

SECOND YEAR EXAMINATION IN SCIENCE 2013/2014 (OCT 2016)
SECOND SEMESTER (PROPER & REPEAT)
ZL 203 EUKARYOTIC GENETICS



Time: 02 hours.

Answer all questions.

Illustrate your answers with clear labelled diagrams where ever necessary)

1. a). What is spatial patterning of an insect wing? (15 marks)
- b). Write a brief account on expression of genes in *Drosophila* sp for the establishment of disc primordia until the wing formation. (85 marks)
2. a). Differentiate Mosaics and Chimeras. (20 marks)
- b). Briefly describe the development of genetic mosaics by mitotic recombination and cell markers. (80 marks)
3. Write short notes on **any two** of the following:
- a). Sanger's method of sequencing of DNA;
- b). Role of mother's cytoplasm in inheritance in flour moth;
- c). Complementation test is a tool to check allelism in mutations. (100 marks)
4. Write brief account on **any two** of the following:
- a). Positional information and shortest intercalation rule for regeneration in imaginal disc;
- b). Formation of hybrid dysgenesis in *Drosophila* by P-element;
- c). List of applications of genetic engineering. (100 marks)

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