



NATIONAL OPEN UNIVERSITY OF NIGERIA

Plot 91 Cadastral Zone, Nnamdi Azikwe Expressway, Jabi, Abuja

Department of Science Education
FACULTY OF EDUCATION

2023_2 EXAMINATIONS

COURSE CODE: SED413

CODE TITLE: SCIENCE, TECHNOLOGY AND SOCIETY

CREDIT UNIT: 2

TIME ALLOWED: 2 Hours

INSTRUCTION: Answer question ONE and any other TWO questions
Question

1(a) Define science according to scholar Mani (1985)

1(b) Explain some of the ways science and technology have benefited the development in

1. Agriculture
2. Health
3. Communication
4. Transportation

1(c) Describe any three positive and three negative impact of society on science

2(a) Enumerate any five types of Pollutants

2(b) Describe any five (5) of these Major pollutants produced by human activity

- (i) Sulphur oxide (SO₂)
- (ii) Nitrogen oxide
- (iii) Volatile organic compounds - VOC's
- (iv) Particulates
- (v) Chlorofluorocarbons (CFC's)
- (vi) Ammonia (NH₃)

3(a) Highlight any six impacts of Global warming according to Karl & Hassel (2009).

3(b) Discuss any three reasons why scientific and technological literacy is important in Nigeria

3(c) Highlight any five goals of Scientific and Technological Literacy as described by Yager (1992)



3c. Outline and describe briefly any two of the basic line drawing algorithms. (7mks)

Question Four (12mks)

- 4a. Briefly discuss what you understand by interactive Computer Graphics. (4mks)
- 4b. Enumerate the procedures for the construction of Binary Space Partition (BSP) tree. (6mks)
- 4c. what is Bounding Volume Hierarchies (BVH)? (2mks)

Question Five (12mks)

- 5a. What is rendering in Computer Graphics? (2mks)
- 5b. Discuss the uses of Bounding Volume Hierarchies (BVH). (4mks)
- 5c. Outline the three primary colors. (3mks)
- 5d. Briefly describe how the human eye sees the object in front of it. (3mks)

Question Six (12marks)

- 6a. In Computer Graphics rendering, outline the five coordinate systems used. (5mks)
- 6b. Describe electromagnetic spectrum in terms of its wave length. (5mks)
- 6c. In a tabular form, summarize the properties of the four primary types of painting ink. (2mks)