



# JAIN COLLEGE

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

**Date:**

**SUBJECT: BIOLOGY**

**II PUC  
Mock paper II**

**Timings Allowed: 3 Hrs 15 Minutes.**

**Total Marks: 70**

**GENERAL INSTRUCTIONS:**

- **ALL PARTS ARE COMPULSORY.**
- **MENTION CORRECT MAIN AND QUESTION NUMBERS.**
- **DRAW DIAGRAMS WHEREVER NECESSARY. UNLABELLED DIAGRAMS DO NOT ATTRACT ANY MARKS.**

**I. ANSWER THE FOLLOWING IN ONE WORD OR ONE SENTENCE EACH: 1X10=10**

1. Which group of enzymes is known as molecular scissors?
2. What is mutation theory?
3. Define transcription
4. What does HGP stand for?
5. Mention the function of granulosa cells of the Graafian follicle.
6. How is sacred grove important in conservation of biodiversity?
7. What is divergent evolution?
8. What is stratification?
9. What is implantation of embryo?
10. Name the pathogen that causes Filariasis

**II. ANSWER ANY FIVE OF THE FOLLOWING IN ABOUT 3-5 SENTENCES EACH: 5X2=10**

11. Differentiate between prokaryotic and eukaryotic mRNA
12. Describe the theory of abiogenesis
13. What are hermaphrodites? Give two examples
14. Distinguish between gametogenesis and embryogenesis
15. What is Jhum cultivation? Mention its significance
16. What is xenogamy? How is it important?
17. What are 'cry' proteins? Name the organism that produces it
18. Define monohybrid cross and mention its phenotypic ratio

**III. ANSWER ANY FIVE OF THE FOLLOWING IN ABOUT 40-80 WORDS EACH: 5X3=15**

19. Draw a neat labeled diagram of human sperm
20. What is sex determination? Explain XX-XY method of sex determination in humans.
21. Explain Hershey Chase experiment with a neat labeled diagram
22. (a) Define human placenta. Mention its function [2]  
(b) Human placenta acts as a temporary endocrine tissue. Give reason [1]
23. Write short note on AIDS
24. Mention the causes and effects of Phenylketonuria.
25. Name the pathogen, mode of transmission and a symptom of Typhoid

26. (a) What is greenhouse effect? [1]  
(b) What are greenhouse gases? Diagrammatically depict the contribution of greenhouse gases to the total global warming [2]

**IV. ANSWER ANY FOUR OF THE FOLLOWING IN ABOUT 200-250 WORDS EACH: 4X5=20**

27. Explain the salient features of genetic code
28. (a) What is gel electrophoresis? How are DNA fragments separated and detected by this technique?  
(b) What is Southern Blotting? Where is this technique used? [2]
29. Describe the life cycle of the malaria parasite
30. What are vegetative propagules? Name the vegetative propagules in the following
- a) Eichornia
  - b) Bryophyllum
  - c) Potato
  - d) Ginger
31. Describe Darwin's theory of natural selection
32. Explain five effects of water pollution

**V. ANSWER ANY THREE OF THE FOLLOWING IN ABOUT 200- 250 WORDS EACH: 3X5=15**

33. Describe species area relationship with a suitable diagram
34. (a) Distinguish between pisciculture and aquaculture [2]  
(b) Define apiculture. What are the requirements for apiculture [3]
35. Explain transcription. Add a note on mRNA processing in eukaryotes
36. With a neat labeled diagram explain the structure of an anatropous ovule
37. (a) Define Cancer. [1]  
(b) Mention any four characteristics of cancer cells [2]  
(c) Briefly describe the types of carcinogens [2]

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