



**JAIN COLLEGE**  
463/465, 18th Main Road, SS Royal, 80 Feet Road  
Rajarajeshwari Nagar, Bangalore - 560 098

*Date: 2019/20*

**SUBJECT: BIOLOGY**

**SECOND PRE-UNIVERSITY**  
**Mock Preparatory Examination**

*Timings Allowed: 3 Hrs 15mins*

*Total Marks: 70*

**INSTRUCTIONS:**

- a) All parts are compulsory, Answer all the questions.*
- b) Mention correct main and question numbers.*
- c) Draw diagrams wherever necessary. Unlabelled diagrams do not attract any marks.*

**Part-A**

**I ANSWER ALL THE QUESTIONS IN ONE WORD OR ONE SENTENCE EACH:                    10X1=10**

1. Name the reproductive cycle that occurs in primates
2. Mention a gene that codes for insecticidal protein in Bt. Cotton
3. Given example for InSitu conservation
4. State Allen's rule
5. How does fragmentation of large habitats due to human activities lead to population decline?
6. What are steno thermal organisms?
7. What is detritus?
8. What is Biofortification?
9. What is the main aim of Montreal protocol?
10. Define Natality.

**Part-B**

**II ANSWER ANY FIVE OF THE FOLLOWING IN ABOUT 2-5 SENTENCES EACH:                    5X2=10**

1. What are vegetative propagules? Give two examples.
2. Differentiate homologous and analogous organs.
3. What is Karyotype in Klinefelter's syndrome. Mention any two symptoms of the syndrome
4. Who wrote origin of life? What is the focal point of Big Bang theory
5. What are the different types of Carcinogens which causes cancer?
6. What factors are responsible for fluctuations of population growth
7. Mention any two mechanisms how human body compensates low oxygen available at higher altitude
8. Describe Haplodiploid sex determination system in honey bees.

**Part-C**

**III ANSWER ANY FIVE OF THE FOLLOWING IN ABOUT 5-8 SENTENCES EACH:                    5X3=15**

1. Differentiate between Oviparous and Viviparous with examples.
2. What is drug and alcohol abuse? List out the causes.
3. Define placenta. Mention the functions of Placenta.
4. Draw a neat and labelled diagram of V.S of Anotropous ovule.
5. In which ways genetically modified plants are useful
6. What is test cross? Explain with respect to the law of segregation.
7. What are biofertilizers? Give examples of any two free-living nitrogen fixing micro organisms.
8. Name the six stages of human evolution in correct sequence.

## Part-D

### IV SECTION A:

ANSWER ANY FOUR OF THE FOLLOWING IN ABOUT 100-200 WORDS EACH:

4X5=20

1. What is Mega sporogenesis? Explain the development of eight nucleate embryo sac in flowering plants.
2. Answer the below
  - a. Explain the rule of three organisms as biocontrol agents.
  - b. What is the significance of BOD?
  - c. Give an example for a fungus found in Mycorrhiza.
3. Write notes of the following
  - a. Radioactive waste
  - b. Global warming
4. Sketch the diagrammatic representation of the replication of retro viruses inside an animal cell
5. Answer
  - a. What are Ecto parasite and endo parasite
  - b. Name any three parasitic adaptations in animals
6. List the salient features of human genome project

## Part-E

### IV SECTION B:

ANSWER ANY THREE OF THE FOLLOWING IN ABOUT 100-200 WORDS EACH:

3X5=20

1. What is tissue culture? Mention any four applications
2. Answer
  - a. What is Apomixis?
  - b. Explain any four out breeding devices that prevent autogamy
3. Name the diseases caused by the following
  - a. *Rhino Virus*
  - b. *Solmonella typhi*
  - c. *Epidermophyton*
  - d. *Wuchereria malavi*
  - e. *Plasmodium vivax*
4. Draw a neat labelled diagram of female reproductive system
5. Describe Frederick Griffith's experiment to show transformation in bacteria