



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
**UNIVERSITY VILLAGE, PLOT 91 CADASTRAL ZONE, NNAMDI AZIKIWE**  
**EXPRESS WAY, JABI - ABUJA.**  
**FACULTY OF SCIENCE**  
**Department of Biological Sciences**  
**2022\_1 EXAMINATION**

**BIO 303: General Cytology**

**TIME: 2 Hours**

**CREDIT UNITS: 2**

**INSTRUCTION: Answer THREE questions in all. Question 1 is compulsory**

1a. Write briefly on water as an important constituent of the living cell (10½ marks)

1b. Give a brief description of the structure of the nucleic acids (12 marks)

1c. What are radioisotopes? (7½marks)

2a Enumerate 2 disadvantages of Autoradiography (2 marks)

2b Give a stepwise description of the autoradiography method (18 marks)

3a. State 3 similarities between mitosis and meiosis (4½ marks)

3b. Using a table outline FIVE differences between mitosis and meiosis (15½ marks)

4a. Outline the major events of Gap 2 phase of the cell cycle (2 marks)

4b. Discuss the events of the S-phase of the cell cycle (18 marks)

5. Discuss the principle and operation of the electron microscope (20 marks)