



**Jain College, Jayanagar**  
**II PUC Second Mock Paper Jan-2020**  
**Subject: Biology**

**Duration: 3:15 hours**

**Max.Marks: 70**

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**GENERAL INSTRUCTIONS:**

- 1. This question paper consists of four parts A, B, C and D. Part D consists of two parts, Section-1 and Section-II.**
- 2. All the parts are compulsory.**
- 3. Draw the diagrams whenever necessary. Unlabelled diagrams or illustrations do not attract any marks.**

**PART- A**

**I. Answer the following questions in one word/ sentence: 10 × 1 = 10**

1. Name the unit of measurement of ozone thickness in air.
2. Name the rich amino acid residue present in histones.
3. Define the term embryogenesis.
4. Name the enzyme commonly used to dissolve bacterial cell wall.
5. What is Multiple allelism?
6. Colostrum is considered as essential for newborn give reason
7. What are oncogenic viruses?
8. Methylophilus methylotropus is a good source of nutrition. Justify.
9. State mutation theory of Hugo de varies
10. Name the type of pollination that brings genetically different types of pollen to the stigma.

**PART- B**

**II. Answer any FIVE of the following questions in 3-5 sentences each, wherever applicable:**

**5 × 3 = 15**

11. What are sacred grooves? Give any two examples.
12. Differentiate between oviparous and viviparous animals with a suitable example for each.
13. Derive the probable blood groups of children born to the parents with A and B blood groups.
14. Give an example for convergent evolution and divergent evolution.
15. Write an example for copper releasing and hormone releasing IUDs each.
16. What is tissue culture? Explain any one of its applications.
17. Explain the methodologies used in DNA sequencing.
18. a) Define bio magnification.  
b) Expand FOAM.

**PART- C**

**III. Answer any FIVE of the following questions in 40-80 words each, wherever applicable:**

**5 × 3 = 15**

19. What is double fertilization? Name the products of the same and its ploidy.
20. How has paleontological evidences helped in understanding the evolution of life forms?
21. Name the type of vegetative propagules in the following a) Potato b) Ginger  
c) Bryophyllum.
22. Mention the four types of cancer treatment. Also comment on interferons used as treatment.

23. a) Why is morphine used for post surgical treatment?  
 b) Mention any four preventive and control measures of alcohol and drug abuse. (1 + 2)
24. What are cleistogamous flowers? What is its significance?
25. Write three differences between euchromatin and heterochromatin.
26. a) Draw ecological pyramid representing i) pyramid of biomass in ocean  
 ii) pyramid of number in a grassland
- b) Define standing crop. (2 + 1)

### PART– D

#### Section-I

- IV. Answer any FOUR the following questions in 200-300 words each, wherever applicable:  $4 \times 5 = 20$

27. Draw a labelled diagram of anatropous ovule in angiosperms
28. Explain semiconservative replication of DNA
29. a) What are adaptations seen in a prey? Explain any two with examples.  
 b) What is resource partitioning?  
 c) Name the population interaction between  
 i) *Balanus* and *Cathamalus*.  
 ii) Epiphyte and mango tree (2+ 1 + 2)
30. Answer the following-  
 a) Name the technique used to avoid *Meloidogyne incognitia* infestation  
 b) Define biopiracy.  
 c) Give two examples of medical diagnosis techniques.  
 d) What is insertional inactivation?  
 e) What is Downstream processing?
31. Explain oogenesis with schematic representation.
32. Explain Thalassemia as an example for Mendelian disorder.

#### Section-II

- V. Answer any THREE of the following questions in 200-250 words each, wherever applicable:  $3 \times 5 = 15$

33. What is DNA fingerprinting? Write the sequential steps involved in DNA fingerprinting and mention any two applications of this technique.
34. List out any five chemicals, enzymes and bioactive molecules their uses and microbial source
35. a) List three reasons for population explosion.  
 b) Name human male and female sterilization procedures (3 + 2)
36. a) What is deforestation? Write a case study of people's participation in conservation of forest.
37. Write the events of development female gametophyte in correct order.

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