



DAMIETTA UNIVERSITY  
FACULTY OF SCIENCE  
ZOOLOGY DEPARTMENT

## Final TERM EXAM. January 2025



المستوى الثانى (لائحة الساعات المعتمدة) برنامج الحيوان والكيمياء  
مقدمة فى علم الوراثة (٢٢٢ ح)

Date: 12/ 1 / 2025

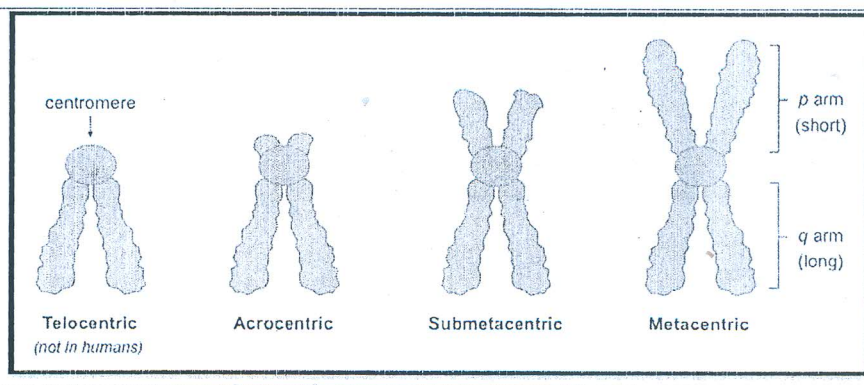
Time: 1 Hour

Mark: 35

الامتحان فى ورقتين

### Question One (10 Marks):

Look at this figure and complete the following sentences:



- There are four types of chromosomes based upon .....1.....
- Metacentric: In this type of chromosome the centromere occurs in the .....2.....and Chromosomes have to ...3..... arms.
- Submetacentric: In this type of chromosome the centromere is ...4..... the centre .Chromosomes will have ...5..... arms.
- Acrocentric: In this type of chromosome the .....6... is located closer to one end of chromatid therefore the chromatids on .....7.... side are very long.
- Telocentric: In this type of chromosome the centromere is placed at one .....8..... of the chromatid and hence only ...9.... arm. Appear as I shaped structures at ...10.....

### Question Two (12 Marks):

What is the difference between the following:

- 1-Euchromatin and Heterochromatin
- 2-Nucleoside and Nucleotide

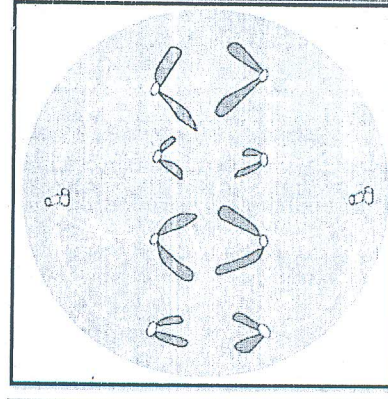
3-Cytokinesis and karyokinesis

4-Monosomy and Trisomy

**Question Three (8 Marks):**

**Look at this figure and answer the following:**

- 1-Mention the name of this stage.
- 2-Mention the main events in this stage.
- 3-What is the next stage?
- 4- Mention the type of this division.



**Question Four (5 Marks):**

1. Determine the **genotypes** of the parent organisms (TT and tt)
2. **write down your "cross" (mating)**
3. **Draw a p-square .**

If you let the F1 generation self-fertilize, the next monohybrid cross would be: (Tt × Tt)

**summarize results (genotypes & phenotypes of offspring)**

*With Best Wishes*

*Dr. Lamiaa Deef*

*Dr. El saeed Elsherbiny*

*Head of Department: Prof.dr. Ayman Hyder*