UNIVERSITY OF SWAZILAND
FACULTY OF EDUCATION
DEPARTMENT OF CURRICULUM AND TEACHING
MAIN EXAMINATION QUESTION PAPER, MAY 2016

TITLE OF PAPER	:	CURRICULUM STUDIES IN BIOLOGY II
COURSE CODE	:	EDC 378
STUDENTS	:	BEd. III
TIME ALLOWED	:	THREE (3) HOURS

INSTRUCTIONS: 1.This examination paper has five (5) questions. Question 1 is compulsory. Then answer any three (3) questions.

2. Each question has a total of 25 points.

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Answer question 1 and any three questions.

1a) Discuss the state of science education during the following periods:
i) Before sputnik **[2]**
ii) Reform era **[3]**
iii) Post reform era **[3]**
iv) The last ten years **[2]**

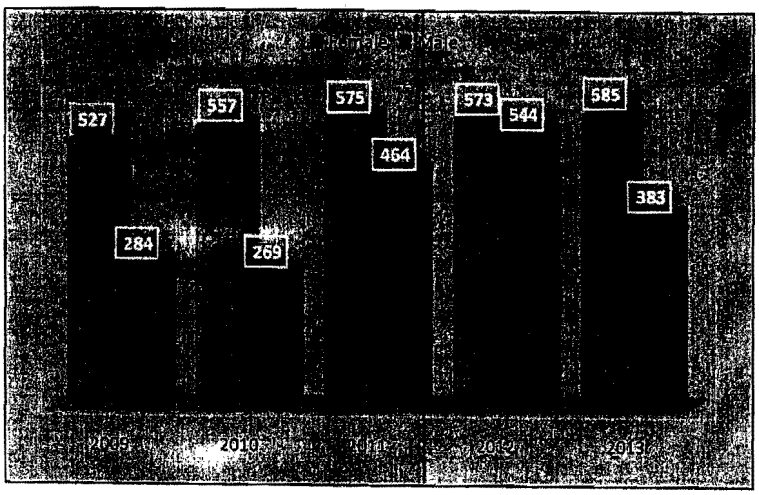
b) Provide two distinctions between the goals emphasised in a traditional science classroom and a Science, Technology and Society (STS) classroom. **[5]**

c) Female participation in science, mathematics, technology and engineering fields is affected by horizontal and vertical segregation. Distinguish between the two terms and provide examples. **[5]**

d) Involvement or non-involvement of teachers in curriculum innovation activities impacts on implementation of the curriculum. Provide illustrations of how this has happened in Swaziland and in global settings. **[5]**

2a) In Swaziland, girls and boys are generally equally represented in enrolment in school. However, the chart below shows a higher dropout rate at the high school level for girls. Discuss
i) Possible contributing factors **[5]**
ii) How this will impact on participation of females in Science Mathematics and Technology and /or Science Technology and Vocational Education (SMT/STVE) fields and/or Science Technology Engineering and Mathematics (STEM) **[10]**

Chart 63: Dropout by Sex 2009 to 2013



b) The Forum for African Women Educationalists, Swaziland Chapter (FAWESWA) provides intervention programmes to meet FAWE's goals for the girl child in Africa. Discuss the impact of some of these interventions. **[5]**

c) You are preparing to teach a Form IV Biology class with approximately equal numbers of boys and girls on the Human Reproductive System. Show how you would organize your class and your lesson plan for a gender responsive science lesson. **[5]**

3a) Suggest 3 types of resources and show how a Form2 science teacher can use them to effectively teach a lesson on digestion in the mouth. **[9]**

b) As head of the mathematics and science department, you are tasked with selecting the most appropriate and relevant Biology SGCSE textbook for your students. Discuss 4 features you would use as criteria for selecting the textbook. **[16]**

4a) The curriculum materials developed for the projects, Linking School Science with Industry and Technology (LISSIT) and Science and Technology in Action in Ghana (STAG) are designed to increase learner interest and participation in science and technology in African schools. Discuss the main features of these projects that attempt to meet this goal. **[10]**

b) Swaziland and Botswana have attempted to prepare **relevant** science curricular at the junior secondary school level. Discuss

i) The reasons underlying these undertakings **[5]**

ii) The approaches used by these countries in developing their curricula **[10]**

5a) Discuss the significance of the following on how learners develop scientific concepts:

i) Prior knowledge **[4]**

ii) Contextualising scientific knowledge **[4]**

iii) Progressive differentiation **[4]**

b) Jerome Bruner stresses that learning the fundamental structure of a subject is key to understanding and transferring of scientific knowledge. Explain what this entails. **[8]**

c) The figure below shows the series of events taking place during information processing in the brain. Explain how science teachers' use of language affects this processing and ultimate learner understanding of science concepts. **[5]**