No. of Printed Pages : 3

MPYE-001

M.A. PHILOSOPHY (MAPY)

Term-End Examination

December, 2019

02995

MPYE-001 : LOGIC

Time : 3 hours *Maximum Marks : 100*

Note :

(i) *Answer all the **five** questions.*

(ii) *All questions carry equal marks.*

(iii) *Answers to questions no. **1** and **2** should be in about 500 words each.*

1. Give a set theoretical (ZFS theory) interpretation of the distribution of terms. *20*

OR

Construct truth-tables to show that the following arguments are tautologous : *20*

(a) $(A \vee B) \Rightarrow (C \wedge D)$

$A \vee B \ / \therefore (C \wedge D)$

(b) $X \Rightarrow Y$

$Y \Rightarrow Z \ / \therefore X \Rightarrow Z$

2. Explain the structure of C.P. and the Strengthened Rule of C.P. Give examples. *20*

OR

Examine the function of symbolic logic in multi-value logic. *20*

3. Answer any ***two*** of the following questions in about 250 words each.

(a) Explain the axioms of Boolean analysis. Using these axioms, show that BARBARA is valid and BRAMANTIP is invalid. *10*

(b) Explain how classical logic is related to symbolic logic. *10*

(c) Explain the fallacy of presumption with examples. *10*

(d) Explain logical relations using quantifiers (Use only symbols). *10*

4. Answer any ***four*** of the following questions in about 150 words each.

(a) What do you understand by square of opposition ? *5*

(b) Reduce any five valid arguments of the I^{st} figure to the IV^{th} figure. *5*

(c) Construct truth-tables for Implication and Dysfunctional form. *5*

(d) Construct formal proof of validity for the following arguments : *5*

(i) $(B \vee N) \Rightarrow (K \wedge \lfloor)$

(ii) $\rceil K$

(iii) $\rceil M \ /\therefore \rceil B \wedge \rceil M$

(e) Explain the fallacies of accident. *5*

(f) Explain contraposition with the help of two examples. *5*

5. Write short notes on any ***five*** of the following in about 100 words each :

(a) Antilogism 4

(b) De Morgan's Law 4

(c) Reductio ad Absurdum (IP) 4

(d) Advantages of Proving Invalidity 4

(e) Universal Generalization 4

(f) Multiply General Proposition 4

(g) Non-syllogism 4

(h) Logic Gate 4