

BIOL1014

1703 - X

OTANY

Maximum Marks - 35

Time Allowed: 1½ Hours

(Fifteen Minutes Extra to read the Question Paper)

(Long Answer Type Questions)

What is Semiconservative DNA replication? Describe the mechanism on the same with suitable diagrams.

Or

Who proposed the concept of Lac operon?

(b) Draw the labelled schematic representation of a Lac operon.

(c) Explain how does this operon get switched 'on' and 'off'.

What are Negative interactions? Describe various negative interactions found among organisms.

Or

(a) What are hot spots of Diversity?

(b) List four main criteria for determining a particular place as a Hot spot.

(c) Among the hot spots of the world, list two which are located in India.

(2)

(Short Answer Type Questions)

3. What is Apomixis and what is its importance? 3
4. In a *Pisum sativum*, the pods may be inflated (I, dominant) or constricted (i, recessive). What proportion of the offspring in the following crosses would be expected to be inflated?
- (a) II x ii
- (b) Ii x ii .
- (c) II x II 3
5. Do you think microbes can also be used as source of energy? If yes how? 3
6. Distinguish between Ectoparasite and Endoparasite. 3

(Very Short answer Type Questions)

7. The following very short answer type questions of two marks, each may be answered in a few words or few sentences or as may be required:
- (a) Write briefly about Xenogamy. <https://www.jkboseonline.com> 2
- (b) Define : (a) Hybridization (b) Hardening. 2
- (c) What is Ecology? Who coined the term? 2
- (d) Differentiate between *In-situ*. and *Ex-situ* Conservation of Biodiversity. 2

(Objective Type Questions)

8. Do as directed:

- (i) Define Apomixis.

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- (ii) Number of Meiotic divisions required to produce 200 seeds of Pea would be
- A. 200
 - B. 400
 - C. 300
 - D. 250
- (iii) Introns are essential parts of gene. (True/False)
- (iv) An unorganised undifferentiated mass of actively dividing cells is called as.
- (v) Biogas rich in Methane is produced by