JAIN COLLEGE

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

SUBJECT: BIOLOGY

II PUC
MOCK - I

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. Define oestrus cycle.
2. Name the most commonly used natural vector for cloning genes in plants.
3. What is vegetative propagation?
4. Why are eukaryotic genes called 'split genes'?
5. In which food chain does dead organic matter occupy the base?
6. What are meiocytes?
7. Name the pathogen that causes amoebiasis.
8. Mention the significance of gel-electrophoresis in genetic engineering.
9. What is drug addiction?
10. Why is primitive earth's condition 'reducing'?

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

11. What is plant breeding? Mention its objectives.
12. Why are diverse ecosystems more productive?
13. Distinguish between innate and acquired immunity.
14. What are false fruits? Give examples.
15. What are analogous hormones? Give examples.
16. Define:
    a. Food web
    b. Secondary productivity
17. What is adaptive radiation? Give an example.

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

18. What is test cross? Explain with respect to monohybrid cross.
19. Define contraceptive? Mention any two important quantities of a good contraceptive.
20. Expand GMO. Write any four uses of it.
21. Differentiate out-crossing, cross breeding and interspecific hybridisation.
22. Write a note on *Cry* proteins. Give two examples of genetically modified Bt-crops.

23. Give reasons:
    a. AB blood group of man shows co-dominance.
    b. Pyramid of energy is always upright.
    c. t RNA is known as adapter molecule.
24. Answer:
    a. What are hermaphrodites? Mention one example [2]
    b. Offspring of asexual reproduction are called clones. Why? [1]

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

25. With a neat labelled diagram describe the structure of human sperm.
26. Describe the process of translation.
27. Give an account of applications of biotechnology in agriculture.
28. What is operon? Describe how lac operon is switched on and off with a schematic representation.
29. Define breed. Describe different methods of animal breeding and mention their significance.
30. (a) State Mendel's law of independent assortment [1]
    (b) Define: {i} Gene pool {ii} homozygous condition {iii} Parturition {iv} Saltation

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

31. With a neat labelled diagram explain the structure of T.S. of a mature anther.
32. What is DNA fingerprinting? Describe the steps involved.
33. Describe Stanley Miller's experiment with a neat labelled diagram and mention its significance.
34. (a) What is organic farming? [1]
    (b) Mention the major sources of bio fertilizers [2]
    (c) What is bio control? Give any two examples [2]
35. (a) What is AIDS? [1]
    (b) Mention any four methods of transmission of AIDS [2]
    (c) Name the immune cells that are susceptible to HIV attack [2]

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