Assignment for TEE June 2026 and TEE December 2026 BPYC-133 Logic

(TUTOR MARKED ASSIGNMENT)

Course code: BPYC-133

Note: Marks: 100

1. Give Answer of all five questions.

2. All five questions carry equal marks.

3. Answer to question no. 1 and 2 should be in about 400 words each.

4. Some questions have more than one section, kindly read such questions carefully and attempt all the sections.

1. What is inductive reasoning? Discuss its limitations. 20

Or

a) Write a note on "various types of the terms". 10+10=20

b) What is a symbol? Discuss the various kinds of symbols?

2. Write a note on the traditional square of opposition? Also discuss relations in traditional square of opposition. 20

Or

Explain the notion of existential import and discuss its Boolean interpretation. 20

3. Answer any **two** of the following questions in about **200** words each. 2*10=20

a) What is Pararthanuman? Elaborate with the help of adequate example. 10

b) Differentiate between: 5+5= 10

i) propositional constant and propositional variable.

ii) Concrete term and abstract term.

c) What is syllogism? Give examples. 10

d) What is formal fallacy? Explain with the help of examples. 10

4. Answer any **four** of the following questions in about **150** words each. 4*5=20

a) Write a note on Proposition. Elaborate the modern categorization of propositions. 5

b) Test the validity of the following arguments with the help of the venn diagram method. 5*2.5=5

i) AAA-4

ii) EIA-2

c) Write a note on Fallacies in Indian Logic. 5

d) What is the difference between Mediate and Immediate inference? 5

e) Translate the following statements to the standard form propositions. 1*5=5

i) He does not like tea.

ii) Every Indian citizen is a voter.

iii) All cats meow.

iv) If it is a Tiger, then it is an animal.

v) Unless he gives an application, his request will not be entertained.

f) Symbolize the following propositions. 1*5=5

i) Some books are literary books and some books are non-literary books.

ii) Either he is trustworthy or she is honest.

iii) All girls are virtuous and all boys are virtuous.

iv) Neither you nor me are trustworthy.

v) All cities are polluted and overpopulated.

5. Write a short note on any **five** of the following in about **100** words each. 5*4=20

a) Modus Tollens 4

b) Vyapti 4

c) Truth Functions 4

d) The Straw Man Fallacy 4

e) Hetvabhas 4

f) Refutation of a Dilemma 4

g) Fallacy of Amphiboly 4

h) Quality (Categorical Proposition) 4

1. What is inductive reasoning? Discuss its limitations.
20

Answer

Inductive reasoning starts from particular observations and develops a general conclusion or a prediction. For example, after observing that several pieces of iron expand when heated, we may infer that metals generally expand on heating. Another example is expecting rain when dark clouds, falling air pressure and similar past weather conditions are observed. The conclusion goes beyond the cases directly examined. It is therefore supported by the premises but is not guaranteed by them.

Nature and main forms of induction

In deductive reasoning, a valid argument makes the conclusion necessary if the premises are true. Induction works differently. Even when its observations are accurate, an inductive conclusion remains open to revision. Its strength depends on the evidence and the way that evidence has been collected. Induction is important in daily life, scientific research, medicine and public policy because people frequently make decisions with incomplete knowledge.

Inductive generalisation moves from a sample to a larger class. If many randomly selected university students express a preference for digital reading materials, a researcher may infer a wider trend among students. The inference becomes stronger when the sample is sufficiently large and representative, and weaker when all respondents come from one small group. **Predictive induction** uses a pattern observed in the past to make a claim about a future case. **Induction by analogy** argues that two situations sharing several relevant features may share another feature. **Causal inference** tries to identify why an observed event happens, rather than merely noting that two events occur together.

Limitations of inductive reasoning

1. The conclusion is never logically certain. Even a large number of supporting cases does not prove a universal statement. A person who has seen thousands of white swans may conclude that all swans are white, yet a single black swan defeats that universal conclusion. Induction provides varying degrees of support, not deductive necessity.

2. The problem of justifying future expectations. David Hume questioned why past regularities should guarantee future regularities. We expect tomorrow to