

## QUESTION PAPER (TERM - II) (2022-23)

CLASS - +2

SUBJECT - BIOLOGY

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Time : 3 hours

M.M. : 50

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- Candidates are required to give their answers in their own words as far as possible.
- Marks allotted to each question are indicated against it.

### Special Instructions :

- While answering your questions, you must indicate on your answer book. The same question no, as it appears on your question paper.
- Do not leave blank page/pages in your answer book.
- All questions are compulsory. Internal choice is given in some questions.
- There are two sections in question paper : Section-A and Section B.
- Section A consists of 20 questions of 1 mark each MCQ, Assertion and Reason, Match the column type.
- Section B consists of 11 questions i.e. Q. No. 21 to Q.No.31

- Question nos. 21 to 27 are of 2 marks each. Answer each of them in 30–40 words.
- Question nos. 28 to 29 are of 3 marks each. Answer each of them in 80–90 words.
- Question nos. 30 to 31 are of 5 marks each. Answer each of them in 150–180 words.
- Draw neat and well labelled diagrams wherever necessary.

### Section-A

- Rheumatoid arthritis is caused when.
  - Lymphocytes become more active
  - Body attacks self cells
  - More antibiotics are produced in the body
  - The ability to differentiate pathogens of Foreign molecules from self cells is lost 1
- Opium is obtained from which part of white poppy plant?
  - Leaves
  - Roots
  - Stems
  - Unripe capsules 1
- The tumors that remain confined to their original location and do not spread to other parts of the body and cause little damage are called. 1

- (a) Malignant tumors (b) Metastatic tumors  
(c) Benign tumors (d) Cancerous tumors
4. Which of the following is a fungal disease?  
(a) Ascariasis (b) Malaria  
(c) Gonorrhoea (d) Ringworm 1
5. Besides converting milk into curd, the lactic acid bacteria, also improves its nutritional quality by increasing. 1  
(a) Vit A (b) Vit C  
(c) Vit B<sub>12</sub> (d) Vit E
6. Which of the following mixture of gases represents biogas?  
(a) Methane, Hydrogen sulphide and carbon dioxide  
(b) Methane, Hydrogen sulphide and carbon monoxide  
(c) Methane, Hydrogen disulphide and carbon dioxide  
(d) Methane, Hydrogen sulphide and Nitrogen oxide 1
7. Select the correct group of biocontrol agents.  
(a) Nostoc, Azospirillum, Nucleopolyhedrovirus  
(b) Bacillus thuringensis, Tobacco mosaic virus, Aphids

- (c) Trichoderma, Baculovirus, Bacillus thuringiensis  
(d) Oscillatoria, Rhizobium, Trichoderma 1

8. Match the following :

- | Column I                | Column II                    |
|-------------------------|------------------------------|
| (a) Genetic engineering | Cloning vector               |
| (b) Vehicle DNA         | Vector less gene transfer    |
| (c) Electroporation     | Restriction endonuclease     |
| (d) Sticky ends         | Recombinant DNA technology 1 |

- (a) 1 (b), 2 (a), 3 (c), 4 (d)  
(b) 1 (d), 2 (b), 3 (a), 4 (c)  
(c) 1 (d), 2 (a), 3 (b), 4 (c)  
(d) 1 (a), 2 (b), 3 (c), 4 (d)

9. The cut fragments of DNA can be separated by. 1  
(a) Chromatography  
(b) Spectrophotometry  
(c) Gel electrophoresis  
(d) X-ray diffraction

10. Eli Lilly company launched genetically modified human insulin in. 1  
(a) 1963 (b) 1982  
(c) 1983 (d) 1993
11. The first clinical gene therapy was given for which genetic disorder? 1  
(a) Diabetes (b) ADA deficiency  
(c) Down's syndrome (d) Muscular dystrophy
12. Hibernation and aestivation are commonly seen in. 1  
(a) Homeotherms (b) Poikilotherms  
(c) Both (a) and (b) (d) Neither (a) nor (b)
13. Cuscuta is an example of. 1  
(a) Endoparasitism (b) Brood parasitism  
(c) Ectoparasitism (d) Predation
14. Lichens represent a mutualistic relationship between. 1  
(a) A fungus and eubryophyte  
(b) An alga and a fungus  
(c) Roots and a fungus  
(d) An alga and a pteridophyte

15. During biotic succession, the first community to inhabit an area is called. 1  
(a) Climax community  
(b) Transition community  
(c) Pioneer community  
(d) Seral community
16. Which of the following is a characteristic of food web? 1  
(a) It is formed by interlinking of food chain  
(b) It provides alternative pathways of food availability.  
(c) It provides less stability to the ecosystem.  
(d) Both (a) and (b)
17. Corbett National park is located in. 1  
(a) Punjab (b) Uttaranchal  
(c) Haryana (d) Himachal Pradesh
18. The number of terrestrial biodiversity hot spots throughout the world is. 1  
(a) 20 (b) 24  
(c) 30 (d) 25

Directions for Q. No. 18 and 19

The following questions consist of two statements:

Assertion (A) and Reason (R). To answer these questions, mark the correct alternative as directed below :

- (a) If both A and R are true and R is the correct explanation of A.
- (b) If both A and R are true and R is the correct explanation of A.
- (c) If A is true but R is false
- (d) If both A and R are false

19. Assertion: Domesticated plants and animals are not included in wild life.

Reason : They flourish only under human care

- (a) (b)
- (c) (d) 1

20. Assertion: Many hydrophytes lack roots.

Reason : Roots are used for balancing

- (a) (b)
- (c) (d) 1

### Section-B

21. What is the key difference between primary and secondary sewage treatment? 2

22. What are cry proteins? Name the organism that produce it. How has man exploited this protein to his benefit? 2

23. What is PCR? Who developed this technique? Write the names of various steps of this technique. 2

Or

What is particle bombardment gun method? Who developed this technique? What is its function in Biotechnology? 2

24. Differentiate between Regulators and Conformers. 2

25. Write a short note on adaptations of desert plants and animals. 2

26. What are the major causes of species losses in a geographical region? 2

Or

What is the significance of the slope of regression in a species area relationship? 2

27. Briefly explain the following :

- (a) Biological magnification
- (b) Eutrophication 1+1

28. What are the advantages and disadvantages of genetic modified crops. 3

Or

(a) How does RNA interference help in developing resistance in Tobacco plant against nematode infection.

(b) Define biopiracy 2+1

29. (a) The ozone layer is present in which layer of atmosphere. Name the units which thickness of ozone layer is measured.

(b) What is Jhum cultivation? What are its disadvantages? 1½+1½

30. (a) What is anaphylactic shock?

(b) Name the causative agent of Filariasis. Why the diseases is also called elephantiasis.

(c) Expand the following abbreviations.

(i) MALT                      (ii) NACO

(iii) AIDS                    (iv) GEAC

$1\frac{1}{2}+1\frac{1}{2}=2$

31. Define ecological pyramids and describe with examples, pyramids of number and biomass. 5

Or

(a) Distinguish between hydrarch sucession and xerarch succession.

(b) Draw carbon cycle in nature

(c) Give an account of energy flow in an ecosystem. 1+2+2

**PAPER PATTERN AND SYLLABUS (TERM -II)**

**CLASS - +2**

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**M.M. : 50**

Unit/Chapter no. and name	No. of Question/marks				Total marks Chapter-wise
	One mark Questions (MCQ)	Two marks Questions	Three marks Questions	Five marks Questions	
<b>Unit VIII : Biology in Human Welfare</b>					
8. Human health and diseases	4	-	-	1	09
10. Microbes in Human welfare	3	1	-	-	05
<b>Unit IX : Biotechnology</b>					
11. Biotechnology : Principles and Processes	2	2/Int. Choice	-	-	06

12. Biotechnology : and its applications	2	-	1/Int. Choice	-	05
<b>Unit X : Ecology</b>					
13. Orgaisms and Population	4	2	-	-	08
14. Ecosystem	2	-	-	1/Int. Choice	07
15. Biodiversity and Conservation	3	1/Int. Choice	-	-	05
16. Environmental Issues	-	1	1-	-	05
<b>Total Questions</b>	<b>20</b>	<b>07</b>	<b>02</b>	<b>02</b>	<b>50</b>
<b>(Each category)</b>	<b>Total Questions = 31</b>				<b>(Total Marks)</b>