2018

M.A.

1st Semester Examination

PHILOSOPHY

PAPER—PHI-102

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

Answer all questions.

Group-A

1. Answer any *four* questions : 4×2

(a) What is a multiply general proposition ? Give an example. 1+1

(b) Is there any difference between (x) (Fx.Gx) and (y) (Fy.Gy) ? Answer after Copi. 2

(c) 'Everything that is an F is also a G'— Traslate it into logical form. 2

(d) State the revised sense of the word 'valid'. 2

(e) State the second general convention governing the expressions '$\varphi\mu$' and '$\varphi\gamma$'. 2

(f) What is meant by various quantification ? 2

(g) When is a disjunction false and when is a conjunction true ? Answer after Jefree. 2

(h) What is indicated by an open path in a tree of Truth Tree test ? 2

Group–B

2. Answer any *four* questions : 4×4

(a) Symbolize the following using suggested notations.

(i) If something is damaged, but nobody is blamed, the tenant will not be charged for it. (Dx : x is damaged, Px : x is a person, Bx : x is blamed, Cx : x will be charged to the tenant)

(ii) If all ripe bananas are yellow, some yellow bananas are ripe. (Rx : x is ripe, Bx : x is a banana, Yx : x is yellow) 2+2

(b) In what sense can be propositional function be said to follow validly from other propositional functions ? Answer after Copi. 4

(c) Establish the logical truth of equivalences of the form

$(\nu)(\varphi\nu \supset P) \equiv \left[(\exists\mu)(\varphi\mu) \supset P\right]$. 4

(d) Identify and explain the mistake(s) in the following :

1. $(x)(\exists y)(Fx \equiv Gy) / \therefore (\exists y)(x)(Fx \equiv Gy)$

2. $(\exists y)(Fx \equiv Gy) - 1.U1$

3. $Fx \equiv Gy$.

4. $(x)(Fx \equiv Gy) - 3, UG$

5. $(\exists y)(x)\ (Fx \equiv Gy) - 4.\ EG$

6. $(\exists y)(x)\ (Fx \equiv Gy) - 2, 3 - 5\ EI.$

(e) Prove the invalidity of the following

$(x)(\exists y)(Px \supset Qy)$

$(y)(\exists z)(Ry \supset Qz) /\ \therefore (\exists x)(z)(Px \supset Rz)$

(f) Demonstrate that the following is a logical truth. 4

$(x)\, Fx \equiv\ \sim\ (\exists x) \sim Fx$.

(g) Write and explain the rule of disjunction following Jeffrey. 4

(h) Symbolize and check the validity of the following argument : 4

Min is home or on board.

Hen is home or on board.

They are not both on board.

$\therefore$ Min is home or Hen is.

Group-C

1. Answer any *two* questions : 2×8

(a) State and explain the revised version of the rule of UG. 8

(b) Construct a formal proof of validity of the following.

(i) $(\exists x) Ax \supset (y)(By \supset cy)$

$(\exists x) Dx \supset (\exists y) By / \therefore (\exists x)(Ax . Dx) \supset (\exists y) Dy$

(ii) All the accused are guilty. All who are convicted will hang. Therefore, if all who are guilty are connected, then all the accused will hang. (Ax, Gx, Cx, Hx) 4+4

(c) (i) Prove the invalidity of the following :

$(x)(\exists y)(Fx \equiv Gy) / \therefore (\exists y)(x)(Fx \equiv Gy)$

(ii) Demonstrate that the following is a logical truth.

$(x)(Fx \supset Gx) \supset [(x)Fx \supset (x)Gx]$ 4+4

(d) Use tree method to determine whether the following arguments are valid or not.

(i) $(Z \wedge A) \rightarrow (B \wedge C)$

$Z \rightarrow A / \therefore Z \rightarrow (B \wedge C)$

(ii) $A \supset B$

$C \supset D$

$AVD / \therefore BVC.$ 4+4