

**GENERAL CERTIFICATE OF EDUCATION BOARD**  
General Certificate of Education Examination

**JUNE 2025**

**ADVANCED LEVEL**

Subject Title	<b>PHILOSOPHY</b>	
Paper No./Title	<b>Paper 3</b>	<b>(Critical Thinking)</b>
Subject Code No.	<b>0790</b>	

**Duration: Three Hours**

Candidates are required to answer **FOUR** questions, choosing *TWO* questions from Section One and *TWO* questions from Section Two. Each question carries 25 marks.

*You are reminded of the necessity for good English and orderly presentation in your answers.*

**Turn Over**

## SECTION ONE: LOGIC

## 1) Read the passage below and answer the questions that follow:

One day, some young boys decided to contribute money to buy a dog for their barbecue, but the bully among them refused to contribute. As the barbecue was getting ready, the dreaded bully came to the scene and told the boys that either they give his share or he will take everything. One of the boys said to the bully: "if you want to partake in the barbecue, you have to pay your contribution; and if you have no money, you leave us alone." The youngest among them had foreseen the threat and prepared himself to face the bully, should he come to disturb them.

When the bully attempted to seize the barbecue, the youngest one sprayed a peppery solution into his eyes rendering him powerless. When he was asked why he did that, he said he had learned it from some elders. When the news went round, one girl said that all bullies are criminals.

Questions

## (a) Identify:

- (i) Give the converse of the contrapositive of "All bullies are truants", in the Boolean system stating the rule that validates conversion. (3 marks)

- (ii) Explain why the subaltern of a(i) would be illicit in the Boolean system. (2 marks)

## (b) Pick out:

- (i) A conjunctive proposition suitable for a complex dilemma. (1 mark)  
 (ii) Use b(i) to build a complex affirmative dilemma. (3 marks)  
 (iii) Refute the dilemma in b(ii) by escaping between the horns. (3 marks)

## (c) Identify:

- (i) A disjunctive proposition from the passage. (1 mark)  
 (ii) Use c(i) to construct a *Modus Ponendo Tollens* argument. (2 marks)  
 (iii) Explain why the *Modus Ponendo Tollens* in c(ii) above is invalid. (2 marks)

## (d) Given the syllogism:

*All boys are thieves*

*All cheats are boys*

*Therefore some cheats are thieves*

- (i) Explain why the syllogism above is invalid in the Boolean system. (2 marks)  
 (ii) Explain why it is valid in the Aristotelian system. (2 marks)

## (e) Pick out:

- (i) A fallacy from the passage above. (1 mark)  
 (ii) Explain how the fallacy in e(i) has been committed. (3 marks)

## 2. (a) Determine the inference rule and validity of the following inferences in the Aristotelian system:

- (i) All players are liars. So, some non-players are non-liars.  
 (ii) Some bike riders are farmers. So, All bike riders are farmers. (3 x 2 marks)

## (b) Using "Agriculturalists" as middle term; "Farmers" as Major term, and "peasants" as minor term

- (i) Construct AAI-4 syllogism  
 (ii) Determine if the syllogism in (b i) above is valid in the Boolean system. Explain your answer. (3 x 2 marks)

(iii) What is the difference between the Boolean and the Aristotelian systems?

(1 mark)

## (c) Paraphrase and symbolise the following arguments:

- (i) Granted that if men are wise and are rational beings then they are human beings; and that they are wise and rational beings. It follows that they are human beings.



- (ii) If Philosophy is the best discipline in life then philosophers practice the virtues preached. But since philosophers do not practice the virtues they preach, one can say that philosophy is not the best discipline in life.
- (iii) Either Pastors are good or their Christians cheat. But pastors are good. So, their Christians don't cheat.

(3 x 2 marks)

**Alternative For the visually impaired candidates only**

Provide the propositional schema for each of the arguments in b(i-iii) above.

(3 x 3 marks)

- (d). Explain with examples the following concepts as used in propositional calculus semantics:
- (i) Well-formed expression.
- (ii) Variable.

(2 x 3 marks)

3.

- (a) Determine the compounds to be obtained when the schema " $p \cdot \sim q$ " replaces " $r$ " in the following schemata respectively:

(i)  $(q \vee r) \supset (\sim p \cdot q)$

(ii)  $(q \vee p) \equiv \sim (r \supset p)$

- (iii) Given 'John is sleeping' for ' $p$ '; and 'Mary is cooking' for ' $q$ '; translate the compound obtained in a(i) above into natural language.

(2 x 3 marks)

**Alternative For the visually impaired candidates only**

- (i) Explain what is meant by a substitution instance of a propositional form.
- (ii) State the truth conditions of a bi-conditional one of whose constituents is a disjunction and the other is a negated implication.
- (iii) Provide the propositional schema for "the match will end only if the referee so decides".

(3 x 2 marks)

- (b) Translate the following propositions into predicate logic using universal/ existential quantifiers accordingly:

(i) None-except dogs are animals. ( $Dx$ :  $x$  is a dog;  $Ax$ :  $x$  is an animal).

(ii) All but teachers are poor. ( $Tx$ :  $x$  is a teacher;  $Px$ :  $x$  is a poor person).

(iii) Certain ladies are beautiful. ( $Lx$ :  $x$  is a lady;  $Bx$ :  $x$  is beautiful).

Abraham is a father and Frida is a mother. ( $Fa$ : Abraham is a father;  $Mf$ : Frida is a mother).

(4 x 2 marks)

- (c) Test the validity of the following using the short truth table method.

(i)  $p \vee (\sim r \cdot q)$

$r \cdot p / \therefore r \vee q$

**Alternative For the visually impaired candidates only**

Explain the principle and the determining factor in the short truth-table technique

(ii)  $(C \supset A) \cdot \sim B$

$B \equiv \sim A / \therefore C \cdot B$

(2 x 3 marks)

**Alternative For the visually impaired candidates only**

Explain the reasoning behind the rules of Conjunction and Addition in Natural deduction

(2 x 3 marks)

- (d) Given A, B, and C as True, X, Y and Z as False, determine the truth-values of the following schemata:

(i)  $\sim C \vee (A \cdot \sim Z)$

(ii)  $\sim (\sim W \equiv A) \supset (X \vee \sim B)$

(2x 2.5 marks)

**Alternative For the visually impaired candidates only**

(i) Explain the meaning of "neither...nor" in terms of the conjunction.

(ii) Describe the reasoning which obtains in rendering the hypothetical statement into a disjunctive.

(2 x 2.5 marks)

Turn Over



## SECTION TWO: PHILOSOPHICAL PROBLEMS

4. Read the following passage and answer the questions that follow:

You are engaged in a debate with your classmates about the impact of new scientific research to human health. One of your classmates stresses the benefits of human embryonic stem cell research, making it look as though it would practically make people live forever.

**Questions:**

- |   |           |
|---|-----------|
| (a) Identify and explain the philosophical problem raised in the situation above. | (4 marks) |
| (b) Reformulate the problem in a) above into a solvable unit.                     | (3 marks) |
| (c) On what grounds can the position above be justified?                          | (7 marks) |
| (d) Is the justification above tenable?   | (6 marks) |
| (e) How relevant is the problem at stake to our society today?                    | (5 marks) |
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5. Read the following passage and answer the questions that follow:

In Plato's *The Republic*, the story is told of a magic ring worn by Gyges which confers immense power to the bearer. The bearer disappears and thus is free to do all they wish, unseen and unperturbed.

**Questions:**

- |  |           |
|--|-----------|
| a) Identify and explain the philosophical problem raised in the situation above. | (4 marks) |
| (b) Reformulate the problem in a) above into a solvable unit.                    | (3 marks) |
| (c) On what grounds can the position above be justified?                         | (7 marks) |
| (d) Is the justification above tenable?  | (6 marks) |
| (e) How relevant is the problem at stake to our society today?                   | (5 marks) |
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6. Read the following passage and answer the questions that follow:

In a conversation with a neighbor, you discover she has a deep conviction that she governs her life, makes her own choices and determines her future.

**Questions:**

- |   |           |
|---|-----------|
| (a) Identify and explain the philosophical problem raised in the situation above. | (4 marks) |
| (b) Reformulate the problem in a) above into a solvable unit.                     | (3 marks) |
| (c) How would you justify your neighbour's claim?                                 | (7 marks) |
| (d) In what ways is the argument in c) above flawed?                              | (6 marks) |
| (e) How relevant is the problem at stake to our society today?                    | (5 marks) |