The total number of questions in this paper is 10.
Answer five questions.
Time allowed: Three (03) Hours

01. (a) Explain the following concepts in Aristotelian logic.
    (i) Laws of Thought
    (ii) Kinds of propositions (5x2 marks)

    (b) Examine briefly the nature and scope of critical thinking. (10 marks)

02. (a) Describe the traditional interpretation of the opposition of propositions, giving examples. (10 marks)

    (b) Fill in the blanks in the following with the most appropriate term of alternatives true, false and indeterminate (considering truth value) using the A, E, I, O classification of propositions.

    (i) When A proposition is true the corresponding I proposition is ....
    (ii) When A proposition is true the corresponding E proposition is ....
    (iii) When I proposition is false the corresponding O proposition is ....
    (iv) When E proposition is false the corresponding A proposition is ....
    (v) When O proposition is true the corresponding I proposition is ....

    (10 marks)

03. (a) Define clearly what obversion is and state the rules to be observed for a valid obversion. (10 marks)

    (b) (i) Indicate, in terms of the rules of conversion, why an O proposition cannot be converted. (05 marks)

        (ii) Indicate, in terms of the rules of contraposition, why an I proposition cannot be contraposed. (05 marks)

04. (a) Determine whether the following syllogisms are valid or invalid when the argument is invalid state the rule/rules violated and name the resulting fallacy.

   (i) All Athenian are Greeks
       Plato is a Athenian
       Therefore, Plato is a Greek

   (ii) Only student are intelligent
        Only the intelligent ones are Clever
        Therefore, all student are clever.

   (iii) All human beings are rational animals
         All rational animals are featherless bipeds
         Therefore, all human beings are featherless bipeds.

   (iv) Some structuralists are linguistics
        No linguistics are materialists
        Therefore, some materialists are structuralists

                                                        (4x03 marks)

   (b) (i) Explain in terms of the main rules of the syllogism. Why it is not possible to draw a valid inference from two particular propositions. (04 marks)

       (iii) Explain the valid moods of the second figure, giving a symbolic.
                                                        (04 marks)

05. (a) Examine the role of pratyaksa as a pramana in Indian Logic. (10 marks)

   (b) In Indian system of anumana formalizable? Briefly compare and contrast it with the Aristotelian syllogism. (10 marks)

06. Answer four of the following.
   (i) Paksa, Sapaksa, vipaksa
   (ii) Necessary and sufficient conditions
   (iii) Mutually exclusive and together exhaustive
   (iv) Connotation and denotation
   (v) Distinguish between strong disjunction and weak disjunction
   (vi) Sound argument

                                                        (05 marks for each part)

07. (a) Are the following symbolic sentences?

       (i) $(FA \rightarrow \sim GK)$
       (ii) $\bigwedge a (Hx \leftrightarrow Gy)$
       (iii) $\sim \bigvee x \sim \bigwedge_3 H_3$
       (iv) $\bigvee x (Fx \rightarrow P)$
                                                        (08 Marks)

    (b)   Explain the concepts of Boundage and freedom in terms of the predicate calculus.   (04 marks)

    (c)   Symbolize the following sentence, in terms of the predicate calculus giving your scheme of abbreviation.

        (i)   Socrates is a man
        (ii)   Some cats are not dogs
        (iii)   Something is round and something is square
        (iv)   If all men are mortal, then Ravi is not a man   (08 Marks)

08.   Explain the following giving examples.
        (i)   Enthymemes
        (ii)   Sorites   (10 marks for each part)

09.   (a)   Elucidate with examples the difference between formal and informal fallacies.   (04 marks)

    (b)   Explain briefly the following Non-formal fallacies giving an example each.
        (i)   Argumentum ad hominem
        (ii)   Fallacy post hocergo propeter hoc
        (iv)   Argumentum ad misericordiam
        (v)   Petitio principii   (16 marks)

10.   Write short notes on the following.
        (i)   Syadvada
        (ii)   Catuskoti
        (iii)   Paradex
        (iv)   Uses of Logic   (05 marks for each part)