



**MASENO UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2015/2016**

FIRST YEAR SECOND SEMESTER EXAMINATIONS FOR THE  
DEGREE OF MASTER OF EDUCATION IN PEDAGOGY

CITY CAMPUS -SCHOOL BASED

PED 812: CHEMISTRY INSTRUCTION

Date: 14<sup>th</sup> December, 2015

Time: 2.00 - 5.00 pm

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**INSTRUCTIONS:**

- Answer ANY FOUR questions.

**Question One:**

Using the cognitive perspective for illustration argue the case for applying instructional theory in chemistry teaching (15 marks)

**Question Two**

Describe the key features of the 5 – E model of inquiry with reference to chemistry teaching. (15 marks)

**Question Three**

Discuss the essential characteristics of inquiry instruction giving the advantages and challenges of using the method in a chemistry demonstration lesson. (15 marks)

**Question Four**

- a) Explain why questioning and discussion are vital ingredients of effective chemistry teaching. (10 marks)
- b) List the factors you would consider in organizing a successful discussion in a chemistry lesson (5 marks)

**Question Five**

Outline the component parts of a problem solving process that the chemistry teacher would employ in teaching higher order thinking of a specific concept. (15 marks)

**Question Six**

Choose any three chemistry concepts whose teaching may involve controversial ethical considerations. For each concept:

- a) Specify the controversial issues (6 marks)
- b) Carefully describe how you would teach it (9 marks)