

2019

M.A.

4th Semester Examination

PHILOSOPHY

PAPER – PHI-403 (ADL)

Full Marks : 50

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 any **ONE** question from Group -A and any **ONE** question from Group - B from each unit.

UNIT – I

Group – A

1. (a) Answer the following :

4x2

i) What is relational logic ?

ii) What is transitive relation ?

iii) What is non-transitive relation ?

iv) What is the status of μ and ϑ in case of arguments involving relation ?

(b) Symbolize the following sentences in each case using the indicated symbols . 4x2

i) Dead men tell no tales. (Dx : x is dead, Mx : x is a man, Tx : x is a tale, Txy : x tells y)

ii) A dead lion is more dangerous than a live dog. (Lx : x is a lion, Ax : x is alive,

Dx : x is a dog, Dxy : x is more dangerous than y)

iii) Uneasy lies the head that wears a crown. (Ux : x lies uneasy, Hx : x is a head,

Cx : x is a crown, Wxy : x wears y).

iv) Any man who hates children and dogs cannot be all bad. (Mx : x is a man, Cx : x is a child,

Dx : x is dog, Bx : x is bad, Hxy : x hates y)

2. Construct a formal proof of validity for each of the following :

4 x 4

i) $(x) [(\exists y) Byx \supset (z) Bzx] / \therefore (y) (z) (Byz \supset Bzy)$

ii) $(\exists y) [Hx \cdot (y) (ly \supset Jxy)] / \therefore (x) (Hx \supset lx) \supset (\exists y) (ly \cdot Jyy)$

iii) $(x) [Mx \supset (y) (Ny \supset Oxy)]$

$(x) [Px \supset (y) (Oxy \supset Qy)] / \therefore (\exists x) (Mx \cdot Px) \supset (y) (Ny \supset Qy)$

iv) $(x) [Ex \supset (y) (Fy \supset Gxy)]$

$(\exists x) [Ex \cdot (\exists y) \sim Gxy] / \therefore (\exists x) \sim Fx$

Group – B

3. Prove the following :

$$(\exists x) (\exists y) Axy \supset (\exists y) (\exists x) Axy$$

4

4. What is binary relation ? Give example. Write the notation of each binary relation 1+3

UNIT – II

Group – A

5. Answer the following questions with suitable example .

(a) i) What is ordered couple ?

4x2=8

ii) What is set ?

iii) What is the difference between ordered couple and set ?

iv) How do you distinguish a set from a relation ?

(b) Let $A_1 = \{ 2, 3 \}$

$$A_2 = \{4\}$$

$$R = \{ \langle 2,3 \rangle, \langle 3,4 \rangle \}$$

i) Is R a subset of the Cartesian product of $A_1 \times A_2$?

4

ii) Is $D(R)$ a subset of A_1 ?

2

iii) Is $C(R)$ a subset of A_2 ?

2

6. a) Explain the following statement :- 4

“ Vacuously every asymmetric relation is also antisymmetric ”.

b) What is equivalence relation ? Answer with example and symbolic notations . 6

c) Let $A = \{1,2\}$

$$R = \{ \langle 1,1 \rangle , \langle 1+1,2 \rangle , \langle 1,2 \rangle , \langle 1+1,1 \rangle \}$$

Analyse when R is reflexive , symmetric and transitive in set A . 3

d) Give an example of a family relationship which is both transitive and intransitive . 3

Group – B

7. What does it mean that “ A Relation R is connected in set A ” ? Explain . 4

8. Define intransitive relation with examples and symbolic representations 4

(Internal Assessment : 10 Marks)