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SEAT No._____ No. of Printed Pages: 02

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SARDAR PATEL UNIVERSITY

M. Sc Integrated Biotechnology (IGBT) - IV$^{th}$ (04) Semester

Subject Code& Subject: PS04CIGB04- DEVELOPMENTAL BIOLOGY

Date: 19-04-2018, Thursday Time: 10: 00A.M. TO 01: 00 P.M Total Marks: 70

Note: (1) All questions are compulsory. (2)Figure to right indicates marks.

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**Q-1. Answer the following objective questions.** **01X08= 08**

1. Disadvantages of simple leaf is.....
(A) Strong wind not withstand(B) Large leaflets(C) Leaf apex acute (D) Margin entire

2. Reduction of vegetative telom truss associated with .....
(A) Unfertile telome (B) Fertile telome (C) Sterile telome (D) Both (A) and (B)

3. The process of development of stamen and pollen sacs in angiosperms is known as.....
(A)Parthenogenesis (B)Megasporogenesis (C) Microsporangium(D) Embryology

4. The anther consists of two anther lobes joined together by a narrow strip of tissue called.....
(A) Connective (B) Pollen tube(C) Filament (D)Taptem

5. Mixing of male and female pronuclei known as.....
(A). Promixis (B).Amphimixis (C). Nucleomixis (D). None of these

6. How many polar bodies form end of the oogenesis.....
(A).04 (B).01 (C).03 (D). 02

7. Holoblastic cleavage is also known as.....
(A).Complete cleavage (B).Partial cleavage(C). Incomplete cleavage (D).Both (A) and (B)

8. The cleavage furrow in equatorial plane of cleavage.....
(A).Passes through left axis (B)Passes through central axis
(C). Passes through right axis (D). All of the above

**Q-2. Answer the following (Any Seven).** **02X07=14**

1. Justify – ''Herbs are advanced than the shrubs and trees''.
2. What is sexual incompatibility?
3. Explain the enation theory.
4. Define the apomixis and parthenocarpy.
5. Enlist the different type of embryogeny in plants.
6. Explain the term of spermatogenesis and oogenesis.
7. Signification of parthenogenesis.
8. Draw the diagram of blastula stage in frog.
9. What is teratogenesis and give the examples.

**P.T.O**

Q-3 (A) What are the methods used for overcoming incompatibility? Describe the any three methods. **(06)**

(B) Justify – 1. Parallel venation is advanced than the reticulate venation. **(06)**
2. Monocots are advanced than the dicots.

**OR**

(B) What is telome theory? Enlist the different evolutionary process involved based on the telome theory. Explain any three important evolutionary processes. **(06)**

Q-4 (A). Enlist the different types of the endosperm. Explain the nuclear endosperm and cellular endosperm. **(06)**

(B) Describe the structure, development and function of anther. **(06)**

**OR**

(B) Write a short note on Polyembryony. **(06)**

Q-5 (A). Give an explanatory note on spermiogenesis. **(06)**

(B) Explainery note on types of egg in detail. **(06)**

**OR**

(B) Define the fertilization. Explain any two phases of fertilization. **(06)**

Q-6 (A). What is infertility? Give detail account of IVF. **(06)**

(B) Explain any two genetic errors during human development. **(06)**

**OR**

(B) Write the different types of morphogenetic movements in gastrulation in brief. **(06)**

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