

QUESTION PAPERS

2024

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Series–A

Roll No....

Total No. of Questions–30] [Total No. of Printed Pages–11

A–856–A–XII–2324

BIOLOGY

(Theory)

Time Allowed—3 Hours Maximum Marks—60

Candidates are required to give their answers in their own words as far as practicable.

Marks allotted to each question are indicated against it.

Special Instructions :

(i) You must write Question Paper Series in the circle at top left side of title page of your Answer-book.

(ii) While answering your Questions, you must indicate on your Answer-book the same Question No. as appears in your Question Paper.

(iii) Do not leave blank page/pages in your Answer-book.

(iv) All questions are compulsory and divided into four sections.

(v) Internal choices are given in some questions.

(vi) Answers should be brief and to the point.

(vii) Section–A contains 12 questions of 1 mark each (MCQ, Assertion and Reason, Match the column type).

(viii) Section–B Question Nos. 13 to 22 are of 2 marks each.

(ix) Section–C Question Nos. 23 to 28 are of 3 marks each.

(x) Section–D Question Nos. 29 and 30 are of 5 marks each.

(xi) Draw neat, clean and well labelled diagram wherever required.

SECTION–A

1 Offsets are Produced by : 1

(a) Parthenocarpy (b) Meiotic division

(c) Partham genesis (d) Mitotic division.

2. Beginning of first Menstruation is called : 1

(a) Menarche (b) Capacitation

(c) Menopause (d) None of these.

3. The Father of experimental genetics is : 1

(a) G.J. Mendel (b) Sir Archibald

(c) Bateson (d) T.H. Morgan.

4. The possible Genotypes of Blood Group 'A' in Heterozygous condition : 1

(a) I^Ai (b) I^AI^B

(c) I^AI^A (d) ii.

5. Origin of life was written by : 1

(a) S.L. Miller (b) A.I. Oparin

(c) De Vries (d) Charles Darwin.

6. The Gas present in the early reducing atmosphere was : 1

(a) O_2 (b) N_2

(c) Both (a) & (b) (d) None of these.

7. Confirmatory test for Typhoid is : 1

(a) ELISA (b) Western Blot

(c) Widal Test (d) All the above.

8. Heroin and Opiates are obtained from : 1

(a) Thea

(b) Papaver

(c) Cannabis

(d) Theobroma.

9. Foetal abnormality caused by : 1

(a) Nicotine

(b) Alcohol

(c) LSD

(d) Opium.

10. Ozone layer in upper atmosphere is destroyed by : 1

(a) CFCs

(b) SO_2

(c) O_2 and CO_2

(d) Smog.

11. Prevention and Control of Air pollution was amended in : 1

(a) 1972

(b) 1949

(c) 1981

(d) 1987.

12. Mycorrhizal are an example of : 1

(a) Mutualism

(b) Fungistasis

(c) Amensalism

(d) Antibiosis.

SECTION-B

13. (a) What is Tapetum?

(b) Give its functions. 2

14. What are the Analogous organs? Give an example. 2

15. When a cross is made between Tall plant with yellow seed TtYy and Tall plant with green seed Ttyy. What proportion of phenotype offspring expected? 2

16. (a) What is the Biogas? 2

(b) Give its composition.

17. Differentiate between Innate Immunity and Acquired Immunity.

Or

Differentiate between Active Immunity and Passive Immunity. 2

18. How Bt-cotton plant produced? Explain it. 2

19. Why has the Indian Government set up organisation named as GEAC? 2

20. Differentiate between Predator and Parasite. 2

21. Define the Bioenergetics and 10% law. 2

22. Match the following columns : 2

Column-I	Column-II
(A) *Allen's rule*	(1) Kangaroo rats
(B) *Physiological adaptation*	(2) Desert Lizards
(C) *Behavioural adaptation*	(3) Marine fish at depth
(D) *Biochemical adaptation*	(4) Polar seal

Codes:

	(A)	(B)	(C)	(D)
(a)	(4)	(3)	(2)	(1)
(b)	(4)	(2)	(3)	(1)
(c)	(4)	(1)	(3)	(2)
(d)	(4)	(1)	(2)	(3)

SECTION–C

23. Draw a well labelled diagram of T.S. of Human Testis. 3

24. Why mendel selected pea plant for his breeding experiments?

Or

Enlist seven characters of pea plant studied by Mendel. 3

25. Industrial Melanism is an example of Natural selection. Explain it. 3

26. Name the causative agent of Malaria. Give any two symptoms of Malaria. 3

27. Name and explain Technique used in the separation and isolation of fragments used in DNA recombination technology. 3

28. Define the Pioneer community, Transitional community and Climax community.

Or

What are Trophic levels? Explain diagrammatically the Pyramid of Energy. 3

SECTION–D

29. (a) Briefly describe the process of development of male gametophyte in Angiosperm. 3

(b) Write a short note on MTP. 2

30. (a) What are Cry proteins? Name the organism from where it is obtained. 2

(b) What is Genetically Engineered Insulin? How it is obtained ? Explain. 3

Or

(a) Write a note on down stream processing. 2

(b) Draw a well labelled diagram of Bioreactor. 3