

SAMPLE QUESTION PAPER

BIOLOGY (044)

CLASS XII (2012-2013)

TIME: 3 HRS

MAX.MARKS70

General Instructions

1. All questions are compulsory
2. The question paper consist of four sectionsA, B, C and D. Section A consist of 8 questions of one mark each. Section B is of 10 questions of two marks each. Section C is of 9 questions of three marks each. And Section D is of 3 questions of five marks each.
3. There is no overall choice. However, an internal choice as been provided in one question of 2 marks, one question of 3 marks and two questions of 5 marks weightage.A student have to answer only one of the alternatives in such questions
4. Wherever necessary the diagrams drawn should be neat and properly labelled

Section A

1. Name the embryonic stage that gets implanted in the uterine wall of a human female
2. Mention the enzyme involved in the continuous replication of DNA strand and the polarity of the template strand
3. Write the scientific name of the microbe used for fermenting malted cereals and fruit juices
4. How can the bacterial DNA be released from the bacterial cell for biotechnology experiments?
5. In which technique do we use Taq polymerase enzyme
6. Name the pests controlled by the proteins encoded by the cry genes
7. Which biome region in the world is considered as the “Lungs of the planet”
8. What is El Nino effect?

Section B

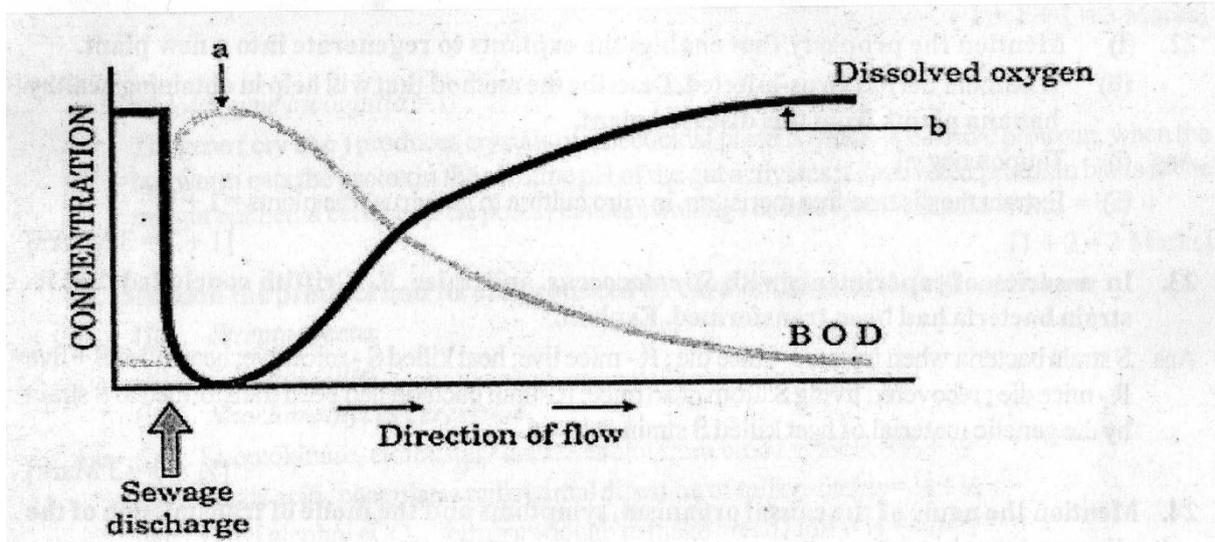
- 9 Of the eight nuclei of the embryo sac in flowering plants three are at the micropylar end. How many are there at the chalazal end and how many nuclei forms the secondary polar nucleus
- 10 Mention the role of ribosome in peptide bond formation.
How does ATP facilitate it?
- 11 A non-haemophilic couple was informed by their doctor that there is a possibility of a haemophilic child being born to them, Draw a checker board and find out the percentage of possibility of such a child among the progeny
- 12 How does Millers experiment support the theory of biochemical origin of life?
- 13 Why does a doctor administer tetanus antitoxin and not a tetanus vaccine to a child injured in a road side accident with a bleeding wound.
Explain
- 14 How did Eli Lilly synthesize the human insulin? Mention one difference between this insulin and the one produced by the human pancreas
- 15 A recombinant DNA is formed when sticky ends of vector DNA and foreign DNA join. Explain how the sticky ends are formed and get joined
- 16 Justify with the help of an example where a deliberate attempt by humans has led to the extinction of a particular species
- 17 How do organisms cope with stressful external environmental conditions which are localised or for short duration

OR

Mention any four methods by which the vehicular air pollution can be controlled

18. Explain giving reasons the cause of appearance of peaks 'a' and 'b'

In the graph shown below



Section C

19. Draw a diagram of a male gametophyte of an angiosperm. Label any four parts. Why is sporopollenin considered the most resistant organic material?
20. Expand the following and explain any one of them (a) IVF (b) ZIFT (c) IUT (d) MTP
21. Unambiguous, Universal and degenerate are some of the terms used for the Genetic Code. Explain the salient features of each one of them.

22. Explain the mechanism of Sex determination in insects like *Drosophila* and grass hopper

23. a. Mention the property that enables the explants to regenerate into a new plant

b. A banana plant is Virus infected. Describe the method that will help in obtaining healthy banana plants from the diseased plant

24. a. Write with examples how use of microbes helps us to make different types of cheese with specific texture and flavours?

b. How can the BOD be used as the indicator of the pollution?

25. You have developed a GM organism. Which government organisation will you approach to obtain clearance for its mass production? Why is such a body necessary? Give two reasons

OR

A vector is engineered with three features which facilitate its cloning within the host cell. List the three features and explain each one of them.

26. Name the type of interactions seen in each of the following examples:

(a) *Ascaris* worms living in the intestine of Human

(b) Wasp pollinating fig inflorescence

(c) Clown fish living among the tentacles of Sea –anemone

(d) Mycorrhizae living on the roots of higher plants

(e) Orchid growing on the branch of a Mango tree.

(f) Disappearance of smaller barnacles when *Balanus* dominated in the coast of Scotland

27. Under what circumstances does secondary succession begins? Why does it proceed faster than primary succession?

Section D

28. Pranoy participated in a group discussion in his school on “The ill effects of Tobacco on human Health” In the evening he goes with his family for dinner and insists on sitting in the “Non-Smoking area” to which his father who is a heavy smoker objects

(a) In this situation who wins your support –Aditya’s concern for health and environment or his fathers objection? Justify giving two reasons

(b) Suggest any three effective propaganda campaigns for anti-tobacco awareness

29. Write the specific location and functions of the following cells in human males:

(a) Leydig Cells (b) Sertoli Cells (c) Primary Spermatocyte

b. Explain the role of two accessory glands in human male reproductive system

OR

(a) Draw a Schematic diagram of a fertilized embryosac of an Angiosperm

(b) Describe the stages in embryo development in a Dicot plant

30. Explain the salient features of Hugo de Vries theory of Mutation. How is Darwin’s theory of natural selection different from it? Explain

OR

(a) Name the Primates that lived about 15 million years ago. List their characteristic features.

(b) (i) where was the first man like animal found?

(ii) Write the order in which Neanderthals Homo habilis, Homo erectus appeared on the earth.

(iii) When did modern Homo sapiens appear on this planet?

