JAIN COLLEGE, J C Road Bangalore
Mock Paper -1, February - 2015

Time: 3 Hours 15 Minutes **II PUC– Biology (36)** **Max. Marks: 70**

I. Answer all the questions in one word or one sentence each. **1 X 10 =10**

1. Define gene frequency.
2. State law of Independent Assortment.
3. Define Passive Immunity.
4. What is capacitation?
5. Give the scientific name of the pathogen causing Filariasis.
6. Define key stone species with an example.
7. Define safe period.
8. What are ozone holes?
9. Mention the cause of Sickle Cell Anemia.
10. What are Monoclonal Antibodies?

II. Answer any FIVE of the following: **5 X 2 = 10**

11. Explain the significance of restriction enzymes in Biotechnology.
12. Diagrammatically represent Lac Operon concept in switched off mode.
13. With an example explain the importance of natural selection in evolution.
14. Explain the mechanism of sex determination in man.
15. Define SCP with an example.
16. Write notes on Phagocytosis.
17. Enumerate control measures of Global Warming.
18. Explain the mechanism of double fertilization.

III. Answer any FIVE of the following: **5 X 3 = 15**

19. Enumerate any six salient features of Human Genome project.
20. Give an account of eutrophication.
21. Explain endemism with examples.
22. Give an account of superovulation.
23. Give an account of rhizobial biofertilizers.
24. Explain toxoids with examples.
25. Distinguish between primary and secondary constriction.
26. Explain Erythroblastosis foetalis.

IV. Answer any FOUR of the following: **4 X 5 = 20**

27. Give an account of the Human foetal membranes.
28. Give an account of Bioreactors.
29. What is criss-cross inheritance, explain with an example.
30. Explain in detail the classification of Cancer with their characterisitic features.
31. Give any six differences between Spermatogenesis and Oogenesis.
32. With a help of a neat labeled diagram describe Stanely Miller's experiment.

V. Answer any THREE of the following: **3 X 5 = 15**

33. Give any four differences between Self pollination and Cross pollination with examples.
34. Write notes on a) Apiculture and its importance in our lives.
    b) Role of fishery in enhancement of food production.
35. Draw a neat labeled diagram of a mature anther and describe.
36. Explain the process of primary and secondary treatment of sewage.
37. Discuss Biopiracy with special reference to patenting of life forms.

JAIN COLLEGE, J C Road Bangalore
Mock Paper -2, February - 2015

Time: 3 Hours 15 Minutes **II PUC– Biology (36)** **Max. Marks: 70**

I. Answer all the questions in one word or one sentence each. 1 X 10 = 10

1. Define the term polyembryony.
2. Expand MTP?
3. What is co-dominance?
4. What are Coacervates?
5. What is hybrid vigour?
6. Name any two genetically modified food species.
7. What is commensalism?
8. What is biomagnification?
9. Name the juvenile of filarial worm.
10. What is Benthic region?

II. Answer any FIVE of the following: 5 X 2 = 10

11. Distinguish between homologous and analogous organs.
12. Write notes on Nitrogen fixing bacteria.
13. Explain the distinctive features of pUC18.
14. Explain the zones of biosphere reserves.
15. Sketch and label blastocyst.
16. List the infertility defects in human males.
17. Draw a neat labeled diagram of clover leaf model.
18. Briefly explain preventive measure of Typhoid.

III. Answer any FIVE of the following: 5 X 3 = 15

19. Distinguish between antigens and antibodies.
20. Give an account of Cannabis and LSD along with their health hazards.
21. Explain Osmoregulation in fresh water fishes.
22. Explain saprophytic food chain in a Mangroove habitat.
23. Discuss the various methods of solid waste management.
24. Tall is dominant over Short, tall plant is crossed with a short plant of the resulting offsprings, 50% are tall and 50% are short, what are the genotypes of the parents. Explain the cross.
25. Explain the terms: a)Stock plant and b)Scion.
26. Draw a schematic diagram of phosphorous cycle.

IV. Answer any FOUR of the following: 4 X 5 = 20

27. Explain DNA finger printing by southern blotting technique.
28. Discuss the role of B and T lymphocytes in immune response.
29. With the help of neat labelled diagram explain the structure of Monocot seed.
30. Explain Down's syndrome, its causes and symptoms.

31. Describe the mechanism of semiconservative mode of replication.
32. Name the five key tools for accomplishing the tasks of recombinant DNA technology. Also mention function of each tool.

V. Answer any THREE of the following: 3 X 5 = 15

33. Draw a neat labeled diagram of Graafian follicle and explain the structure of the same.
34. Explain the phenomenon of linkage and crossing over with suitable example.
35. Mention the modes of asexual reproduction in the following:
    a. Rhizopus
    b. Potato
    c. Bryophyllum
    d. Rose.
    e. Onion
36. Give an account of ill effects of chronic alcoholism.
37. Give an account of two in-situ and two ex-situ conservation types of wild life.
