

FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA  
SCHOOL OF SCIENCE AND TECHNOLOGY EDUCATION  
DEPARTMENT OF SCIENCE EDUCATION

First Semester Examination: 2017/2018 Academic Session.

Course Code:-EDU 211

Course Units: - 3

Course Title: History and Philosophy of Science, Technology and Mathematics.

Time: - 2 hours

Instruction: -Answer question **ONE** and any other three Questions.

1. a.) What does technology mean as related to science?  
b.) What are the impacts of technology to the nature, environment, society, culture, politics and our long-term future?
2. a.) Briefly discuss the noticeable common trend that runs through the definitions of Science by scientists and science educators.  
  
b.) Explain in detail what you understand by Science as a body of knowledge and Science as an institution.
3. a.) The scientific method is both creative and critical, discuss the following steps of the scientific method in detail -
  - i. Observation
  - ii. Problem identification
  - iii. Theory formulationb.) State the difference between direct and indirect scientific observation.
4. a.) Write briefly on any three of the followings :  
(i) Brahmagupta (ii) Bhaskara (iii) Pingala (iv) Panini (v) Alkhawarizmi.  
b.) Using the Egyptian number system (hieroglyphics form)  
(i) Add 54 and 13  
(ii) Find the sum of 412 and 357  
using the Egyptian symbols  
(iii) Find the difference of 30 and 10  
(iv) Evaluate  $990 - 812$
5. a.) Give the modern numerals in Attic numerals.  
(i) 17 (ii) 122 (iii) 5, 120  
b.) Give the modern numerals in Ionian numerals.  
(i) 46 (ii) 351 (iii) 854  
c.) Represent the following Babylonian symbols with modern numerals.  
(i) <<<<<vvvv (ii) <vvv (iii) <<<<<<<vvvvvvv