MPYE-001

M.A. PHILOSOPHY (MAPY)
Term-End Examination
June, 2019

02953

MPYE-001 : LOGIC

Time : 3 hours   *Maximum Marks : 100*

Note :

(i)   Answer all five questions.

(ii)   All questions carry equal marks.

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

1. Explain the rules of categorical syllogism and fallacies which arise when they are violated.   *20*

OR

Construct formal proof of validity and also use IP to test the following argument :   *20*

(a) $(L \lor M) \lor (N \land O)$

(b) $(\rceil L \land O) \land \rceil (\rceil L \land M) / \therefore \rceil L \land N$

2. Use truth-table methods to prove that the following statements are tautologous :   *20*

(a) $(A \Rightarrow B) \lor (A \Rightarrow \rceil B)$

(b) $(A \Rightarrow B) \lor (B \Rightarrow A)$

OR

What are the applications of fuzzy logic ? Explain.   *20*

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

   (a) Explain and distinguish between Inductive and Deductive reasoning in detail. *10*

   (b) State the Rules of Replacement and give their symbolic forms. *10*

   (c) Construct formal proof of validity to test the following argument : *10*

       (i) $(A \lor B) \Rightarrow (C \land D)$

       (ii) $(D \lor E) \Rightarrow F / \therefore A \Rightarrow F$

   (d) Explain the Rule of EG. *10*

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

   (a) Explain kinds of sorites. *5*

   (b) Use Venn diagram to show that BARBARA and DARII are valid. *5*

   (c) Draw truth-table for conjunction and bicondition. *5*

   (d) Explain petitio principii. *5*

   (e) Explain conversion and obversion with examples. *5*

   (f) How would you describe Figure and Mood ? *5*

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

    (a)   Extension and Intension   *4*

    (b)   Axioms of Boolean Analysis   *4*

    (c)   Fallacy of Accent   *4*

    (d)   Rebuttal of Dilemma   *4*

    (e)   IP Method   *4*

    (f)   Tautology and Contradiction   *4*

    (g)   Square of Opposition   *4*

    (h)   'AND' and 'NOT' Operators   *4*

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