

(Following Paper ID and Roll No. to be filled in your
Answer Books)

Paper ID :154667

Roll No.

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B.TECH.

Theory Examination (Semester-VI) 2015-16

DEVELOPMENTAL BIOTECHNOLOGY

Time : 3 Hours

Max. Marks : 100

Section-A

**Q.1. Attempt all parts. All parts carry equal marks. Write
answer of each part in short. (2×10=20)**

- (a) Define comparative embryology.
- (b) Explain term regeneration.
- (c) What is the difference between sexual and asexual reproduction ?
- (d) What do you understand by metamorphosis?

- (e) What do you mean by embryonic development of animal?
- (f) What is programmed cell death?
- (g) What are cell differentiations?
- (h) Explain the term cell potency.
- (i) What is the sex determination?
- (j) Write down about ageing.

Section-B

Q.2. Attempt any five parts. All parts carry equal marks : (5×10=50)

- (a) What is the basic concept of comparative and evolutionary embryology? Explain the development pattern of metazoan.
- (b) Explain the morphological gradients in developmental biology and write down about cell fate determination.

- (c) What are stem cells? Write down its genomic equivalency and its cytoplasmic determinants.
- (d) Explain the properties and method of mathematical modeling of development.
- (e) Give a brief idea of environmental regulation of normal development. Define sex determination.
- (f) What do you mean by medical embryology and explain teratology ?
- (g) Write short notes on cell fate and cell lineages.
- (h) What is the role of mutants and transgenics in analysis of development?

Section-C

Note: Attempt any two questions from this section.

(2×15=30)

Q.3. Write down the development cycle of drosophila and mouse in details.

- Q.4. What is the development of plant growth and define the plant development cycle ?
- Q.5. Discuss plant embryogenesis. Write down the potency and commitment.

