

MODEL QUESTION PAPER - 2
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. Define ovulation.
2. What is polyembryony?
3. What is emasculation?
4. Why the amniocentesis is banned?
5. Define polygenic inheritance.
6. What is linkage?
7. Which chromosome of humans has the most number of genes?
8. Name the type of antibody produced during allergy.
9. What are genetically modified organisms?
10. Mammals from colder climate have shorter ears and limbs. Why?

PART-B

Answer any FIVE of the following questions in 3 to 5 sentences each, wherever applicable:

5x2=10

11. Differentiate between staminate flowers and pistillate flowers.
12. Mention the accessory ducts of male reproductive system.
13. List any two principles to be followed to prevent sexually transmitted infections.
14. Write the karyotype of Down's syndrome and Klinefelter's syndrome.
15. How anaerobic bacteria are beneficial in secondary sewage treatment?
16. Which are the four basic processes that can fluctuate the density of population in a given habitat?
17. What is sacred groove? Give an example.
18. "Alien species invasion leads to extinction of indigenous species". Justify the statement with two examples.

PART-C

Answer any FIVE of the following questions in about 40 to 80 words each, wherever applicable:

5x3=15

19. Draw a neat labelled diagram of monocot embryo.
20. Write the characteristic features of insect pollinated flowers.
21. What is parturition? Briefly explain the process of parturition.
22. How can conception be prevented without the usage of contraceptives?
23. "DNA polymorphism is a very useful identification tool in forensic applications". Mention the steps involved in identification of polymorphism using DNA fingerprinting technique.
24. With reference to malaria answer the following: i) Name of the pathogen and vector ii) symptoms.
25. List out any three types of innate barriers of defence with an example for each.
26. Draw a neat labelled diagram of simple stirred tank bioreactor.

PART-D

SECTION-I

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

27. Draw a neat labelled diagram of mature embryo sac of angiosperms.
28. Explain Mendel's experiment of 'Inheritance of one gene' with reference to height in pea plants.
29. Draw a neat labelled diagram of sectional view of mammary gland.
30. List the salient features of Human genome.
31. Explain the regulation of Lac-operon in the absence and presence of Lactose in the medium.
32. i) What are the methods to introduce alien DNA into host cells? (3)
ii) Write any three tools used in recombinant DNA technology. (2)

SECTION-II

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

33. i) Where are the Opioid receptors located in Human body? (2)
ii) Mention the techniques involved in cancer detection and diagnosis. (3)
 34. Explain briefly the uses of transgenic animals.
 35. i) Mention the possible genotypes of Blood groups A and B. (2)
ii) Explain briefly the sex-determination in Honey bees. (3)
 36. Discuss the role of Microbes as biofertilizers.
 37. What is commensalism? Mention any four interactions of organisms that represent commensalism.
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