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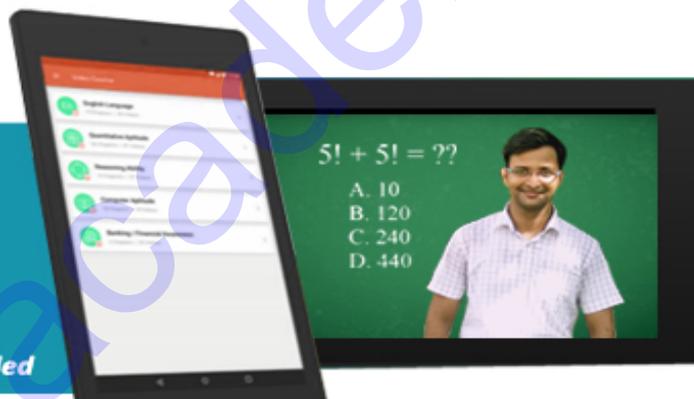
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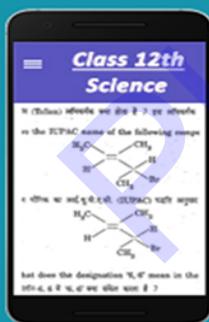


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CBSE 12th Biology 2015 Unsolved Paper Delhi Board

TIME - 3HR. | QUESTIONS - 30

THE MARKS ARE MENTIONED ON EACH QUESTION

SECTION- A

- Q. 1. A geneticist interested in studying variations and patterns of inheritance in living beings prefers to choose organisms for experiments with shorter life cycle. Provide a reason. 1 marks**
- Q. 2. Name the transcriptionally active region of chromatin in a nucleus. 1 marks**
- Q. 3. State a reason for the increased population of dark colored moths coinciding With the loss of lichens (on tree barks) during industrialization period in England. 1 marks**
- Q. 4. Indiscriminate diagnostic practices using X-rays etc., should be avoided' Give one reason. 1 marks**
- Q.5. What is Biopiracy? 1 marks**

SECTION-B

- Q. 6. After a brief medical examination a healthy couple came to know that both of them are unable to produce functional gametes and should look for an ART, (Assisted Reproductive Technique). Name the ART, and the procedure involved that you can suggest to them to help them bar a child. 2 marks**
- Q. 7. Differentiate between male and female heterogamety. 2 marks**
- Q. 8. How has mutation breeding helped in improving the production of mung bean crop? 2 marks**
- Q. 9. Mention a product of human welfare obtained with the help of each one of the following microbes: 2 marks**
- (a) LAB
 - (b) *Saccharomyces cerevisiae*
 - (c) *Propionibacterium sharmanii*
 - (d) *Aspergillus Niger*

Q. 10. Many fresh water animals cannot survive in marine environment. Explain. 2 marks

OR

How are productivity, gross productivity, net primary productivity and secondary productivity interrelated?

SECTION-C

Q. 11. Double fertilization is reported in plants of both, castor and groundnut. However, the mature seeds of groundnut are non-albuminous and castor are albuminous. Explain the post fertilization events that are responsible for it. 3 marks

Q. 12. Describe the process of parturition in humans. 3 marks

Q. 13. A teacher wants his/her students to find the genotype of pea plants bearing purple coloured flowers in their school garden. Name and explain the cross that will make it possible. 3 marks

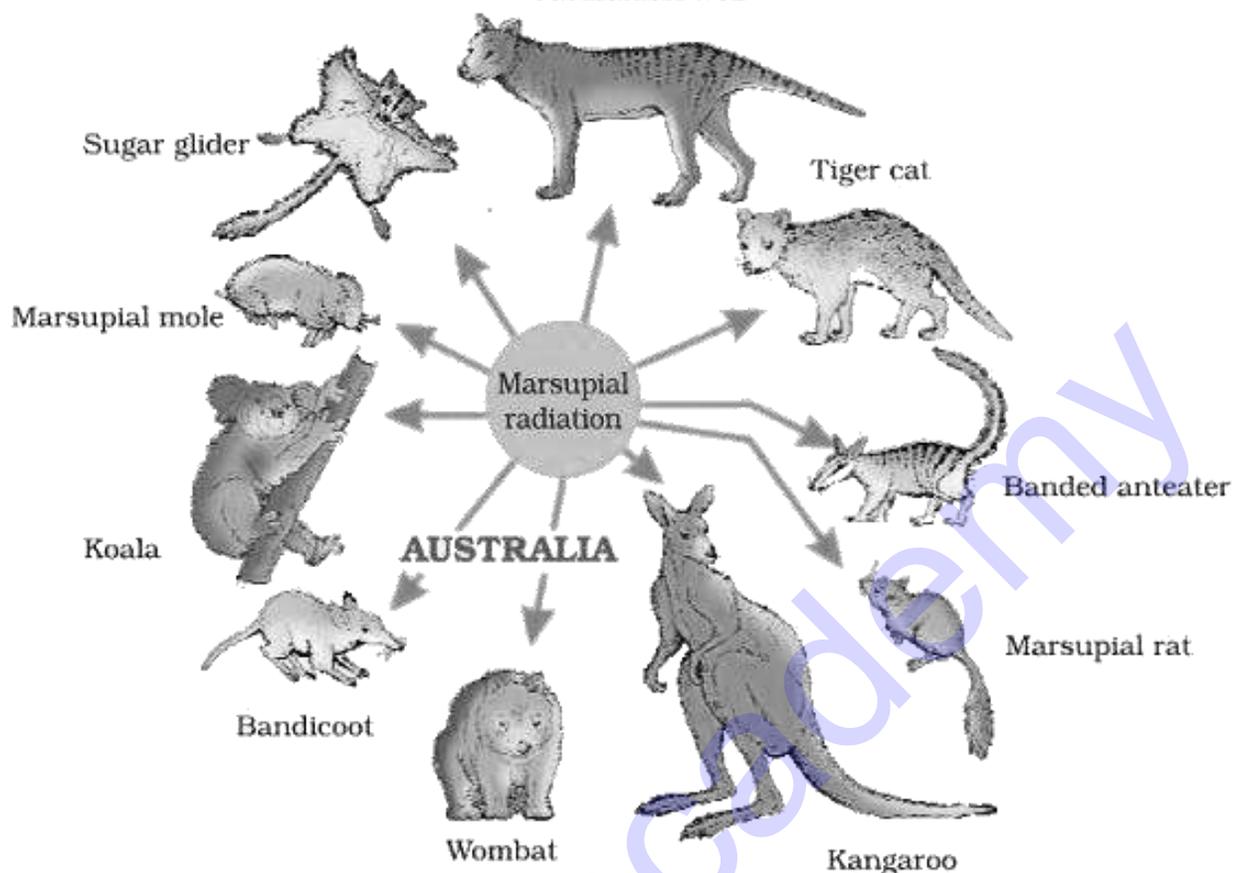
Q. 14. (a) A DNA segment has a total of 1000 nucleotides, out of which 240 of them are adenine containing nucleotides. How many pyrimidine bases this DNA segment possesses?

(b) Draw a diagrammatic sketch of a portion of DNA segment to support your answer. 3 marks

Q. 15. Explain adaptive radiation with the help of a suitable example. 3 marks

Q. 16. Enlist the steps involved in inbreeding of cattle. Suggest two disadvantages of this practice. 3 marks

Q. 17. A team of students are preparing to participate in the inter school sports meet. During a practice session you find some vials with labels of certain cannabinoids. 3 marks



- (a) Will you report to the authorities? Why?
(b) Name a plant from which such chemicals are obtained.
(c) Write the effect of these chemicals on human today.

- Q. 18.** Choose any three microbes, from the following which are suited for organic farming which is in great demand these days for various reasons. Mention one application of each one chosen. *3 marks*
Mycorrhizal; Monascus; Anabaena; Rhizobium; Methanobacterium; Trichoderma.
- Q. 19.** Recombinant DNA-technology is of great importance in the field of medicine. With the help of a flow chart, show how this technology- has been used in preparing genetically engineered human insulins. *3 marks*
- Q.20.** Following the collision of two trains a large number of passengers are killed. A majority of them are beyond recognition. Authorities want to hand over the dead to their relatives. Name a modern scientific method and write the procedure that would help in the identification of kinship. *3 marks*
- Q. 21.** Many plant and animal species are on the verge of their extinction because of loss of forest land by indiscriminate use by the humans. As a biology student what method would you suggest along with its advantages that can protect such threatened species from getting extinct?

OR

"Determination of Biological Oxygen Demand (BOD) can help in suggesting the quality of a water body." Explain.

Q.22. Draw a labelled sketch of sparged-stirred-tank bioreactor. Write its application. 3 marks

SECTION-D

Q. 23. Since October 02, 2014 "Swachh Bharat Abhiyan" has been launched in our country. 4 marks

- (a) Write your views on this initiative giving justification.
- (b) As a biologist name two problems that you may face while implementing the programme in your locality.
- (c) Suggest two remedial methods to overcome these problems.

SECTION -E

Q.24. A flower of tomato plant following the process of sexual reproduction produces 240 viable seeds. 5 marks

Answer the following questions giving reasons:

- (a) What is the minimum number of pollen grains that must have been involved in the pollination of its pistil?
- (b) What would have been the minimum number of ovules present in the ovary?
- (c) How many megaspore mother cells were involved?
- (d) What is the minimum number of microspore mother cells involved in the above case?
- (e) How many male gametes were involved in this case?

OR

During the reproductive cycle of a human female, when, where and how does a placenta develop? What is the function of placenta during pregnancy and embryo development?

Q.25. Explain the genetic basis of blood grouping in human population. 5 marks

OR

How did Hershey and Chase established that DNA is transferred from virus to bacteria?

Q. 26. "Analysis of age-pyramids for human population can provide important inputs for long-term planning strategies." Explain. 5 marks

OR

Describe the advantages for keeping the ecosystems healthy.

