

Self Assessment Paper

General Instructions :

- (i) This paper comprises of **TWO PARTS – Part I and Part II**
- (ii) **Part I** contains twenty questions of one mark each.
- (iii) **Part II** consists of **Section A, B and C.**
- (iv) **Section A** contains seven questions of two marks each
- (v) **Section B** contains seven questions of three marks each, and
- (vi) **Section C** contains three questions of five marks each.
- (vii) Internal choices have been provided in two questions in **Section A**, two questions in **Section B** and in all three questions of **Section C.**

PART I (20 Marks)

All questions are compulsory.

Question 1

- (a) Answer the following questions briefly and to the point: [8×1]
- (i) What is colostrum ?
 - (ii) Define test cross.
 - (iii) Mention the role of *Azospirillum* as biofertilizer.
 - (iv) Define diapause.
 - (v) What is interferon?
 - (vi) What do you mean by linkage?
 - (vii) What is the significance of LH surge through the menstrual cycle?
 - (viii) Explain the chromosomal theory of inheritance.
- (b) Each of the following questions has four choices. Choose the best option in each case. [4×1]
- (i) Which of the following is a post-fertilisation event in flowering plants?
(1) Transfer of pollen grains (2) Embryo development
(3) Formation of flower (4) Formation of pollen grains
 - (ii) Person having genotype $I^A I^B$ would show the blood group AB. This is because of
(1) Pleiotropy (2) Co-dominance
(3) Segregation (4) Incomplete dominance
 - (iii) Cry genes or Bt genes are obtained from :
(1) Cotton pest (2) Tobacco
(3) *Bacillus thuringiensis* (4) *E.coli*
 - (iv) The substance produced by a cell in viral infection that can protect other cells from further infection is :
(1) Serotonin (2) Colostrum
(3) Interferon (4) Histamine

- (c) Expand the following abbreviations : [4×1]
 (i) VNTR
 (ii) HGP
 (iii) SNP
 (iv) EST
- (d) Define the following [2×1]
 (i) Allergy
 (ii) Gene therapy
- (e) Give reasons : [2×1]
 (i) Cell division is a mode of reproduction.
 (ii) Green plants are not found beyond certain depth in the ocean.

PART II

SECTION 'A'

(14 Marks)

All questions are compulsory.

- Question 2** [2]
 (a) Define spermiogenesis. Where does it occur ?
 OR
 (b) What structure forms the corpus luteum and at what stage ? Name two hormones secreted by it.
- Question 3** [2]
 Explain with an example what is incomplete dominance. Which trait in such a case has no gene ?
- Question 4** [2]
 How can bacterial DNA be released from the bacterial cell for biotechnology experiments ?
- Question 5** [2]
 Distinguish between endemic species and threatened species.
- Question 6** [2]
 What would happen to immune system, if thymus gland is removed from the body of a person ?
- Question 7** [2]
 What are the advantages of recombinant insulin?
- Question 8** [2]
 (a) What is the difference between ectotherms and endotherms?
 OR
 (b) What is a zero population growth rate?

SECTION 'B'

(21 Marks)

All questions are compulsory.

- Question 9** [3]
 (a) What are the functions of placenta other than its endocrine function ?
 OR
 (b) Explain the hormonal control of spermatogenesis in humans.
- Question 10** [3]
 Why is breast feeding recommended during the initial period of an infant's growth ? Give reasons.
- Question 11** [3]
 Predation is usually referred to as a detrimental association. State any three positive roles that a predator plays in an ecosystem.
- Question 12** [3]
 What is biodiversity ? Mention the implications of the loss of biodiversity.
- Question 13** [3]
 Name the components of lac operon and discuss their role.
- Question 14** [3]
 Explain the role of DNA polymerase present in *E.coli*.

Question 15

[3]

(a) Draw a structure of microsporangium

OR

(b) Draw a labelled diagram of L.S. of an embryo of grass.

SECTION 'C'

(15 Marks)

All questions are compulsory.

Question 16

[5]

- (a) (i) What are cloning vectors. Give two examples.
(ii) Write any three characteristics a cloning vector must possess.

OR

- (b) (i) Explain why Bt cotton flowers undergo pollination by butterflies and bees inspite of being insect pest resistant ?
(ii) How "Rosie" considered different from a normal cow ?

Question 17

[5]

(a) Mention the primary aim of the "Assisted Reproductive Technology" (ART) programme. Briefly explain IVE, GIFT and ZIFT.

OR

- (b) (i) Write a brief note on MTP.
(ii) What is the advantage of Saheli ? Who prepared Saheli ?

Question 18

[5]

- (a) (i) How is a probe used in molecular diagnostics?
(ii) How would you find genotype of a tall pea plant bearing white flowers ? Explain with the help of a cross. Name the type of cross you would use.

OR

- (b) (i) Name the major types of RNAs and explain their role in the process of protein synthesis in prokaryotes.
(ii) How do the tRNA molecules appear in
(a) Two dimensional, and
(b) Three dimensional views ?

Finished Solving the Paper ?
Time to evaluate yourself !
<https://qrqo.page.link/PHk35>

OR

SCAN THE CODE



For elaborate Solutions

OSWAAL COGNITIVE LEARNING TOOLS



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