

EASTERN UNIVERSITY, SRI LANKA  
SPECIAL DEGREE EXAMINATION IN ZOOLOGY 2003/2004(FEB/MAR 2006)  
PART I & II

ZL 410 – DEVELOPMENTAL GENETICS

Time: 03 hours

Answer all questions.

(Illustrate your answers with clear labelled diagrams where appropriate).

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1. Discuss briefly the role of *bicoid* product in establishing the anterior pattern in *Drosophila* larva development.
2. Write notes on two of the following:
  - a) *hairy* gene
  - b) Gap genes
  - c) Abzymes
3. “The mutation *multiple wing hairs* (mwh) is used as a cell marker in genetic mosaics” Discuss this statement.
4. Write an account of the fate of Sensory Mother Cell (SMC) in the imaginal wing disc of late third instar larvae of *Drosophila*.
5. Write notes on two of the following:
  - a) Growth factor signaling and Ras- Raf & MAP kinase pathways.
  - b) Transcriptional control by Leucine-Zipper
  - c) Mutant *Antennapedia*.
6. Discuss briefly the erythroid differentiation in human beings.

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