



BIOLOGY

BOOKS - MBD

MODEL TEST PAPER -2

Exercise

1. If one can induce parthenocarpy through the application of growth substances, which

fruits would you select for parthenocarpy and why?



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2. Although potato tuber is an underground part, it is considered as stem. Give two reasons.



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3. Indicate the stage, where meiosis occurs (1, 2 or 3) in the flow chart.

Megaspore mother cell $\xrightarrow{1}$ megaspores
 $\xrightarrow{2}$ Embryo sac $\xrightarrow{3}$ Egg.



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4. What is the function of Sertoli cells?



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5. Even if a character shows multiple allelism, an individual will have only two alleles for that character. Why ?



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6. What is founder effect?



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7. During in vitro synthesis of DNA, a researcher used 2', 3'-di-deoxycytidine triphosphate as raw material in place of 2'-deoxycytidine triphosphate. What would be the consequence.



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8. Differentiate between pro-insulin and mature insulin.



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9. Many proteins are secreted in their inactive form. This is also true of many toxic protein produced by microorganisms. Explain how the mechanism is useful for the organisms producing the toxin.



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10. Why is the rate of assimilation energy at the herbivore level called secondary productivity?



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11. Assertion: For DNA replication RNA primer is needed . **Reason:** Synthesis of new DNA chain is initiated by DNA polymerase.

A. Both assertion and reason are true, and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is the correct explanation of

assertion

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

Answer:



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12. Assertion: Extranuclear chromosomes are present in mitochondria and plastids

Reason: They are prochromosomes or organelle chromosomes.

A. Both assertion and reason are true, and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is the correct explanation of assertion

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

Answer:



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13. Assertion: Selection of recombinants due to inactivation of antibiotic is a cumbersome procedure.

Reason: It requires simultaneous planting on two plates having different antibiotics.

A. Both assertion and reason are true, and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is the correct explanation of assertion

C. Assertion is true but reason is false.

D. Both assertion and reason are false.

Answer:



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14. Assertion: A community with more species is more stable than that with less species.

Reason: More the number of species, lesser the variation in the total biomass production year after year.

A. Both assertion and reason are true, and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is the correct explanation of

assertion

C. Assertion is true but reason is false.

D. Both asertion and reason are false.

Answer:



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15. Assertion: Smaller the organism, the higher is the rate of metanolism per gram weight.

Reason: The heart rate of a six-month-old baby is much higher than that of an old person.

A. Both assertion and reason are true, and reason is the correct explanation of assertion.

B. Both assertion and reason are true, but reason is the correct explanation of assertion

C. Assertion is true but reason is false.

D. Both asertion and reason are false.

Answer:



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16. Colostrum contains antibody IgA that contains passive immunity. this statement is true or false



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17. Why is sharing of injection needles between two individuals not recommended?



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18. People of which age group are more vulnerable to incidence of infection of STDs?

Suggest three ways of preventing STDs.



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19. Why is the frequency of red green colour blindness more in human males than in females? Explain.



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20. What is meant by the term 'breed'? What are the objectives of animal breeding?



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21. Name the technique used for separation of DNA fragments. What is its principle ?



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22. Define budding? Differentiate between exogeneous and endogeneous budding?



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23. Differentiate gene therapy and gene cloning.



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24. What are molecular scissors? Explain their role.



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25. Why does ozone hole form over Antarctica?

How will enhanced UV-radiations affect humans?



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26. Differentiate between grazing food chain and detritus food chain.



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27. Explain any three ways-other than zoological parks, botanical gardens and wildlife safaries - by which threatened species of plants and animals are being conserved ex-situ.



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28. Differentitae between spermatogenesis and oogenesis on the basis of:

Time of initiation of the process.





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29. Differentiae between spermatogenesis and oogenesis on the basis of:

Site of completion of the process.



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30. Differentiae between spermatogenesis and oogenesis on the basis of:

Nature of meiotic division undergone by gamete mother cells.



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31. Name the hormones which stimulate the testes?



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32. Differentiate between incomplete dominance and co-dominance. Substantiate your answer with one example of each.



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33. We are told that evolution is a continuing phenomenon for all living things. Are humans also evolving? Justify your answer.



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34. "Species Bt Toxin gene is incorporated into cotton plant so as to control infestation of Bollworm". Mention the organism from which the gene was isolated and explain its mode of action.



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35. Define adolescence.



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36. Name the biological process that enables continuity of species.



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37. Offspring derived by asexual reproduction are called clones. Justify by giving reason



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38. Name an organism where cell division in itself is a mode of reproduction



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39. Spiny or sticky pollen grains and large, attractively coloured flowers are associated with

A. a. hydrophily

B. b. entomophily

C. c. ornithophily

D. d anemophily

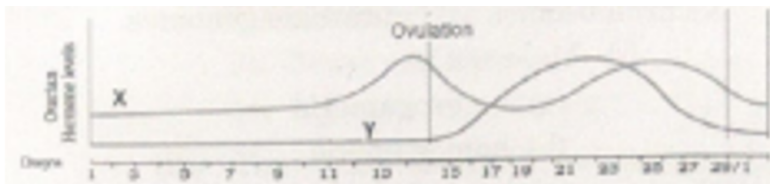
Answer:



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40. Study the graph given below related to menstrual cycle in females:

Identify ovarian hormones X and Y mentioned in the graph and specify their source.



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41. Which of the following statement is true of yeast?

- A. a. the cell divides by binary fission. one of them develops into a bud**
- B. b. the cell divides unequally. the smaller cell develops into a bud.**
- C. c. the cell produces conidai, which develop into a bud.**
- D. d. none of these**

Answer:



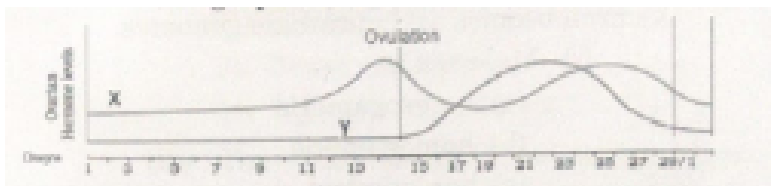
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42. In yeast and Amoeba, the parent cell divides to give rise to two new individual cells. how does the cell division differ in these two organisms?



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43. Study the graph given below related to menstrual cycle in Females:



Correlate and describe the uterine events that

take place according to the ovarian hormone

levels X and Y mentioned in the graph during

6-15 days

16-25 days

26-28 days (when ovum is not fertilised)



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44. What is foetal ejection reflex? Explain how it leads to parturition?



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45. Describe aminoacylation of tRNA.



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46. Explain the process that takes place in the ribosomes when mRNA enters ribosome in a prokaryote.



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47. Due to transcription error, ATG codon of DNA is transcribed into UAG in mRNA which translate a non-funtional poypeptide chain in the ribosome. Justify the statement.



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48. What is an inducible operon ? Name the genes that constitute an operon. Explain the lac operon of E.Coli with help of schematic representation.





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49. Explain how lac operon operates in E.coli in the absence of an inducer.



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50. what is hybrid? Explain the procedure of obtaining a hybrid



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51. what is humoral immunity.



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52. How is a child protected form a disease for which he/ she is vaccinated?



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53. Name the type of cells the AIDS virus enters after getting into the human body.



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