LOYOLA COLLEGE (AUTONOMOUS) CHENNAI – 600 034

M.A. DEGREE EXAMINATION – **PHILOSOPHY**

FIRST SEMESTER – **APRIL 2025**

PPL1MC04 – LOGIC AND RESEARCH METHODOLOGY

Date: 08-04-2025 Dept. No. Max. : 100 Marks

Time: 09:00 AM - 12:00 NOON

SECTION A – K1 (CO1)

Answer ALL the questions **(5 x 1 = 5)**

1 Match the following

a)	The end of life is death. Happiness is the end of life. Therefore, Happiness is death.	$p \supset q$
b)	"Some classes in Satya Nilayam are not interesting" is *subcontrary* to	Universal-Negation.
c)	The quantity-quality of the proposition "No Jesuits are crazy" is	Modus Tollens
d)	If p, then q not q ∴ not p.	Fallacy of Equivocation
e)	If it is a Thursday (p), then there will be parotta and chicken for dinner (q).	Some classes in Satya Nilayam are interesting.

SECTION A – K2 (CO1)

Answer ALL the questions **(5 x 1 = 5)**

2 Answer the following

a) An argument can be true or false. ☐ True ☐ False

b) A Proposition that states something *is* something else is called:

☐ Affirmation ☐ Negation ☐ Valid ☐ Invalid.

c) "All Scholastics are intelligent" is *subalternate* to:

☐ Some Scholastics are intelligent.

☐ Some Scholastics are not intelligent.

☐ No Scholastics are intelligent.

d) In scientific investigation, a hypothesis is merely a tentative or provisional solution to a problem.
☐ True ☐ False

e) From universal premises to a particular conclusion is called deduction. From particular premises to a universal conclusion is called _____.

	SECTION B – K3 (CO2)
	Answer any THREE of the following in 100 words each. **(3 x 10 = 30)**
3	With two arguments of your own, elaborate on the deductively 'valid inference.'
4	Write two syllogisms of your own and illustrate the 'terms' and 'propositions' in these syllogisms.
5	Illustrate the 'distribution of the Subject-Term' in 'A' and 'E' categorical propositions.
6	Identifying the four connective constant symbols (•, ∨, ⊃, ≡), write the corresponding examples of compound propositions and symbolize each compound proposition. Re-write any one of these examples with a negation symbol.
7	With three examples, illustrate 'induction by analogy'.
	SECTION C – K4 (CO3)
	Answer any TWO of the following in 200 words each. **(2 x 12.5 = 25)**
8	Drawing a table of the Categorical Propositions, point out the 'distribution of the Subject-Term'.
9	Symbolize the following three arguments: 9.1. If migrants from North India continue to provide cheap labour in South India, then either Tamilians or Malayalis will lose jobs. Malayalis will not lose jobs because of strong labour unions. It follows that if North Indians continue to provide cheap labour in South India, then Tamilians will lose jobs. 9.2. A student can write the logic exam well if and only if he has properly studied for the exam. If this student had studied for the exam, then he would have scored at least 50 marks out of 100. This student has not scored more than 50 marks out of 100. Therefore, this student has not properly studied for the exam. 9.3. This boy is absent because either he is playing at home or is sick. If he is sick, he must take rest. He is not taking rest. Therefore, he is playing at home.
10	Defining 'cause', explain how a logician understands the relation between cause and effect as reasoning with two examples.
11	Write a note on the six steps involved in the scientific method and highlight the role of hypothesis.
	SECTION D – K5 (CO4)
	Answer any ONE of the following in 500 words **(1 x 15 = 15)**
12	With diagrams and examples, illustrate the 'distribution of subject and predicate terms' in the four categorical propositions.
13	With the symbols, 'p' and 'q', draw the truth tables for the 'conjunction' and 'inclusive disjunction' truth functions [7 marks]. Write the four possible sets of truth values these two truth functions can have [8 marks].
	SECTION E – K6 (CO5)
	Answer any ONE of the following in 1000 words **(1 x 20 = 20)**
14	Defining the 'rules' and 'laws', illustrate the 'contradictory', 'contrary', 'subcontrary' and 'subaltern' categorical propositions with your own examples.
15	Write an essay on "Inductive Logic" highlighting the four types of induction with two examples to each of them [12 marks]. Demonstrate how scientific induction with hypothesis is useful for your life [8 marks].

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