MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD

UNIVERSITY OF MALTA, MSIDA

MATRICULATION CERTIFICATE EXAMINATION
ADVANCED LEVEL
SEPTEMBER 2012

SUBJECT:	PHILOSOPHY
PAPER NUMBER:	I
DATE:	4th September 2012
TIME:	9.00 a.m. to 12.00 noon

Directions to Candidates

Answer **THREE** questions, **ONE** from **EACH** section. Questions carry equal marks.

Section A: Logic

1. (a) In **not more than 10 lines**, explain how an elementary assertion can be of use to one who receives and accepts it.

(b) Express the following propositions symbolically:
(*The dance studio Petra attends holds classes every day from Monday to Friday).*
(i) Petra went to the studio all week.
(ii) It is not the case that Petra went to the studio on Monday and did not go on Tuesday.
(iii) Petra went to the studio on Thursday, if and only if she went on Wednesday.
(iv) Petra went to the studio either on Wednesday or on Friday.
(v) Unless Petra went to the studio on Thursday, she went on Friday.

(c) (i) Write down three propositions $\mathfrak{W}$, $\mathfrak{X}$, $\mathfrak{Y}$ whose truth-tables are shown below, using only the elementary propositions $\mathfrak{a}$, $\mathfrak{b}$ and $\mathfrak{c}$, and the junctors $\neg$, $\wedge$, $\vee$ and brackets. (The first proposition $\mathfrak{W}$ is **true** precisely when $\mathfrak{b}$ is false and $\mathfrak{a}$ and $\mathfrak{c}$ are true, the second $\mathfrak{X}$ is **true** precisely when $\mathfrak{a}$ is false and $\mathfrak{b}$ and $\mathfrak{c}$ are true. Proposition $\mathfrak{Y}$ is to be derived from the other two propositions $\mathfrak{W}$ and $\mathfrak{X}$.)
(ii) Proposition $\mathfrak{Z}$ is **false** precisely when $\mathfrak{a}$ and $\mathfrak{c}$ are false and $\mathfrak{b}$ is true and when $\mathfrak{a}$ is true and $\mathfrak{b}$ and $\mathfrak{c}$ are false. Write down such a proposition $\mathfrak{Z}$.

$\mathfrak{a}$	$\mathfrak{b}$	$\mathfrak{c}$	$\mathfrak{W}$	$\mathfrak{X}$	$\mathfrak{Y}$	$\mathfrak{Z}$
T	T	T	F	F	F	T
T	T	F	F	F	F	T
T	F	T	T	F	T	T
T	F	F	F	F	F	F
F	T	T	F	T	T	T
F	T	F	F	F	F	F
F	F	T	F	F	F	T
F	F	F	F	F	F	T

(d) (i) By translating symbolically and working out the truth-tables find out whether the two propositions below are logically equivalent:

(I) If Max went swimming and played a game of water polo then he was very tired.

(II) If Max went swimming and was not very tired then he did not play a game of water polo.

(ii) The validity of which one of the following standard equivalences has been proved by the working out of the truth-table above?

(1) contraposition $(a\wedge b) \rightarrow c \;><\; (a\wedge\neg c) \rightarrow \neg b$

(2) $\vee$ is distributive over $\rightarrow$ $a \vee (b\rightarrow c) \;><\; (a\vee b) \rightarrow (a\vee c)$

(3) $\rightarrow$ is distributive over $\vee$ $a \rightarrow (b\vee c) \;><\; (a\rightarrow b) \vee (a\rightarrow c)$

(4) transportation $(a\wedge b) \rightarrow c \;><\; a \rightarrow (c\vee\neg b)$

(iii) Write down in words another proposition that may be derived from proposition d(i)(I) above and which is also logically equivalent to it by using a different standard equivalence to the one already used.

(e) (i) What is meant by an **interpretation** of a formula?

(ii) What is meant by a **model** of a formula?

(iii) For each of the following formulae write down **one** interpretation which is a model.

(1) $(a\leftrightarrow b) \vee \neg b$

(2) $(a \rightarrow b) \wedge\neg (a\wedge b)$

(f) Fill in the blanks:

(i) For $a\wedge\neg b$ to be T, a has to be ___ and $\neg b$ has to be ___ and so b is ___ .

(ii) For $\neg (\neg a\vee b)$ to be F, $\neg a\vee b$ must be ___.

(iii) For $\neg a\vee b$ to be ___, at least one of $\neg a$ and b has to be ___. So either $\neg a$ is ___, so a is ___ or b is ___ or both.

(iv) Therefore it cannot be the case that $a\wedge\neg b$ is T and $\neg(\neg a\vee b)$ is F simultaneously as ______________.

(v) Therefore the implication $a\wedge\neg b < \neg (\neg a\vee b)$ is valid as ________________________ .

(g) Write down a proposition constructed out of the elementary propositions **a** and **b** and the logical particles $\neg$ and $\rightarrow$ and whose truth-table is as follows.

a	b	a*b
T	T	T
T	F	T
F	T	T
F	F	F

2. (a) In **not more than 10 lines**, explain what is meant by a *complete system of junctors*, giving an example of one such system.

(b) Rebecca has two hats, one red and one blue, which may fit into three boxes X, Y and Z. Express the following propositions symbolically:

(i) Both hats fit in box X.

(ii) The red hat fits in at least one box.

(iii) The blue hat fits in all the boxes.

(iv) It is not the case that no hat fits in any of the boxes.

(c) (i) Write down the truth-tables of the formulae: $a \vee b$, $b \wedge \neg b$, a, $b \vee \neg b$, $a \wedge b$ as underneath.

a	b	$a \vee b$	$b \wedge \neg b$	a	$b \vee \neg b$	$a \wedge b$
T	T					
T	F					
F	T					
F	F					

(ii) Arrange the five formulae in order such that moving from left to right each formula would imply the next.

(iii) What are the names given to formulae which have the truth-table of those placed first and last respectively in the answer to (c)(ii) above?

(d) Fill in the blanks:

(i) $A \vee B >\!<$ ____________ (commutativity of $\vee$)

(ii) $A \vee (B \vee C) >\!<$ ____________ (associativity of $\vee$)

(iii) $A \vee (B \vee C) >\!<$ ____________ (self-distributivity of $\vee$)

(iv) $A \rightarrow B$,, ___ < _____________ (Modus Ponens)

(v) $A \rightarrow B$,, ___ < _____________ (Modus Tollens)

(vi) $A \rightarrow B$,, ___ < _____________ (transitivity of $\rightarrow$)

(e) (i) The validity of the implication $(A \wedge B) \wedge B < A \wedge B$ may be proved without truth-tables as follows:

$(A \wedge B) \wedge B < A \wedge (B \wedge B)$ (_____________)

$B \wedge B >\!< B$ (idempotency of $\wedge$)

$A \wedge (B \wedge B) < A \wedge B$ (partial replacement rule)

So $(A \wedge B) \wedge B < A \wedge B$ (___________ of <)

Fill in the blanks with the reason for each step.

(f) (i) Fill in the blanks: $\neg(A \vee B) <$ ___________ (de Morgan)

(ii) Prove the validity of the answer to (i) by showing that one cannot assign the value T to the premise and value F to the conclusion simultaneously.

(iii) State the Duality Principle.

(iv) Dualise the implication in (f)(i) above.

(v) Use the Duality Principle to find out whether the answer to (iv) is valid.

(g) F is a formula containing a and b as primary formulae such that $a \leftrightarrow b >\!< (a \wedge b) \vee F$ is valid. Also F is not equivalent to $(a \leftrightarrow b)$. Write down the **truth-table** of such a formula F.

Section B: Philosophy of Language

3. Discuss the differences between human and animal communication.

4. How does Cooper ultimately explain the meaning of life?

Please turn the page.

Section C: History of Philosophy

5. Discuss Descartes’ proofs for the existence of God.

   Iddiskuti l-provi li jagħti Descartes biex juri li Alla jeżisti.

6. Explain Hume’s analysis of the concept of cause.

   Fisser l-analiżi ta’ Hume tal-kunċett ta’ kawża.

AM 25/II.12s

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MATRICULATION CERTIFICATE EXAMINATION
ADVANCED LEVEL
SEPTEMBER 2012

SUBJECT:	PHILOSOPHY
PAPER NUMBER:	II
DATE:	5th September 2012
TIME:	9.00 a.m. to 12.00 noon

Directions to Candidates
Answer **THREE** questions, **ONE** from **EACH** section. Questions carry equal marks.

Section A: Ethics

1. Discuss Finnis' analysis of the relationship between ethics and human nature.

2. "In the history of contractualism there are two key concepts – the 'state of nature' and the 'social contract'." Discuss with reference to *either* John Locke *or* John Rawls.

Section B: Selected Texts I (Classical and Modern)

3. Outline Socrates' view on the soul in the *Phaedrus.*

4. Discuss Aristotle's concept of happiness.

5. Outline Mill's defence of liberty.

Section C: Selected Texts II (Contemporary)

6. Discuss Ryle's concept of a 'category mistake'.

7. Outline the key features of speech act theory.

8. Taylor considers the concept of individualism to be the result of modernity. This has generated a number of problems. What does Taylor suggest as solutions?

9. Discuss Gadamer's account of the relation between art and play.