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| Subject | Topic | Practice Paper - 2 | Date |
| Biology | Complete Syllabus | PU - 12 - B | 2017 |

Max. Marks: 70

Duration: 3hrs 15 mins

General Instructions:

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

Part – A

Answer the following questions in ONE Word or ONE Sentence each.

10 x 1 = 10

1. How does the white kernel and coconut water differ in coconut fruit?
2. What is spermiation?
3. Name the finger shaped projections of fallopian tube.
4. Give a reason for phenylketonuria
5. Mention genotypic ratio of one gene inheritance.
6. Evolution can also occur by anthropogenic action. Give an example for this.
7. Name a chemical produced by the yeast *Monascus purpureus* used as blood cholesterol lowering agents.
8. Name the stain used in gel-electrophoresis.
9. What is secondary productivity?
10. Write an example for alien species.

Part – B

Answer any FIVE of the following questions in 3 - 5 sentences each

5 x 2 = 10

11. The cell division involved in gamete formation is not of the same type in different organisms. Justify.
12. Draw a labelled diagram of mature female gametophyte of flowering plants.
13. Differentiate between the terms Polycistronic & Monocistronic.
14. What are cannabinoids? Give two examples.
15. Mycorrhiza is a fungus symbiotically associated with root of few plants. List any two benefits for plants from Mycorrhiza.
16. Mention the function of Ti plasmid. Name the source organism from which it is isolated.
17. Mention the 'evil quartet' of biodiversity losses.
18. Mention any two effects of ozone depletion on humans.

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Part – C

Answer any FIVE of the following questions in 40 - 80 words each.

5 x 3 = 15

19. Name the following:
 - (a) The organism in which cell division itself is a mode of reproduction
 - (b) The type of female reproduction cycle in non-primate mammals
 - (c) The plant that flowers only once in its life time.
20. Mention the function of RNA polymerase I, II & III.
21. Write note on Haemophilia
22. Write the steps involved in MOET.
23. Describe any three examples for biological control of pest and disease.
24. What are cry genes? Mention the types and the specific insects they kill.
25. What is In situ and Ex situ conservation? Give an example for each
26. Explain how does a primary succession start on a bare rock and reach climax community.

Part – D (i)

Answer any FOUR of the following questions in 200 - 250 words each.

4 x 5 = 20

27. (a) Differentiate between microsporogenesis and megasporogenesis in flowering plants. [3]
- (b) Write a note on viability of pollen grains. [2]
28. Explain the process of oogenesis with the help of schematic representation.
29. Explain briefly any five assisted reproductive technologies to overcome infertility problems.
30. (a) Explain incomplete dominance with the example of flower colour of snapdragon plant. [4]
- (b) Mention the significance of test cross. [1]
31. Mention the salient features of HGP.
32. (a) State Hardy Weinberg principle. [2]
- (b) Explain adaptive radiation with an example. [3]

Part – D (ii)

Answer any THREE of the following questions in 200 - 250 words each.

3 x 5 = 15

33. (a) Explain how different techniques helps in cancer detection and diagnosis [4]
- (b) How does smoking causes oxygen deficiency in the body? [1]

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34. (a) Give any three examples of plants whose productivity is improved through biofortification. [3]
- (b) Name any two fungal and viral diseases in plants. [2]
35. Expand PCR? Describe the different steps involved in this technique.
36. Differentiate between the following inter-specific interactions in a population with suitable examples:
- (i) Mutualism and Competition
 - (ii) Commensalism and Parasitism
37. Draw a neat labelled diagram of electrostatic precipitator and explain. Mention the importance of electrostatic precipitator.