UNIVERSITY OF SWAZILAND

FINAL EXAMINATION PAPER December 2012: BED II PRIMARY

COURSE NUMBER: PEC 277

COURSE NAME: CURRICULUM STUDIES: SCIENCE

TIME ALLOWED: 3 HOURS

INSTRUCTIONS:

1. THIS PAPER HAS SIX QUESTIONS. QUESTION 1 IS COMPULSORY.
2. ANSWER QUESTION 1 AND ANY **THREE** OTHER QUESTIONS.
3. YOU WILL ANSWER A TOTAL OF **FOUR** QUESTIONS. EACH QUESTION IS WORTH 25 MARKS.
4. DOCUMENTS REFERRED TO IN SOME OF THE QUESTIONS ARE ATTACHED. IF YOU DO NOT FIND THEM, ASK FOR THEM.
5. ANY PIECE OF WRITTTEN WORK WHICH IS NOT FOR MARKING PURPOSES MUST BE CROSSED OUT CLEARLY.

THIS PAPER MUST NOT BE OPENED UNTIL PERMISSION IS GIVEN BY THE INVIGILATOR

Answer **question 1** and any **three** other questions from this paper.

Question 1 This question is compulsory.

a. Distinguish between the following pairs of concepts:

i. Triangulation and Learning styles
ii. Hypothesising and inferring
iii. Scientific theories and scientific principles. (12)

b. Mention three ways in which science knowledge differs from other forms of knowledge
(6)

c. Define problem solving (4)

d. Label three of the following as 'objective, 'key point' or, 'attainment target': (3)

i. Salt dissolves in water
ii. Does temperature affect how much of salt dissolves in water
iii. Design a procedure for effective water purification
iv. See a chart showing the water cycle
v. Classify substance according to whether or not they dissolve in water

Total **25 Marks**

Question 2

a. Describe the roles and responsibilities s of the following in science education
i. The Head of Department or Senior Teacher
ii. The Schools Inspector.
iii. The Director for Education (15)

b. Draw a plan for stock taking.
(10)

Total **25 Marks**

Question 3

a. Explain the learning process from the point of the 'Zone of Proximal Development'. Give details of how this view differs from Piaget's views of learning. (15)

b. Describe how the following principles affect the choice of teaching method:

i. Triangulation
ii. Prime time (10)

Total **25 Marks**

Question 4

a) Use the activity attached to

i. Write one objective from each of the **four** domains of learning (a total of 4 objectives). Objectives should be above recall. (8)

ii. Rewrite the activity indicating **three** key points that you intend for learners. (12)

b) What do you understand by 'attainment targets'? Suggest **one** attainment target you would be aiming to develop through the activity in a) (ii) above. (5)

Total **25 Marks**

Question 5

a) Write a lesson plan for a contextualised lesson on reproduction on a topic "Life Cycle of a Housefly". (18)

b) Justify the teaching method you have selected using two principles you learnt from this course.

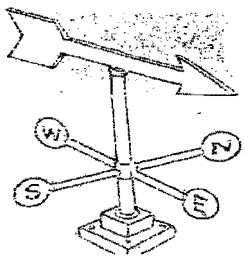
Total **25 Marks**

Question 6

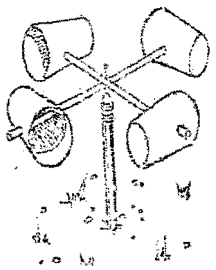
a) What is the purpose of assessment in education? Discuss the use of assessment in Swaziland primary schools. (15)

b) Critique the following assessment question which appeared in an examination question paper (5)

37. What do the instruments X and Y in the diagram below used to measure?



X



Y

A. Wind speed and wind force.
B. Amount of wind and wind direction.
C. Wind direction and wind speed.
D. Wind strength and wind direction.

Total **25 Marks**

Appendix A

LESSON 15

ELECTRICITY: Don't get hurt!

Before the lesson

Together with the pupils, collect pictures showing the dangers of electricity. Let pupils ask their parents to tell them stories about the dangers of electricity. Guide them on how to conduct this homework and prepare them to retell the stories in class.

Activity 1

The lesson can start by recalling the benefits of electricity. End the discussion by challenging pupils to think of cases where electricity can be dangerous e.g. touching a plugged-in appliance with wet hands. Since much of this work is revision, pupils should have no problem discussing the issue. Ask pupils to tell stories about dangerous stituations with electricity that they have experienced or know about. After each story, discuss the safety measures that should have been taken to prevent the accidents. During this activity, warn pupils against the following:-

- Playing with sockets and plugs
- Handling bare or broken electric wires
- Touching electrical appliances with wet hands
- Climbing electrical poles or towers carrying high-voltage power lines
- Illegally connecting electricity from house to house.