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# CBSE 12th Biology 2012 Unsolved Paper Outside Delhi

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#### Note

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TIME - 3HR. | QUESTIONS - 30

THE MARKS ARE MENTIONED ON EACH QUESTION

- Q. 1. Why is banana considered a good example of parthenocarpy? 1 mark
- Q. 2. State two different roles of spleen in the human body. 1 mark
- Q. 3. A garden pea plant produced axial white flowers. Another of the same species produced terminal violet flowers. Identify the dominant traits. 1 mark
- Q.4. Why is it desirable to use unleaded petrol in vehicles fitted with catalytic converters? 1 mark
- Q. 5. Where is acrosome present in humans? Write its function. 1 mark
- Q. 6. Write the name of the following; 1 mark
  - (a) The most common species of bees suitable for apiculture
  - (b) An improved breed of chicken
- Q. 7. Comment of the similarity between-the wing of a cockroach and the wing of a bird. What do you infer from the above, with reference to evolution? 1 mark
- Q. 8. Mention the role of cyanobacteria as a biofertilizer 1 mark

SECTION - B

- Q.9. (a) Draw a neat labelled diagram of a nucleosome. 2 marks
  - (b) Mention what enables histones to acquire a positive charge.
- Q. 10. State one advantage and one disadvantage of cleistogamy. 2 marks
- Q. 11. (a) Where do the signals for parturition originate from in humans? 2 marks
  - (b) Why is it important to feed the newborn babies on colostrum?

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- Q. 12. (a) A recombinant vector with a gene of interest inserted within the gene of  $\propto$  -galactosidase enzyme, is introduced into a bacterium. Explain the method that would help in selection of recombinant colonies from non-recombinant ones.
  - (b) Why is this method of selection referred to as "insertional inactivation? 2 marks
- Q. 13. Explain brood parasitism with the help of an example. 2 marks
- Q. 14. Give reasons for the following: 2 marks
  - (a) The human testes are located outside the abdominal cavity.
  - (b) Some organisms like honey-bees are called parthenogenetic animals.
- Q. 15. Name the plant source of ganja. How does it affect the body of the abuser? 2 marks

### OR

Name the two special types of lymphocytes in humans. How do they differ in their roles in immune response?

- Q. 16. (a) Mention the cause and the body system affected by ADA deficiency in humans.
  - (b) Name the vector used for transferring ADA-DNA into the recipient cells in humans. Name the recipient cells. 2 marks
- Q. 17. How did Ahmed Khan, plastic sacks manufacturer from Bangalore, solve the everincreasing problem of accumulating plastic waste? 2 marks
- Q. 18. Name the bacterium that causes typhoid. Mention two diagnostic symptoms. How is this disease transmitted to others? 2 marks

SECTION - C

- Q. 19. (a) Explain the phenomena of multiple allelism and co dominance taking ABO blood group as an example. 3 marks
  - (b) What is the phenotype of the following:
  - (i)  $I^A i$
  - (ii) *i i*
- Q. 20. How does industrial melanism support Darwin's theory of Natural Selection? Explain. 3 marks
- Q. 21. (a) What is the programme called that is involved in improving success rate of production of desired hybrid and herd size of cattle? 3 marks
  - (b) Explain the method used for carrying this programme for cows.

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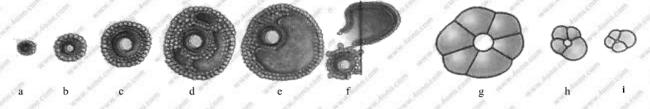
- Q.22. Explain the function of each of the following: 3 marks
  - (a) Coleorhiza (b) Umbilical cord (c) Germ pores
- Q. 23. How is the amplification of a gene sample of interest carried out using Polymerase Chain Reaction (PCR)? 3 marks
- Q.24. Trace the life-cycle of malarial parasite in the human body when bitten by an infected female Anopheles. 3 marks
- Q. 25. List the salient features of double helix structure of DNA. 3 marks
- Q. 26. Alien species are highly invasive and are a threat to indigenous species. Substantiate this statement with any three examples. 3 marks
- Q. 27. (a) Tobacco plants are damaged severely when infested with Meloidegyne incognita. Name and explain the strategy that is adopted to stop this infestation.
  - (b) Name the vector used for introducing the nematode specific gene in tobacco plant. 3 marks

SECTION - D

- Q. 28. (a) Taking one example each of habitat loss and fragmentation, explain how are the two responsible for biodiversity loss. 5 marks
  - (b) Explain two different ways of biodiversity conservation.

OR

- (a) What depletes ozone in the stratosphere? How does this affect human life?
- (b) Explain biomagnification of DDT in an aquatic food chain. How does it affect the bird population?
- Q.29. The following is the illustration of the sequence of ovarian events. "a" to "i" in a human female:



- (a) Identify the figure that illustrates corpus luteum and name the pituitary hormone that influences its formation.
- (b) Specify the endocrine function of corpus luteum. How does it influence the uterus? why is it essential?
- (c) What is the difference between "d" and "e"?
- (d) Draw a neat labelled sketch of Graafian follicle. 5 marks

### OR

- (a) Why is fertilisation in an angiosperm referred to as double fertilisation? Mention the ploidy of the cells involved.
- (b) Draw a neat labelled sketch of L.S. of an endospermous monocot seed.
- Q.30. Describe Frederick Griffith's experiment on Streptococcus pneumonia. Discuss the conclusion he arrived at. 5 marks

### OR

- (a) Explain a monohybrid cross taking seed coat colour as a trait in Pisum sativum. Work out the cross up to  $F_2$  generation.
- (b) State the laws of inheritance that can be derived from such a cross.
- (c) How is the phenotypic ratio of  $F_2$ , generation different in a dihybrid cross?

