



NATIONAL OPEN UNIVERSITY OF NIGERIA
UNIVERSITY VILLAGE, PLOT 91 CADASTRAL ZONE, NNAMDI AZIKIWE
EXPRESS WAY, JABI - ABUJA.
FACULTY OF SCIENCE
Department of Pure and Applied Sciences
OCTOBER/NOVEMBER, 2019 EXAMINATIONS

BIO 303: General Cytology

TIME: 2Hours

CREDIT UNITS: 2

INSTRUCTION: Answer FOUR questions in all .Question 1 is compulsory

- 1a. Highlight the contributions of any 6 scientists to the history of Cytology (9marks)
- 1b. In a tabular form differentiate between proteins and deoxyribonucleic acids (DNA) (10marks)
- 1c. List 6 disadvantages of the electron microscope (6marks)

- 2a. List 2 components peculiar to the fluorescence microscope (1mark)
- 2b. Discuss the principle by which fluorescence microscope operates (9 marks).
- 2c. List the advantages and disadvantages of fluorescence microscope? (5 marks)

3. Write short notes on the following forms of variations found in chromosomes
 - i. Deletions (3marks)
 - ii. Duplications (3marks)
 - iii. Inversions (6marks)
 - iv. Euploidy (3marks)

4. Discuss the roles of the major control checkpoints in the eukaryotic cell cycle (15 marks).

- 5a. Define the term 'Embryogenesis' (2 marks)
- 5b. Explain the major occurrences between the third and twenty eighth week of foetal development in humans (13marks)