

MODEL QUESTION PAPER -1
FOR REDUCED SYLLABUS 2020-21
2ND YEAR P U C BIOLOGY (36)

TIME: 3hours 15minutes

MaxMarks:70

GENERAL INSTRUCTIONS;

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

PART-A

Answer the following questions in one word or in one sentence each: 10x1=10

1. What is the function of tapetum?
2. Define spermiation.
3. MTPs are legally restricted in our country. Justify by giving reason.
4. Name any one autosomal recessive disorder.
5. Which RNA is also called adapter molecule?
6. Cancer patients are treated with α -interferon. Give reason.
7. Name the pathogenic virus which is used as biocontrol agent.
8. What is *RNAi* (RNA interference)?
9. Write the equation for representing logistic growth.
10. State the result of David Tilman's long term ecosystem experiment.

PART-B

Answer any five of the following questions in 3 to 5 sentences each, wherever applicable 5x2=10

11. Differentiate perisperm and pericarp.
12. List the hormones produced in women only during pregnancy.
13. What is hibernation? Give an example.
14. Write one advantage and one disadvantage of external fertilization.
15. Write a note on the pollination mechanism in *Vallisneria*.
16. Write the scientific name of organisms causing
 - i) Pneumonia ii) Ring worm
17. Name any two bacteria used as Biofertilizers.
18. Mention the reasons for infertility.

PART-C

Answer any five of the following questions in about 40 to 80 words each, wherever applicable: 5x3=15

19. Answer the following:
 - i) Compare Geitonogamy with Xenogamy. (2)
 - ii) What are Chasmogamous flowers? (1)
20. Mention the different blood groups in humans and their possible genotypes having "i" allele.
21. List the accessory glands associated with male reproductive system.
22. "To a user, the contraceptives must be ideal in all aspects". Justify the statement by mentioning the qualities of an ideal contraceptive.
23. Differentiate active immunity from passive immunity.
24. Answer the following:
 - i) Differentiate between Microinjection and Biolistics. (2)
 - ii) Give an example for disarmed pathogen vector. (1)
25. What is biodiversity? Mention the types of biodiversity.
26. Mention the three regions of transcription unit in DNA.

PART-D

SECTION-I

Answer any four of the following questions in about 200 to 250 words each, wherever applicable: 4x5=20

27. Describe the structure of an anatropous ovule with the help of a neat labelled diagram.
28. Sketch and label a sectional view of female reproductive system.
29. Describe Hershey-Chase experiment.
30. "For hereditary diseases, gene therapy is considered as the corrective therapy". Justify by explaining gene therapy for Adenosine deaminase (ADA) deficiency.
31. Mention the cause and features of Down's syndrome.

32. Name the population interactions involved in the following examples:

- i) Animals eating on plants
- ii) Visiting flamingoes and resident fishes of a lake
- iii) Human liverfluke and snail
- vi) Orchid growing on a mango tree
- v) Flower and its pollinating insect

SECTION-II

Answer any *three* of the following questions in about 200 to 250 words each, wherever applicable: 3x5=15

33. Explain incomplete dominance with suitable example.

34. "In rDNA technology, unless the desired DNA is separated and isolated, it cannot be introduced into a vector".

How separation is achieved using gel electrophoresis?

35. Explain the stages of life cycle of *Plasmodium*.

36. Describe the structure of Nucleosome with the help of neat labelled diagram.

37. Mention the source and function each for the following:

- i) Penicillin
- ii) Streptokinase
- iii) Cyclosporin A
- iv) Statins
- v) Lactic acid

