

## Sample Paper ( D )

### Class12 Biology

#### General instructions

All questions are compulsory

The question paper has five sections and 35 questions .

All questions are compulsory

Section A has 18 questions of one mark each

Section B has 7 questions of 2 marks each

Section C has 5 questions of 3 marks each

Section D has two case study based questions of 4 marks

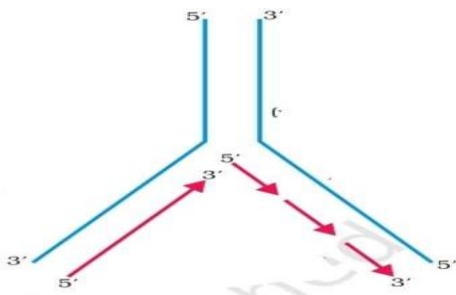
Section E has three questions of 5 marks each

There is no over all choice however internal choice have been provided in some questions student has to attempt only one of the alternative questions

Wherever necessary draw properly labelled diagrams

#### Section A

- Pollen grain of which plant cause allergy
  - Parthenium
  - Triticum
  - Coriander
  - None of these
- Cotyledon of maize grain is called
  - Plumule
  - Coleorhiza
  - Placenta
  - Scutellum
- Androgens are synthesized by:
  - Sertoli cells
  - Legdig cells
  - Seminal vesicles
  - Bulbourethral gland
- In which of the following techniques the embryos are transferred to assist those females who cannot Conceive.
  - ZIFT and IUI
  - GIFT and ZIFT
  - ICSI and ZIFT
  - GIFT and ICSI
- A couple has two daughter. What is the probability that the third child will also be a female ?
  - 25%
  - 50%
  - 75%
  - 100%
- Down's syndrome is caused by an extra copy of chromosome number 21. What percentage of Offsprings produced by an affected mother and a normal father would be affected by this disorder?
  - 50%
  - 25%
  - 100%
  - 75%
- Origin of replication of DNA in Ecol is show below identify the long red coloured arrow .



- i) (a) Leading strand      (b) okazaki fragments      (c) lagging strand      (d) double helix
8. The experimental proof for semi conservative replication of DNA was first shown in a :
- i) Bacterium                                  ii) Plant  
iii) Fungus                                      iv) Virus
9. Fossils are generally found in :
- i) Sedimentary rocks                        ii) Igneous rocks  
iii) Metamorphic rocks                      iv) Any type of rock
10. Analogous organs arise due to:
- i) Divergent evolution                      ii) Artificial selection  
iii) Genetic drift                                iv) Convergent evolution
11. The rate of decomposition is faster in the ecosystem due to following factor except
- i) Detritus richer in lignin and chitin      ii) Detritus rich in sugars  
iii) Warm and moist environment      iv) Presence of aerobic soil microbes
12. Birth rate is called:
- i) Mortality                                      ii) Emigration  
iii) Immigration                                iv) Natality
13. In spite of inter specific competition in nature which mechanism the competing species might have evolved for their survival ?
- i) Predation                                      ii) Resource  
iii) Competitive Release                      iv) Mutualism
14. A species which was introduced for ornamental value but has become a troublesome weed in India:
- i) *Trapa spinosa*                                ii) *Parthenium hysterophorus*  
iii) *Eichhornia crassipes*                      iv) *Prosopis juliflora*

### **Assertion-Reason type questions:**

These question consists of two statements each printed as Assertion and Reason. While answering these questions you are required to choose any one of the following responses.

- A. If both Assertion and Reason are true, Reason is correct explanation of the Assertion.  
B. If both Assertion and Reason are true but Reason is not correct explanation of the Assertion.  
C. If Assertion is true but Reason is false.  
D. If both Assertion and Reason are false.

15. Assertion: ELISA is widely used for the detection of infectious diseases like AIDS  
Reason : ELISA is very sensitive and selective test and needs very small amount of reagents.

A                      B                      C                      D

16. Assertion: Genetic engineering is also called Recombinant DNA technology.  
Reason: It brings about improvement of genetic make up of an organism.

A                      B                      C                      D

17. Assertion: Baculoviruses are biocontrol agents of genus Nucleopolyhedrovirus.  
Reason: They are effective against plant pathogens.

A                      B                      C                      D

18. Assertion: Cannabinoids are drugs of abuse.  
Reason: They affect cardiovascular and central nervous system activity.

A                      B                      C                      D

Section B

19. What are interferons? How do interferons check infection of new cells?

OR

Draw a labeled diagram of antibody molecule.

20. Name the microbes used for production of

(A) Lactic acid (B) Acetic acid

21. What are anti biotics? Name the organism from which penicillin was first extracted.

22. What is GEAC and what are its objectives?

23. Multiple alleles can be found only when population studies are made why? Give one example allelism in human.

OR

What is test cross ? What can be its one use .

24. Distinguish between Euchromatin and Heterochromatin.

25. With the help of two example, write the effect of anthropogenic actions on organic evolution.

Section C

26. Explain the different modes of pollination that can occur in chasogamous flower.

OR

Make a list of any three out breeding devices that flowering plants have developed and explain how they help to encourage cross pollination.

27. Explain the mechanism of sex determination in Drosophila.

OR

What do you mean by sex linked inheritance? Mention the cause and symptoms turner's syndrome.

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

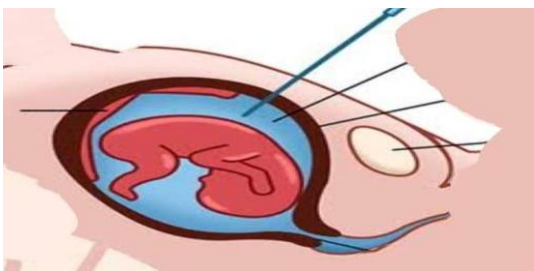
29. Write different between detritus food chain and grazing food chain

30. Write a short note on ex-situ conservation of biodiversity.

Section D

31. Read the following and answer any four question from 6(i) to 6(v) given below:

A technique known as amniocentesis is used to determine fetal abnormalities. This test based on the Chromosomal pattern in amniotic fluid. However this technique is legally banned now.



1) Name the blue coloured content in the figure

2) The developing foetus is enclosed in \_\_\_\_\_

3) Why the shown technique is banned

OR

What is the prime aim of this technique

32. Read the following and answer any four question from 9(i) and 9(v) given below :

Siddharth is a chain smoker . He got into this habit in early adolescence due to peer pressure and

Gradually got addicted to this habit. Its now almost 20 years he is into the habit of smoking.

Since few months he is experiencing pain in chest , shortness of breath , wheezing and chronic Cough with phlegm. He seeked advice of a medical practitioner who diagnosed with him lung cancer.

Based on the above information , answer the following question.

- 1) What is the cause of sufferings of Siddharth
- 2) Why Siddharth became a chain smoker
- 3) What are the symptoms of Siddharth's sufferings

OR

Write the ill effect of chain smoking

Section E

33. Draw a well labeled diagrammatic sectional view of mammary gland. Describe its structure.

OR

Describe the structure of a sperm with the help of labelled diagram.

34. Give a brief account of DNA replication.

OR

What do you mean by transcription? Describe the process of transcription in prokaryotes.

35. Discuss the various tools of "Recombinant DNA Technology".

OR

Name the technique used for increasing the amount of required DNA . Explain the technique