MATRICULATION AND SECONDARY EDUCATION CERTIFICATE EXAMINATIONS BOARD

UNIVERSITY OF MALTA, MSIDA

MATRICULATION EXAMINATION
INTERMEDIATE LEVEL
SEPTEMBER 2014

SUBJECT:	PHILOSOPHY
DATE:	5th September 2014
TIME:	4.00 p.m. to 7.00 p.m.

Directions to Candidates

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

Section A: Logic

1. (a) (i) What is meant by an **interpretation** of a formula?
   (ii) What is meant by a **model** of a formula?

   (b) (i) How many interpretations of the following formula are models of it: $A \vee \neg A$?
   (ii) What is the name given to this kind of formula?

   (c) Express the following propositions symbolically:
   (i) Sarah went scuba-diving only if she had booked.
   (ii) Sarah went scuba-diving if she had booked.
   (iii) Sarah went scuba-diving if and only if she had booked.
   (iv) Sarah and Philip went scuba-diving but Peter did not.

   (d) Translate symbolically the following argument and, by using truth-tables, check whether the implication involved is valid. Give a reason for your answer.
   If it's a leap year then the Olympic Games are held.
   It is a leap year. Therefore the Olympic Games are held.

   (e) (i) Write down the truth-table of the formula "A if and only if B".
   (ii) A formula which implies "A if and only if B" has one of four truth-tables. Write down these four truth-tables.

   (f) Given that for any proposition of the form $P \rightarrow Q$, the inverse is $\neg P \rightarrow \neg Q$, the converse is $Q \rightarrow P$ and the contrapositive is $\neg Q \rightarrow \neg P$;
   (i) translate the following proposition symbolically:
   If Karla finishes her exams, she will go abroad.
   (ii) give in words the (1) inverse (2) converse and (3) contrapositive of the above proposition.

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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) How would you introduce the subjunctor ($\rightarrow$) ?

   (c) Translate symbolically the following argument and, by using truth-tables, check whether the implication involved is valid. Give a reason for your answer.
   If Mark is a footballer and he trains regularly then he does well in his sports. Therefore if Mark is a footballer and he does not do well in his sports then he does not train regularly.

   (d) If formula P is subcontrary to formula Q, the implication $\neg P < Q$ is valid.
   By means of truth-tables find out whether:
   (i) $a \wedge b$ is subcontrary to $a \vee b$
   (ii) $a \wedge \neg b$ is subcontrary to $\neg a \vee b$.

   (e) What conclusion, in words, can be derived when the transitivity of *if...then* ($\rightarrow$) is applied to the following two premises:
   If I go to the beach, I meet my friends. If I meet my friends, I have fun.

   (f) (i) Using truth-tables find out whether the implication
   $A \vee (\neg B \wedge \neg C) < (A \vee \neg B) \wedge (A \vee \neg C)$ is valid.
   (ii) State the Duality Principle.
   (iii) Dualise the implication in (i) above.
   (iv) Use the Duality Principle only to find out whether the answer to (iii) above is valid.

Section B: Ethics

3. Discuss the distinction between 'ordinary' and 'extraordinary' treatment at the end-of-life decision-making process.

4. Who or what is the human embryo?

Section C: History of Philosophy

5. Outline the main characteristics of philosophy as it emerged in the 6th century BC.

   Agħti l-karatteristiċi ewlenin tal-filosofija kif bdiet fis-sitt seklu qabel Kristu.

6. Explain Plato's theory of Forms.

   Fisser it-teorija tal-Ideat ta' Platun.