Jain College, Jayanagar
II PUC Mock Paper - II
Subject: BIOLOGY

Duration: 3 Hrs 15 mins **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 o*ne* word or *one* sentence each: 10x1=10

1. What is Allen's rule?
2. What is histone octamer?
3. What is syncarpous condition?
4. Mention the chemical present in Heroin.
5. What is polygenic inheritance ?
6. Name a plant species that flower only once in their lifetime.
7. Mention any two genes of Bt cotton that has information for Bt toxin.
8. Give two examples of carcinogens.
9. What is the scientific name of fruit fly?
10. What is glans penis?

Part-B

Answer any FIVE of the following questions in 3-5 sentences each, wherever applicable: 5x2=10

11. a. Mention the cells involved in Humoral immunity
    b. What is autoimmune disease?
12. a.Write the location of the female gametophyte
    b.Where do vas efferentia open into?
13. Compare the behavior of chromosomes and genes
14. Name the aminoacid that gives positive charge to histones
15. Draw a neat labelled diagram of binary fission in amoeba.
16. a. How are retroviruses useful in genetic engineering?
    b. What is RNAi?
17. Draw a neat labelledsketchof a biogas plant.
18. What is a sere? How is hydrarch and xerarch succession different from each other?

Part-C

Answer any FIVE of the following questions in 40-80 words each, wherever applicable: 5x3=15

19. a. How are pollengrains stored for years?
    b. What is zonapellucida?
    c. Name the 'once a week 'pill.
20. Explain Neselson and Stahl s experiment. What does is prove?
21. Draw a neat labeled diagram of sectional view of mammary gland.
22. a. Differentiate between standing state and standing crop.
    b. Differentiate between regulators and conformers
    c. What is polyblend? (1+1+1)
23. Describe briefly the various steps in dairy farm management.
24. a. Define embryogenesis.
    b .Differentiate between spermiogenesis and spermiation.
25. How can a host be made competent for transformation of rDNA?
26. Give an example of endoparasite. Comment on various adaptations of a parasite.

Part- D

Section-I

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

27. Draw a neat labelled diagram of T.S ofa young anther and explain the same
28. What is lac operon?With a diagram describe how is lac operon switched on and switched off
29. a. Define endemism.
    b. Expand PAR.
    c. How does the prey adapt itself?
    List out the adaptations in plants and animals
30. a. Explain the process of Artifical insemination in controlled Animal breeding experiment.
    b. What is green revolution?
    c. How is Pusakomal cowpea a better breed than a normal hybrid?
    (3+1+1)
31. What is foetal ejection reflex? Explain the mechanism of parturition with the help of foetal ejection reflex.
32. Explain and draw a neat labelled diagram of HIV replication.

Section-II

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

33. By using Punnet square and schematic representation,explaindihybrid cross experiment conducted by Mendel using seed colour and seed shape of pea as characters.
34. a. Describe the process of isolation of DNA from organism in rDNA technology.
    b. Describe the process of amplification of gene of interest (2+3)
35. Draw the diagrammatic representation of various events during a menstrual cycle
36. Explain the various attributes of a population
37. Draw a neat labelled diagram of human male reproductive system.

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