



**Strathmore**  
UNIVERSITY

**SCHOOL OF HUMANITIES & SOCIAL SCIENCES**

**BACHELOR OF ARTS IN DEVELOPMENT STUDIES AND PHILOSOPHY**

**END OF SEMESTER EXAMINATION**

**BDP 4106: PHILOSOPHY OF SCIENCE**

**DATE: Tuesday 22<sup>nd</sup> October 2019**

**Time: 10:30 – 12:30**

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**Instructions**

1. This examination consists of **FIVE** questions.
2. Answer **Question ONE (COMPULSORY)** and any other **TWO** questions.

**Question 1 (30 Marks)**

- 1.1. a) Define science, according to Aristotle? (1 mark)
- b) What is the starting point of Science according to Aristotle (2 marks)
- c) Two important traditions in the history of scientific explanation are the Aristotelian & Galilean traditions.
- i. What do these traditions stand for? (2 mark)
  - ii. What is the main difference between the two traditions? (5 marks)
- 1.2 a) What is a hypothesis? (1 mark)
- b) Name 5 properties of a good hypothesis (5 marks)
- 1.3 According to the positivist school, there are only two universally valid forms of hypothetical reasoning which can be symbolized as follows:
- If **p**, then **q**; and **p**; therefore, **q** [form 1]
- If **p**, then **q**; and **non-p**; therefore, **non-p** [form 2]
- a) Using relevant examples show how this translated to ordinary language to represent a scientific explanation. (2x2= 4 marks)
  - b) Form [1] is said to be universally valid, but not so [form 2]. Why? (2 marks)

1.4 Following is a list of philosophers of science. Write beside the name of each one what he is known for in the philosophy of science.

- a. Carl Gustave Hempel
- b. Karl Popper
- c. Imre Lakatos
- d. Michael Polanyi

(2 marks each= 8 marks)

**Question 2 (15 marks)**

Write one or two sentences to explain who the following people were and what they have in common.

- a. E. Mach
- b. Mortiz Schlick
- c. Rudolf Carnap
- d. Ludwig Wittgenstein
- e. Betrand Russell

(3 marks each correct connection= 15 marks)

**Question 2 (15 marks)**

“William Whewell (1794-1866), vigorously criticized Comte’s positivism and his conception of scientific method, particularly critical of Comte’s law of the 3 stages which regarded theological and metaphysical thought as preliminary to the scientific or positive stage.”

- a) Who was Whewell? (2 marks)
- b) Who was Comte? (4 marks)
- c) Briefly explain Comte’s law of the 3 stages (9 marks)

**Question 3 (15 marks)**

“He denounced both medieval philosophy and English Universities as holding on to **idols** and to **distempers** of learning.

- a. Who does the remark refer to? (1 mark)
- b. What did this philosopher refer to by the terms ‘idols’ and distempers? (2 marks)
- c. What are the ‘idols’ according to this philosopher? (9 marks)
- d. What was this philosopher’s special contribution to science? (3 marks)

**Question 4 (15 marks)**

Describe and appraise J.S. Mill’s (1806 -1873). Methods of Scientific Enquiry.

**Question 5 (15 marks)**

- a. Trace the historical background that led to the Vienna Circle's manifesto or "Scientific Vision of the World".
- b. What was the significance of that 'vision' in relation to philosophical knowledge?