

**SCHOOL OF ARTS AND HUMANITIES**

**DEPARTMENT OF EDUCATION**

**UNIVERSITY EXAMINATION**

**ECE 413: SCIENCE AND CRITICAL THINKING IN ECE(special Exam)**

**PART TIME: DECEMBER-APRIL SEMESTER, 2017**

**TIME 2 HOURS**

**INSTRUCTIONS:**

1. Answer questions one and any other two.
2. Put off you mobile phones.
3. Any form of cheating will lead to immediate dismissal from the exam room and eventually failing grade.
4. Follow the instructions carefully.
5. Please write legibly.

**Q1**a) Children in ECE class were given balls of different colours and of equal weight. They were asked to identify those which would float and those which would sink. Assess **four** skills that the children developed. (8 marks).

b) Identify **five** roles of an ECE teacher in the above activity (5 marks).

c) Assume that you are a manager of a certain pre-school. Explain **four** qualities you would look for when employing a science teacher. (8 marks).

d) You have been invited to give a speech to caregivers and teachers on the importance of science and critical thinking in children’s growth, development and learning. Prepare an outline of your speech (9marks).

**Q2**. a) During a science lesson you have planned for an “observation walk” around the school compound. Outline **five**things that children are likely to experience through the use of their five senses. (5marks).

b)Explain, with examples, **five** ways that an ECDE Centre can use to source science and critical thinking teaching/ learning materials**. (**10 marks).

c) Highlight **five**ways through which mathematics concepts can be enhanced through science activities on the sub-theme flowers. (5marks).

**Q3.**a) Elaborate onJerome Brunner’s theory in teaching science concepts (10marks).

b) Show **five** ways in which a pre-school teacher can apply it in his teaching (10mark).

**Q4.**a) A pre-school teacher introduced the concept ‘air’ to the children but upon assessment he realised that they did not grasp the concept .Analyse **five** possible factors that may have resulted to this. (10marks).

b) Highlight **four**reasons why it is important for a teacher to conduct a science achievement assessment on children. (4marks).

c) Explain **three**ways in which a pre-school teacher can enhance creativity in children during a science activity. (6 marks).

**5.a) ­**Differentiate the following in relation to teaching science in ECE

i) Concept and skill (4marks).

ii) Prediction and inferring (4marks).

b) Discuss the following methods of teaching science and critical thinking to ECDE children

i) Discovery (4marks).

ii) Observation (4marks).

**c)** For each of the above methods list two scientific skills developed in children. (4 marks).