S. Y. B. Sc. (Biotechnology) SEM – IV (CBCS - 2015 COURSE) : WINTER - 2018

SUBJECT: DEVELOPMENTAL BIOLOGY

Day: Thursday
Date: 01/11/2018

W-2018-1180

Time: 10.00 AM TO 01.00 PM
Max. Marks: 60

N.B.:

1) Q1 and Q5 are compulsory.
2) Answer ANY TWO questions from Q 2, 3, 4 in Section I.
3) Answer ANY TWO questions from Q 6, 7, 8 in Section II.
4) Answers to Both the sections to be written in SEPARATE answer books.
5) Draw a labeled diagram WHEREVER necessary.

SECTION -I

Q.1) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

a) Explain the term cleavage
b) What is significance of blastulation?
c) Sketch and label blastocyst in mammals
d) What is coeloblastula?
e) What is significance of yolk during gastrulation?
f) Explain in brief cleidoic egg

Q.2) Answer the following: (5 Marks X 2 = 10)

a) Explain the stages of meiosis –II
b) Describe the structure of mature spermatozoa

Q.3) Explain the following: (5 Marks X 2 = 10)

a) Describe in detail the process of amphimixis with their significance
b) What is invagination? Describe movements of the cell and physiology of invagination

Q.4) Write short notes on the following: (5 Marks X 2 = 10)

a) Describe the cleavage pattern on the basis of quantity and distribution of yolk
b) What is gastrula? Discus how three germinal layers are formed

SECTION - II

Q.5) Answer the following: (ANY FIVE) (2 Marks X 5 = 10)

a) What is chorion?
b) Explain the term cleavage
c) What are stem cells?
d) Enlist diseases that stem cells are used to cure
e) What is pluripotent cell?
f) What is regulative specification?

Q.6) Answer the following: (5 Marks X 2 = 10)

a) What is blastula? Describe the blastula of frog
b) What is differentiation? How different factors are affected in differentiation

Q.7) Explain the following: (5 Marks X 2 = 10)

a) What is implantation? Discuss the implantation process in human with its importance
b) Explain adult stem cells and a note on their application

Q.8) Write short notes on the following: (5 Marks X 2 = 10)

a) Explain the process of oogenesis with its significance
b) Explain in brief embryonic and adult stem cells

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