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SEAT No. :

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[5232]-404

M.Sc. - II

BIOTECHNOLOGY

**BT-405 :Animal Development and Stem Cell Technology
(2013 Pattern) (Semester-IV) (Credit System)**

Time : 3 Hours]

[Max. Marks : 50

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Draw neat labelled diagrams wherever necessary.*
- 3) *Figures to the right indicate full marks.*

Q1) Write short notes on (Any 4):

[4×5=20]

- a) Acrosomal reaction in mammals.
- b) Egg activation.
- c) Stem cell lineage tracking.
- d) Bioethics in stem cell technology.
- e) Blastulation in sea urchin.
- f) Genetic manipulation of stem cells (any two methods).

Q2) Answer the following (Any 4):

[4×5=20]

- a) Write the concept of induced pluripotent stem cells.
- b) Give the therapeutic applications of stem cells.
- c) Write notes on differentiation and trans differentiation.
- d) Explain fate map in frog embryo.
- e) Give an account on post fertilization changes in egg.
- f) Describe hormonal control during oogenesis.

P.T.O.

Q3) Answer the following (any one):

[1×10=10]

- a) Write the role of maternal effect genes in early development of drosophila.
- b) What are knock out mice. Give its applications in gene therapy.

