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**OPEN UNIVERSITY OF NIGERIA**

**Plot 91, Cadastral Zone, Nnamdi Azikiwe Express way, Jabi-Abuja.**

**DEPARTMENT OF PURE AND APPLIED SCIENCES**

**FACULTY OF SCIENCE**

**APRIL/MAY 2019 EXAMINATION**

**COURSE CODE: BIO 303**

**COURSE TITLE: GENERAL CYTOLOGY**

**CREDIT UNIT: 2**

**TIME ALLOWED: 2HOURS**

**TOTAL MARKS: 70%**

1a. Explain the term Resolution in a light microscope. **9 marks**

b. Name **two** types of electron microscope. **2 marks**

c. Enumerate **two** advantages and **five** disadvantages of electron microscope. **14 marks**

2a. The table below shows some of the historical events that occurred in the advancement of cell biology. Complete the table by stating the events of the contributions of the respective scientists **(5marks)**

|  |  |  |
| --- | --- | --- |
| Year | Scientist | Event |
| 1665 | Robert Hooke |  |
| 1674 | Anthoin Van  Leeuwenhoek |  |
| 1831 | Robert Brown |  |
| 1839 | Theodor Schwann &  Matthias Schleiden |  |
| 1858 | Rudolf Virchow |  |
| 1882 | Walter Flemming |  |

2bi. What is Karyotyping? **(5 marks)**

ii. State **five** characteristics observed in the chromosome, after karyotyping **(5 marks)**

3a. List **three** types of Carbohydrates **(3 marks)**

b. Define each of these carbohydrate types **(3 marks)**

c. Compare Starch and Glycogen **(9 marks)**

4a. List the **four** structural levels of proteins **(4 marks)**

b. Give a detailed description of Nucleic acid. **(11 marks)**

5. Describe the following phases of eukaryotic cell cycle:

a. Gap 1 Phase; **(5 marks)**

b. S phase; **(5 marks)**

c. Gap 2 phase **(5 marks)**