

THE OPEN UNIVERSITY OF SRI LANKA  
FACULTY OF EDUCATION  
BACHELOR OF EDUCATION HONOURS IN NATURAL SCIENCES  
DEGREE PROGRAMME - 2022/2023  
LEVEL - 05  
FINAL EXAMINATION 2023  
STU5816 – EDUCATIONAL TECHNOLOGY FOR TEACHING SCIENCE &  
MATHEMATICS  
DURATION – THREE (03) HOURS



Date: 17.11.2023

Time: 9.30 a.m. – 12.30 p.m.

Answer the first question and any other two (02) questions in part I and any two (02) questions from part II.

PART – I

01. i. Explain the concept of “Educational Technology” in your own words.
- ii. “It is very important to provide direct effective learning experiences, when teaching Sciences/Mathematics”. Justify this statement stating **two (02)** reasons.
- iii. Briefly explain **two (02)** situations when discussion can be used as a teaching technique in teaching science and mathematics.
- iv. Mention **four (04)** challenges that can be faced by teachers when teaching through the discovery method.
- v. Briefly describe **two (02)** factors that a teacher should be considered when adjusting planned learning environment by citing examples.
- vi. Explain **two (02)** thinking skills that can be developed in students by using the problem solving method in the teaching-learning process, citing an example for each.
- vii. Name **four (04)** skills that can be developed in students by studying science and mathematics subject which are known as ‘4C’ under 21<sup>st</sup> century skills.
- viii. Mention **two (02)** advantages for each, that can be gained by teachers and students by using textbooks in teaching-learning process of Science/Mathematics subjects.  
(05 x 08 = 40 marks)
02. i. Explain **two (02)** benefits with examples that can be gained by students by integrating smart classroom practices in to you teaching learning process.  
(05 Marks)
- ii. Explain **two (02)** challenges that teachers may be faced when integrating smart classroom practices in the teaching-learning process by, citing examples.  
(05 marks)

- iii. Suggest **two (02)** measures that can be used by teachers to overcome above mentioned challenges. (05 marks)
03. "Nowadays, the internet is contributing a lot of making learning easier".
- i. Mention **four (04)** distinctive features of the internet. (04 marks)
- ii. Explain **three (03)** facts by examples that a teacher should consider when using the internet in the teaching-learning process. (06 marks)
- iii. Describe how the internet can be used to teach science/mathematics subjects by citing **two (02)** examples. (05 marks)
04. i. Explain the importance of preparation of a lesson plan by citing **four (04)** reasons. (04 marks)
- ii. Mention **five (05)** points to consider when preparing a lesson plan. (05 marks)
- iii. Explain separately **two (02)** benefits with examples that can be gained by teachers and students through a well-planned lesson. (06 marks)
05. i. Explain the importance of providing real-life learning experiences in teaching science/mathematics subject citing **two (02)** reasons. (04 marks)
- ii. Describe how the project method can be used to provide real life learning experiences with an example. (05 marks)
- iii. Discuss with **two (02)** facts, how the teachers' role should be when providing real life learning experiences to students. (06 marks)

### PART – II

06. According to Bruner (1960) simulation is a built-up situation that similar to a real-life situation.
- i. Explain by using an example, how simulation can be used to provide learning experiences in the teaching-learning process of science/mathematics subject. (05 marks)
- ii. Explain **two (02)** benefits to students of using simulation method in teaching science and mathematics subjects. (05 marks)
- iii. Discuss **two (02)** challenges that a teacher may be faced in using the simulation method in the teaching-learning process of Science/Mathematics subjects.

(05 marks)

07. Select a Science/Mathematics lesson from any grade that you have successfully taught and reflect on it under the following sections.
- i. State specific behavioural objectives of the selected lesson. (04 marks)
  - ii. Mention the teaching-learning aids that you used to fulfill specific behavioural objectives of the lesson and explain the reasons for your selection. (05 marks)
  - iii. Describe how you use the selected teaching-learning aids to facilitate the teaching-learning process of that lesson. (06 marks)
08. i. Explain how new technology can be used to provide meaningful learning experiences as a Science and Mathematics teacher by citing **two (02)** examples. (04 marks)
- ii. Discuss with an example how the computer can be used as a teaching-learning aid for interactive learning among groups. (05 marks)
  - iii. Mention **two (02)** challenges that a teacher may be faced when integrating new technology into the teaching learning process and suggest **two (02)** measures to overcome those challenges. (06 Marks)
09. i. Explain a learning situation with an example where the guided discovery method can be used in teaching Science/Mathematics lesson to secondary school students. (04 marks)
- ii. Describe **three (03)** benefits that can be gained by students when using the guided discovery method in the teaching-learning process. (06 marks)
  - iii. Discuss how the teacher's role should be when using the guided discovery method in the teaching-learning process. (05 marks)

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