



CBSE SAMPLE QUESTION PAPER IN BIOLOGY

CLASS XII SCIENCE

Time: 3 hrs.

Maximum Marks. 70

General Instructions:

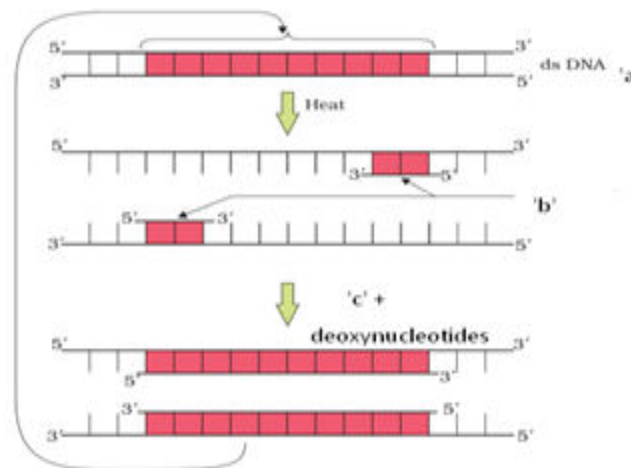
- i) All questions are compulsory.
- ii) This question paper consists of five sections A, B, C, D and E. **Section A** contains 5 questions of **one** mark each; **section B** contains 5 questions of **two** marks each, **section C** contains 12 questions of **three** marks each, **section D** contains 1 question of **four** mark and **section E** contain 3 questions of **five** marks each.
- iii) There is no overall choice. However, an internal choice has been provided in one question of two marks, one question of three marks and all three questions of five marks Weightage. A student has to attempt only one of the alternatives in such questions.
- iv) Wherever necessary, the diagrams drawn should be properly labeled.

SECTION – A

1. In *Pisum sativum*, which is dominant, inflated pod or constricted pod?
2. How do interferons protect us?
3. Name any two vertebrate body parts that are homologous to human forelimbs.
4. What is the programme called that is involved in improving success rate of production of desired hybrid and herd size of cattle?
5. What is the role of the organization GEAC?

SECTION – B

6. Name the vegetative propagule of
 - (a) Ginger
 - (b) Agave
7. List the symptoms exhibited by Turner's syndrome suffer. Explain the cause of this disorder.
8. Name the category of the codons UGA belongs to. Mention another codon of the same category. Explain their role in protein synthesis.
9. State the disadvantage of inbreeding among cattle. How it can be overcome?
10. A schematic representation of polymerase chain reaction (PCR) up to extension stage is given below. Answer the questions that follow:



- a. Name the process 'a' and identify 'b'
- b. Identify 'c' and mention its importance in PCR.

SECTION – C

11. Answer the following question.

- (a) Mention the similarities between autogamy and Geitonogamy.
- (b) How Geitonogamy does differ from xenogamy?

12. Describe two methods by which parental genes may form new combinations.

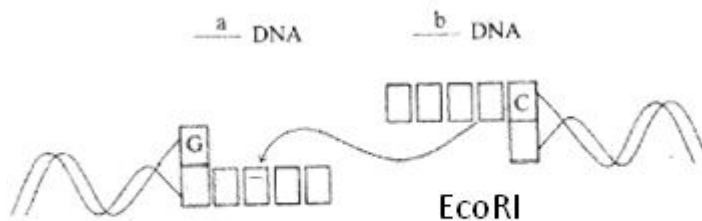
13. Correlate the codons of mRNA strand with amino acids of a polypeptide translated.

5' AUGACCUUUCACUUCGUGUAA 3' – mRNA

Met-Thr-Phe-His-Phe-Val – Translated polypeptide.

Infer any 3 properties of genetic code with examples from the above information.

14. The following illustrates the linking of DNA fragments:



Study the linking of DNA fragments shown above.

- (a) Name 'a' and 'b'.
 - (b) Complete the palindrome which is recognized by EcoRI.
 - (c) Name the enzyme that can link the two DNA fragments.
15. Name the two different categories of microbes naturally occurring in sewage water. Explain their role in cleaning sewage water into usable water.
16. How can crop varieties be made resistant to overcome food crisis in India? Explain. Name one disease resistant variety in India of:
- (a) Wheat to leaf and stripe rust.

- (b) *Brassica* to white rust.
17. How do organisms manage with stressful conditions existing in their habitat for short duration? Explain with the help of one example each.
18. Name the pioneer species of the bare rock. How do they help the establishing the next type of vegetations? Mention the type of climax community that will ultimately get established.
19. Write explanatory notes on the following with respect to the operon concept:
- Repressor
 - Inducer
 - Structural gene
20. Since the origin of life on Earth, there were five episodes of mass extinction of species.
- How is the 'Sixth Extinction', presently in progress, different from the previous episodes?
 - Who is mainly responsible for the 'Sixth Extinction'?
 - What is "Evil Quartet"
21. Answer the following question:
- Expand the CFC.
 - CFCs are a part of green house gases. Name the other gases.
 - Explain the major harms caused by these gases.
22. Answer the following questions:
- Why are catalytic converters recommended for vehicles?
 - Why such vehicles use only should unleaded petrol?
 - Why CNG is better than petrol or diesel.

SECTION – D

23. **A Couple young quarreled with the hospital authority on suspicion that their child had been exchanged after birth. The couple based their argument on the fact that their child is O blood group whereas they are A and B blood groups respectively. The doctor smiled and explained.**
- What values of the doctor is reflected here?

- b) If you are the doctor, how you would have explained the couple that their child can be 'O' blood group.
- c) Which test method can be considered authentic to identify the biological parents of the child?
- d) Name the other blood group(s) which the child could have inherited.

SECTION – E

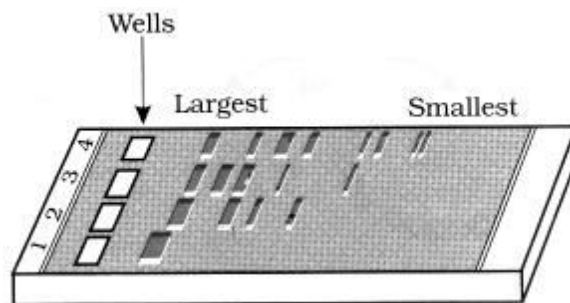
24. A sperm has just fertilized a human egg in the fallopian tube. Trace the events that the fertilized egg will undergo up to the implantation of the blastocyst in the uterus.

OR

Expand the following terms and explain any two of them.

- (a) GIFT
 (b) IUT
 (c) ZIFT
 (d) IVF
 (e) IVF

25. Answer the following questions:



- a. What does this diagram depict?
 b. What is meant by largest and smallest in the picture?

- c. Name the compound used to visualize them.
- d. Why did the DNA move?
- e. What is elution?

OR

Explain the mechanism of DNA replication in bacteria. Why is DNA replication said to be semi conservative?

26. A person has been diagnosed to be HIV positive.
- a. Name the test, which the person has undergone.
 - b. Write the full name of the pathogen involved and describe its structure.
 - c. Which particular cells of this person are likely to get destroyed?
 - d. How the HIV did completed its life cycle inside that cell?

OR

Answer the following questions:

- (a) List two situations when a medical doctor would recommend injection of preformed antibodies into the body of a patient. Name this kind of immunization and mention its advantages.
- (b) Name the kind of immunity attained when instead of antibodies weakened antigens are introduced into the body. What you call to such type of immunity?

PREPARED BY H K GIRI PGT(BIO) JNV DHENKANAL ODISHA

CONTACT: 09437100397 MAIL: hkgiri2010@gmail.com