

THE OPEN UNIVERSITY OF SRI LANKA
BACHELOR OF EDUCATION DEGREE (NATURAL SCIENCE)
LEVEL 05
FINAL EXAMINATION - 2008
ESU 3316/3319 – EDUCATIONAL TECHNOLOGY FOR TEACHING SCIENCE
AND MATHEMATICS



DURATION : THREE (03) HOURS

DATE : 03rd September, 2007

TIME : 9.30 a.m. – 12.30 p.m.

Answer Question No. 01 and TWO other questions from PART I and TWO (02) questions from PART II.

PART – I

01. i. Briefly explain citing 5 examples the role of technology in teaching and learning.
- ii. State 05 important factors to be considered when selecting a method of teaching.
- iii. State 05 disadvantages of teacher-centred teaching methods.
- iv. Explain what are 'teaching systems' and state three types of teaching systems.
- v. State 05 factors to be considered when using teaching-learning aids.
- vi. Briefly explain the 03 main categories of learning experiences according to the Dale's cone of experiences.
- vii. State citing examples 05 advantages of using techniques of teaching.
- viii. Briefly explain the 05 steps in the 5E model of classroom teaching.
(5 x 8 = 40 marks)
02. i. Explain the expected role of the teacher when changing from the traditional teacher-centred education to student centred education.
(06 marks)
- ii. Briefly state the views of following Philosophers' which provided a basis for the above change.
- a) Jean Jaques Rousseau b) John Dewey
- c) Mahatma Gandhi.
- (09 marks)

03. i. Explain what is a 'behavioural objective' and state 05 conditions/features of a behavioural objective. (06 marks)
- ii. State a lesson topic of your choice and write the behavioural objectives to be achieved, categorizing these in the three main domains. (09 marks)
04. Write short notes on any three of the following.
- i. Inductive and Deductive processes in the problem solving method
- ii. Classification of teaching-learning aids.
- iii. Advantages of Group Teaching.
- iv. Challenges faced by teachers when integrating new technology into teaching and learning. (5x3=15)

PART – II

05. i. Explain what is 'scientific knowledge' and how it differs from 'knowledge' in general usage. (05 marks)
- ii. Using an example, describe the five main steps involved in the "scientific Method". (05 marks)
- iii. Justify the concept of "science for all", based on various outcomes of Science Education. (05 marks)
06. i. Briefly explain the main features of any three student centred teaching methods that could be used for teaching science. (05 marks)
- ii. Select one of the above methods and state the steps you would take, when teaching a science lessons using this method. (05 marks)
- iii. Briefly describe how you would conduct formative evaluation during this lesson. (05 marks)
07. Write short notes on any three(03) of the following.
- i. Integrated approach in teaching science.
- ii. Use of audio visual aids in teaching science.
- iii. Planning and organizing a good science laboratory.
- iv. Development of mental structures while learning science. (5 x 3 = 15 marks)