

UNIVERSITY OF SWAZILAND

FACULTY OF EDUCATION

MAIN EXAMINATION PAPER

MAY 2013

B.Ed. III and PGCE F/T

- TITLE OF PAPER** : Curriculum Studies in Physics.
- COURSE NUMBER** : EDC 382
- TIME ALLOWED** : Three (3) hours
- INSTRUCTIONS** :
1. This paper contains FIVE questions.
 2. Question 1 is COMPULSORY. You may then choose ANY THREE questions from questions 2, 3, 4, and 5.
 3. Each question is worth 25 marks
 4. Any piece of material or work which is not intended for marking should be clearly CROSSED OUT
 5. Ensure that responses to questions are NUMBERED CORRECTLY
- SPECIAL REQUIREMENTS** NONE

THIS PAPER SHOULD NOT BE OPENED UNTIL PERMISSION HAS BE GRANTED BY THE INVIGILATOR

This paper consists of 4 printed pages

Question 1 {Compulsory}



Figure 1.1



Figure 1.2

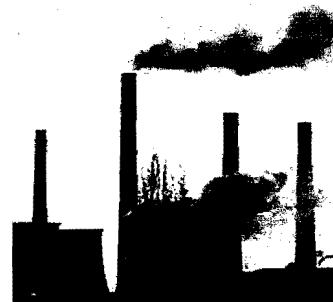


Figure 1.3

- Explain what is happening in each picture shown above. [3]
- From the above pictures, identify **two** goals of Science Technology and Society (STS). [6]
- Describe three reasons presented by the groups that started the STS movement. [9]
- Describe ways in which STS could be integrated into the school curriculum in Swaziland. [7]

Question 2

- Compare and contrast science and technology giving at least five (5) examples of each. [15]
- How far are the following aims of physical science syllabus fulfilled in the Swaziland system of Education?

Aims:-To enable learners to develop abilities and skills that:

- develop and enhance scientific knowledge and understanding [5]
- are necessary to communicate scientific findings of practical investigations using proper technical scientific knowledge. [5]

Question 3

a) What do you understand by contextualizing instruction in science?

[4]

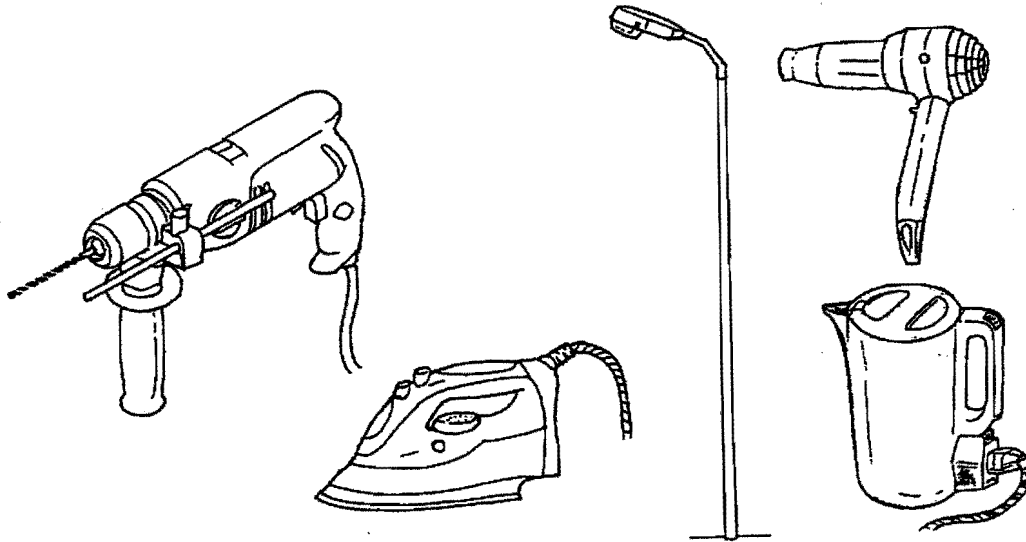


Figure 2

b) i. Given the pictures shown in Fig. 2, describe the context of the pictures? [1]

ii. Write two physics concepts that could be taught from the given pictures. [4]

iii. What three advantages does contextualizing instruction provide in science teaching? [6]

iv. Mention the precautions the teacher must take in using this method of instruction. [4]

c) 'It is alleged there are many gender issues which affect the progress of girls in science'

i. Discuss three of such gender issues which are likely to deter the progress of women in science related fields of study. [3]

ii. What could teachers do, to encourage girls to take science related fields of study? [3]

Question 4

“Continuous assessment is an assessment approach which should depict the full range of sources and methods teachers use to gather, interpret and synthesize information about learners, information that is used to help teachers understand their learners, plan and monitor instruction and establish a viable classroom culture,” Airasian(2002)

- a) From the above definition write three aspects involved in continuous assessment. [3]
- b) Write four differences between continuous assessment and traditional examinations. [8]
- c) Describe three challenges of using continuous assessment as part of the final grade in physical science in Swaziland. [9]
- d) Choose a topic of interest and set **two** questions:
- i. One multiple choice question where students choose the answer from four alternatives. [3]
 - ii. One question to be answered by either a **True** or **False** statement. [2]

Question 5

The following items are supplied for a practical examination:

- i. meter rule
- ii. boss and clamp
- iii. strong thread x 2
- iv. retort stand
- v. 100g mass
- vi. Graph paper

Task:

a. **Design** a practical test where the students are going to find the mass of the meter rule by finding the centre of gravity **G** first and using the moments of force.

Additional information:

- i. The students need to balance the metre rule first
- ii. Mass of metre rule (m) = 100 x gradient [15]

b. State **Five** precautions a teacher might need to observe when using practical work in teaching physics [10]