THE OPEN UNIVERSITY OF SRI LANKA
BSc DEGREE PROGRAMME: LEVEL 05
NO BOOK TEST 1 (NBT 1): 2017/2018
CSU5317/CSU5308: ARTIFICIAL INTELLIGENCE

DURATION: **ONE HOUR** (1 HOUR)

DATE: **05.02.2019**   TIME: **4.15 p.m. to 5.15 p.m.**

Answer All Questions.

Q1.

(a)   What is **Artificial Intelligence**? Briefly explain.

(b)   Explain the following four (04) definitions in Artificial Intelligence, using examples.

    (i)   Acting humanly

    (ii)   Thinking humanly

    (iii)   Acting rationally

    (iv)   Thinking rationally

(c)   Explain briefly how **Mathematics** is based to develop the Artificial Intelligence.

Q2.

(a)   Briefly explain the following terms in **Proposional Logic** using examples.

    (i)   Syllogism

    (ii)   Interpretation

    (iii)   Valid formula

(b)   Consider the following three formulas.

        F1: A

        F2: $A \rightarrow B$

        F3: B

Conclude that the formula F3 is a logical consequence of the formulas F1 and F2.

(c)   Write the following facts and the rule as Predicates.

Facts:
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"Mala is Kumara's child"
"Jeewa is Mala's child"
"Kumara is Martin's child"
"Monica is Kumara's child"
```

Rule:
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"The grandchild of a person is a child of a child of this person"
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Q3.

(a) What are the four (04) features of **Task Environment**, which are used to define a rational agent?

(b) Briefly explain the following properties of Task Environment.

    (i)   Fully observable

    (ii)   Partially observable

(c) Determine whether the following agents are fully observable or partially observable.

    (i)   Taxi driver

    (ii)   Medical diagnosis system