

MODE OF EXAMINATION: ONLINE
B.SC (H) ZOOLOGY
SEMESTER VI
DEVELOPMENTAL BIOLOGY
QUESTION BANK (OBE FORMAT)
DR. ANKITA DUA

1. Explain the maternal and embryonic cellular interactions involved in the adhesion of the blastocyst to the luminal epithelium and its penetration into the endometrial stroma. What is the process called and why is it called a double paradox (cellular & immunological)? What is an ectopic pregnancy? 18.75
2. The extra-embryonic membranes in amniotes extend a number of advantages for life and development on land. What are these? Explain the formation of these extra-embryonic membranes with diagrams. 18.75
3. Insect molting and metamorphosis is a strictly regulated interplay between actions of two effector hormones. Outline this process, providing details of the entire post-metabolous development in insects. 18.75
4. Why is the body of *Hydra* unstable? What are the morphogenetic gradients that permit the head to form at one end and the basal disc at the other? Explain how polarity of *Hydra* is coordinated during morpholactic regeneration. 18.75
5. Explain in detail the two ways for conversion of neural plate to neural tube? What are the defects caused by failure of closing of:
 - a. Anterior neuropore
 - b. Posterior neuropore
 - c. Failure neural tube over body axis18.75