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CBSE 12th Biology 2011 Unsolved Paper
Delhi Board

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CBSE 12th Biology 2011 Unsolved Paper Delhi Board

TIME - 3HR. | QUESTIONS - 30

THE MARKS ARE MENTIONED ON EACH QUESTION

SECTION – A

Q. 1. Name the type of cell division that takes place in the zygote on an organism exhibiting haplontic life cycle. *1 mark*

Q. 2. Write the scientific name of the microbe used for fermenting malted cereals and fruit juices. *1 mark*

Q. 3. Write the unit used for measuring ozone thickness. *1 mark*

Q. 4. Name the event during cell division cycle that results in the gain or loss of chromosome. *1 mark*

Q. 5. How can bacterial DNA be released from the bacterial cell for biotechnology experiments? *1 mark*

Q.6. Write the importance of cryopreservation in conservation of biodiversity. *1 mark*

Q. 7. Mention the role of the codons AUG and UGA during protein synthesis. *1 mark*

Q.8. Normally one embryo develops in one seed but when an orange seed is squeezed many embryos of different shapes and sizes are seen. Mention how it has happened. *1 mark*

SECTION – B

Q.9. How do histones acquire positive charge? *2 marks*

Q. 10. Why is CuT (Copper T) considered a good contraceptive device to space children? *2 marks*

Q. 11. Differentiate between albuminous and non-albruminous seeds, giving one example of each. *2 marks*

Q. 12. Explain the process of RNA interference. *2 marks*

Q. 13. List the key tools used in recombinant DNA technology. *2 marks*

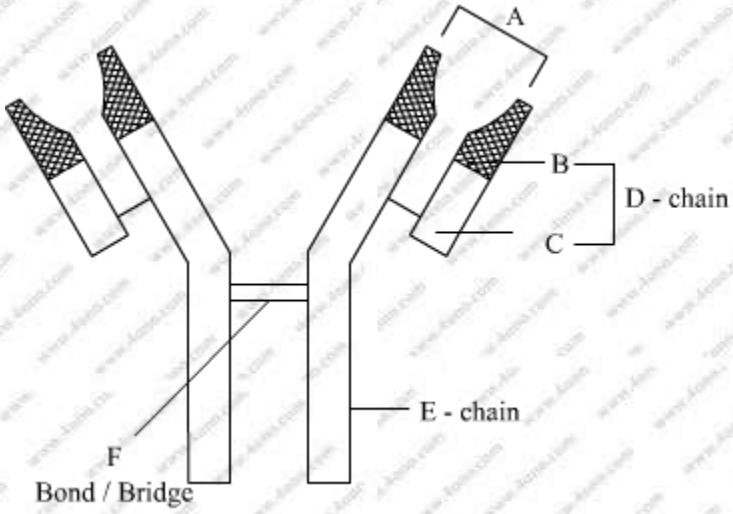
Q. 14. Name the two types of immune systems in a human body. why are cell mediated and humoral immunities so called? *2 marks*

OR

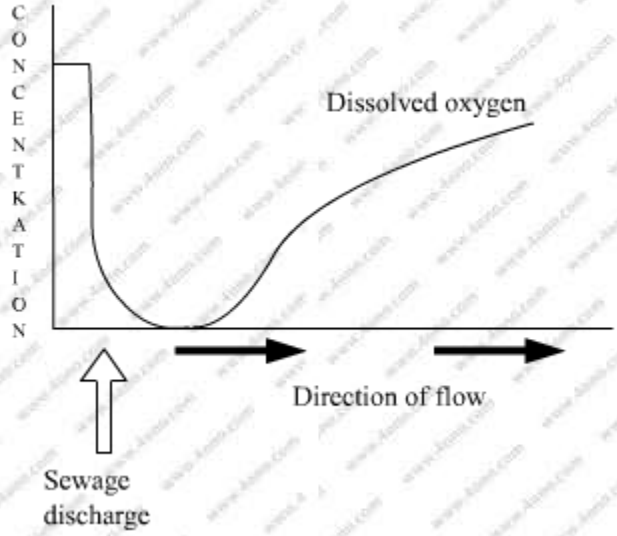
Write the scientific names of the causal organisms of elephantiasis and ringworm in humans. Mention the body parts affected by them.

Q. 15. Justify with the help of an example where a deliberate attempt by humans has led to the extinction of a particular species. *2 marks*

Q. 16. Identify A, D, E and F in the diagram of an antibody molecule given below: *2 marks*



Q. 17. Study the graph given below. Explain how is oxygen concentration affected in the river when sewage is discharged into it. *2 marks*



Q. 18. Explain how a hereditary disease can be corrected. Give an example of first successful attempt made towards correction of such diseases. *2 marks*

SECTION – C

Q. 19. Draw a diagram of a male gametophyte of an angiosperm. Label any four parts. why is sporopollenin considered the most resistant organic material? *3 marks*

Q.20. How are dominance, codominance and incomplete dominance patterns of inheritance different from each other? *3 marks*

Q.21. The base sequence in one of the strands of DNA is TAGCATGAT.

(i) Give the base sequence of its complementary strand.

(ii) How are these base pairs held together in a DNA molecule?

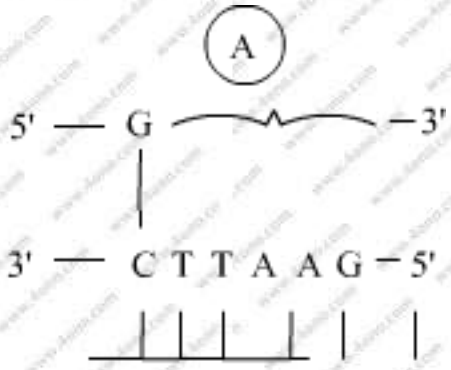
(iii) Explain the base complementarity rules. Name the scientist who framed this rule. *3 marks*

Q.22. (a) Sickle celled anaemia in humans is a result of point mutation. Explain.

(b) Write the genotypes of both the parents who have produced a sickle celled anaemic offspring. *3 marks*

Q. 23. What is inbreeding depression and how is it caused in organisms? Write any two advantages of inbreeding. *3 marks*

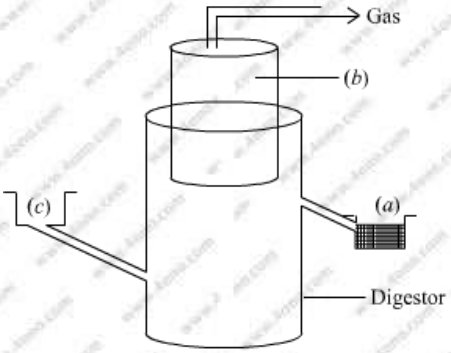
Q.24. (a) Identify A and B illustration in the following: *3 marks*



(b) Write the term given to A and C and why?

(c) Expand PCR. Mention its importance in biotechnology.

Q.25. The diagram above is that of a typical biogas plant. Explain the sequence of events occurring in a biogas plant. Identify a, b and c. *3 marks*



Q. 26. How can crop varieties be made disease 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 *3 marks*

OR

Write the source and the effect on the human body of the following drugs:

(i) Morphine

(ii) Cocaine

(iii) Marijuana

Q.27. Name the type of interaction seen in each of the following examples: *3 marks*

(i) Ascaris worms living in the intestine of human

(ii) Wasp pollinating fig inflorescence.

(iii) Clown fish living among the tentacles of sea - anemone

(iv) Mycorrhizae living on the roots of higher plants

(v) Orchid growing on a branch of a mango tree

(vi) Disappearance of smaller barnacles when Balanus dominated in the Coast of Scotland.

SECTION – D

Q.28. (a) Draw a labelled diagram of the human female reproductive system.

(b) Enumerate the events in the ovary of a human female during:

(i) Follicular phase

(ii) Luteal phase of menstrual cycle. *5 marks*

OR

(a) Write the specific location and the functions of the following cells in human males:

(i) Leydig cells

(ii) Primary spermatocyte

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

Q. 29. Explain the salient features of Hugo de Vries theory of mutation. How is Darwin's theory of natural selection different from it? Explain. *5 marks*

OR

Darwin's Theory of Natural Selection	Varies Theory of Mutation
(i) He believed that minor variations cause evolution. (ii) Darwinian variations are small and directional. (iii) He believed evolution to be gradual.	(i) He believed that mutation causes evolution. (ii) Mutations are random and directionless. (iii) He believed sudden mutations caused evolution.

(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 and Homo erectus appeared on earth. State the brain capacity of each one of them.

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

Q. 30. (a) Explain primary productivity and the factors that influence it.

(b) Describe how do oxygen and chemical composition of detritus control decomposition. *5 marks*

OR

(a) What is El Nino effect? Explain how it accounts for biodiversity loss.

(b) Explain any three measures that you as an individual would take, to reduce environmental pollution.