



JAIN COLLEGE, JAYANAGAR

II PUC Mock Paper -I

Subject : Biology (36)

Duration: 3 hrs 15 minutes

Max. Marks: 70

GENERAL INSTRUCTIONS:

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

Part-A

Answer the following questions in *one* word or *one* sentence each:

10x1=10

1. What is MTP?
2. What is oestrous cycle?
3. State the significance of fossil study in evolution.
4. Name the test used to diagnose Typhoid.
5. State the 10% law.
6. Write the scientific name of fruit fly.
7. Nellakuranji has a special significance among flowering plants. Justify this statement.
8. Define standing crop.
9. How does Euchromatin differ from heterochromatin?
10. Columbia has about 1400 species of birds whereas as Greenland has only 56 species. Why?

Part-B

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

5x2=10

11. What is Pedigree analysis? Write its significance.
12. Draw a neat labelled diagram of Monocot (grass) embryo.
13. Write 2 essential roles of ribosomes during translation.
14. Differentiate between humoral and cell mediated immunity.
15. What is a) Jhum Cultivation b) Reforestation
16. What are homologous and analogous organs? Give example.
17. Plants that are xenogamous show superior varieties of offspring. Justify this statement.
18. A population is influenced by certain factors. What are they?

Part-C

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

5x3=15

19. Explain sex determination in honey bee.
20. a) What is RNAi? b) Briefly explain the technique. (1+2)
21. Differentiate between asexual and sexual reproduction.
22. Explain post transcriptional changes in Eukaryotes.
23. Why should we conserve biodiversity? Explain.
24. What is infertility? How is it treated by ART procedures like GIFT and ICSI?
25. Write a short note on exponential growth in population.
26. What is Adaptive radiation? Explain with respect to Darwin finches and marsupials of Australia.

Part- D
Section-I

Answer any FOUR of the following questions in 200-300 words each, wherever applicable: 4x5=20

27. a) What is DNA fingerprinting? Mention its application.
b) List the steps involved in DNA fingerprinting technique. (2+3)
28. a) Explain Biomagnification with the help of an example.
b) Draw a neat labelled diagram of electrostatic precipitator. (3+2)
29. Write the genotype and mention 2 symptoms of
a) Down's syndrome
b) Turner's syndrome (2 ½ +2 ½)
30. Explain the structure of T.S of mammalian ovary with neat labelled diagram.

OR

Explain the structure of Megasporangium with a neat labelled diagram.

31. What are the benefits derived by using transgenic animals? Explain.
32. a) Name the major reservoir of carbon on earth.
b) Expand PAR
c) Write a short note on ecosystem services. (1+1+3)

Section-II

Answer any THREE of the following questions in 200-250 words each, wherever applicable:3x5=15

33. Describe the stages in the life cycle of Plasmodium with a schematic representation.

Or

Write short notes on

- a) Bee keeping
b) Dairy farm management (2.5+2.5)
34. Explain the following interactions in organisms using 2 examples each
a) Competition
b) Mutualism (2.5+2.5)
35. Explain the DNA structure with neat labelled diagram.
36. a) Define the following
(I) ECosan
(II) Catalytic Convertor
b) Mention and explain any 3 abiotic factors which affect the distribution of organisms. (2+3)
37. a) Draw a neat labelled diagram of germinated pollen.
b) Explain the 2 methods of sterilization in humans.
c) What are the components of semen? (2+2+1)
