



JAIN COLLEGE, Bangalore
Mock Paper – 1, January - 2019
II PUC – Biology (36)

Time: 3 Hours 15 Minutes

Max. Marks: 70

- I. Answer the following questions in one word or one sentence each: 10 × 1 = 10**
1. What is allergy?
 2. Plant cells are totipotent. Why?
 3. What is Genepool?
 4. Name the cells that secrete androgens.
 5. Name the causative organism of common cold?
 6. What is Mutualism?
 7. What is reforestation?
 8. What is polyembryony?
 9. What is partheno genesis?
 10. What is azoospermia?
- II. Answer any five of the following questions in about 3-5 sentences each: 5 × 2 = 10**
11. What is germinal cell gene therapy? Give an example.
 12. Draw a neat labeled diagram of plasmid P^{BR}₃₂₂.
 13. Differentiate between Gametogenesis and Embryogenesis?
 14. Darwin's finches represent one of the best examples for adaptive radiation comment.
 15. Draw a neat labeled diagram of an antibody molecule.
 16. Write a note on Predation.
 17. What are hotspots? Give two examples.
 18. Differentiate between inbreeding and out breeding.
- III. Answer any five of the following questions in about 40-80 words each : 5 × 3 = 15**
19. a) What are hermaphrodites? Mention one example.
b) Off springs of asexual reproduction are called clones. Why?
 20. Draw the schematic representation of phosphorous cycle.
 21. Briefly explain the structure of pollengrain?
 22. List the period, brain capacity and probable food of the Homo erectus stage in the human evolution.
 23. Mention the causes and effects of Phenylketonuria.
 24. a) Draw an ideal pyramid of energy and mention the units.
b) What is an ecological succession?
 25. Enumerate the differences between B & T – lymphocytes.
 26. Explain the following terms:
(a) Stenothermal organisms (b) Eury halines (c) sex ratio
- IV Answer any four of the following questions in 200-250 words each: 4x5=20**
27. Draw a neat labeled diagram of diagrammatic view of male reproductive system.
 28. Describe the outbreeding devices that prevents autogamy?
 29. List the salient features of human genome project?
 30. List the benefits of transgenic animals.?
 31. Mention the steps in DNA finger printing?
 32. Explain the structure of T.S of anther with a neat labeled diagram.

V Answer any three of the following in about 200-250 words each: 5× 5 = 15

33. Describe the Evil quartet responsible for the loss of biodiversity..
34. Explain the development of Dicot embryo with diagrams.
35. Explain Stanley Millers experiment with a neat labeled diagram?
36. Explain Mendel's dihybrid experiment on pea plants having yellow round seeds & green wrinkled seeds? [yellow and round are dominant characters].
37. a) Explain Electrostatic precipitator with a neat labeled diagram.
b) Write a note on catalytic converter.



JAIN COLLEGE, Bangalore
Mock Paper – 2, January - 2019
II PUC – Biology (36)

Time: 3 Hours 15 Minutes

Max. Marks: 70

- I. Answer the following questions in one word or one sentence each: 10 × 1 = 10**
1. How does repressor prevent the transcription of structural genes?
 2. State Gause's competitive exclusion principle.
 3. Name the symbiotic association of fungi with the roots of higher plants.
 4. Why a pathogen *Agrobacterium tumefaciens* is generally used as a vector in plants for cloning?
 5. Name the hormone that induces rupturing of Graafian follicle.
 6. Name the pathogen that causes Amoebiasis.
 7. What are flocs?
 8. Name the chemicals secreted by mast cells during allergic conditions.
 9. Define climax community.
 10. Who proposed chromosomal theory of Inheritance?
- II. Answer any five of the following questions in about 3-5 sentences each. 5 × 2 = 10**
11. What are multiple alleles? Why the alleles I^A and I^B for blood group are considered co dominant?
 12. Mention the function of RNA polymerase I and RNA Polymerase II in eukaryotes.
 13. What is Xenogamy? Mention its importance.
 14. What are the focal points of Big Bang theory?
 15. Name any two species which have become extinct due to overexploitation.
 16. India is rich in genetic diversity. Justify this statement by giving two examples.
 17. Write short notes on Bio fortification.
 18. Distinguish between seasonal breeders & continuous breeders.
- III. Answer any five of the following questions in about 40-80 words each. 5 × 3 = 15**
19. Distinguish active and passive immunity with a suitable example.
 20. Define apiculture. Mention any two benefits and any two factors to be considered for a successful Bee Keeping.
 21. Write a note on down stream processing.
 22. Name the following:
 - a. Asexual reproductive structure of Hydra
 - b. Vegetative propagation of Agave
 - c. Plant that flowers once in twelve years
 23. a. India is said to have greater biodiversity than Norway. Justify.
b. What is resource partitioning? Describe with an example.
 24. What is biopsy test? Mention any two techniques of cancer detection and diagnosis..
 25. Write a short note on brood parasitism.
 26. Explain why we should conserve biodiversity.
- IV. Answer any four of the following questions in 200-250 words each, 4 × 5 = 20**
27. Explain the structure of human sperm with a neat labelled diagram.
 28. a. What is test cross? Mention its significance. b. Write short notes on Down's syndrome.

29. Define breed. Describe the different methods of Animal breeding and mention their significance.
30. Define homeostasis. Describe how animals cope with temporary stressful conditions in their environment?
31. What is Griffith's transforming principle? Explain Griffith experiments on *Streptococcus pneumoniae* while searching for genetic material. How did Avery, Macleod and Mc Carty prove the biochemical nature of transforming principle?
32. Describe the role of microbes in the production of Industrial products.

V. Answer any three of the following in about 200-250 words each

3 × 5 = 15

33. Draw the diagram of the sectional view of the female reproductive system in Human.
34. Define predation. Mention its significance in Ecosystem and add a note on defense mechanisms developed by plant and animal prey against their predators.
35. Explain the structure of typical biogas plant with a diagram.
36.
 - a. Explain how Mediterranean orchid adapted to achieve pollination?
 - b. What is commensalism? Mention an example.
 - c. Why plant animal interaction often involve co-evolution of mutualists?
37. Define fishery. Mention any two fresh water and marine water food fishes and add a note on economic importance of fishery.
