D

(21) 1. A ∨ (B ⊃ A)
2. ~A · ~C /∴ ~B

(22) 1. Q ⊃ R
2. R ⊃ S
3. ~S /∴ ~Q · ~R

(23) 1. E ∨ ~F
2. F ∨ (E ∨ G)
3. ~E /∴ G

(24) 1. (E · F) ∨ (G ⊃ H)
2. I ⊃ G
3. ~(E · F) /∴ I ⊃ H)

(25) 1. T ⊃ U
2. V ∨ ~U
3. ~V · ~W /∴ ~T ∨ U

(26) 1. (P ⊃ Q) · (Q ⊃ P)
2. R ⊃ S
3. P ∨ R. /∴ (Q ∨ S)

(27) 1. (~M · ~N) ⊃ (O ⊃ N)
2. (M ⊃ N)
3. ~N /∴ ~O

(28) 1. A
2. (A · B) ⊃ F
3. F ⊃ K
4. B /∴ A · K

(29) 1. C ⊃ (A ⊃ B)
2. C · A /∴ B ∨ D

(30) 1. B · C
2. B · S /∴ S · C

(31) 1. K ∨ (G ∨ H)
2. (G ⊃ E) · (H ⊃ J)
3. (E ∨ J) ⊃ (K ∨ H)
4. ~K /∴ H

(32) 1. M ⊃ N
2. (M ⊃ T) ⊃ (R ∨ N)
3. (M · N) ⊃ T
4. ~R /∴ N

(33) 1. P ⊃ Q
2. Q ⊃ R
3. ~R
4. P ∨ S /∴ S

Sunday 10

APR M T W T F S S M T W T F S S M T W T F S S M T W T F S S M T

NOTES

MARCH 2002 | 9 Saturday

(18) 1. (P ∨ R) ⊃ X
2. P · Q /∴ X

(19) 1. (H ⊃ I) · (J ⊃ K)
2. K ∨ H
3. ~K /∴ I

(20)
1. P ∨ (H ⊃ C)
2. ~P · (P ⊃ D)
3. H /∴ C ∨ D

(21) 1. A ∨ (B ⊃ A)
2. ~A · ~C /∴ ~B

(22) 1. Q ⊃ R
2. R ⊃ S
3. ~S /∴ ~Q · ~R

(23) 1. E ∨ ~F
2. F ∨ (E ∨ G)
3. ~E /∴ G

(24) 1. (E · F) ∨ (G ⊃ H)
2. I ⊃ G
3. ~(E · F) /∴ I ⊃ H)

(25) 1. T ⊃ U
2. V ∨ ~U
3. ~V · ~W /∴ ~T ∨ U

(26) 1. (P ⊃ Q) · (Q ⊃ P)
2. R ⊃ S
3. P ∨ R /∴ (Q ∨ S)

(27) 1. (~M · ~N) ⊃ (O ⊃ N)
2. (M ⊃ N)
3. ~N /∴ ~O

(28) 1. A
2. (A · B) ⊃ F
3. F ⊃ K
4. B /∴ A · K

(29) 1. C ⊃ (A ⊃ B)
2. C · A /∴ B ∨ D

(30) 1. B · C
2. B · S /∴ S · C

(31) 1. K ∨ (G ∨ H)
2. (G ⊃ E) · (H ⊃ J)
3. (E ∨ J) ⊃ (K ∨ H)
4. ~K /∴ H

Sunday 10

(32) 1. M ⊃ N
2. (M ⊃ T) ⊃ (R ∨ N)
3. (M · N) ⊃ T
4. ~R /∴ N

(33) 1. P ⊃ Q
2. Q ⊃ R
3. ~R
1. P ∨ S /∴ S

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(34) 1. $L \vee (M \supset N)$
2. $\sim L \supset (N \supset O)$
3. $\sim L$ /∴ $M \supset O$

(35) 1. $(A \supset B) \cdot (C \supset D)$
2. $X \vee (A \vee C)$
3. $\sim X \cdot X$ /∴ $B \vee D$

(36) 1. $(A \cdot B) \supset F$
2. $F \supset K$
3. $A \cdot B$ /∴ $K \vee B$

(37) 1. $A \supset (B \vee C)$
2. $(B \vee C) \supset D$
3. $\sim T$ /∴ $(A \supset D) \cdot \sim T$

(38) 1. $X \supset Z$
2. $Y \supset R$
3. $X \vee Y$ /∴ $(Z \vee R) \cdot (Y \supset Y)$

(39) 1. $Q \supset P$
2. $P \vee R$
3. $\sim P$ /∴ $\sim Q \cdot R$

(40) 1. $(T \supset U) \cdot (T \supset V)$
2. T /∴ $U \vee V$

(41) 1. $P \supset Q$
2. $Q \supset R$
3. $R \supset T$
4. $\sim T$ /∴ $\sim P$

(42) 1. $Q \supset R$
2. $\sim S \supset (T \supset U)$
3. $S \vee (Q \vee T)$
4. $\sim S$ /∴ $R \vee U$

(43) 1. $A \supset B$
2. $(A \cdot B) \supset C$
3. $\sim (A \cdot B)$ /∴ $\sim A$
$\sim C \cdot C$

(44) 1. $P \supset Q$
2. $(P \supset C) \supset (D \vee Q)$
3. $[(P \cdot Q) \cdot (Q \cdot Q)] \cdot C \supset (P \cdot Q)$
4. $\sim (P \cdot Q) \cdot C$ /∴ Q.

(45)