Sample Paper (B)

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

1. Triploid tissue in angiosperms is :
   a) Nucellus b) Endosperm
c)Endothecium d) Tapetum
2. Pollen grains are well preserved as fossils because of the presence of:
   a) Sporopollenin b) Cellulose
   c) Lignocellulose d) Pecto-Cellulose
3. The correct sequence of harmone secretion from the beginning of menstruation cycle is
   a) FSH ,Progesterone, Estrogen b) Estrogen, FSH, Progesterone
   c) FSH, Estrogen , Progesterone d) Estrogen, Progesterone ,FSH
4. The mode of action of the copper ions in an IUD is to:
   a) Increase the movement of sperms b) Decrease the movement of sperms
   c) Make the uterus unsuitable for implantation d) Make the cervix hostile to the sperms
5. The term Nuclein for genetic material was used by:
   a) Mendel b) Franklin
c) Meischer d) Chargaff
6. A woman has an “X” linked condition on one of her “X” chromosomes. This chromosomes can be Inherited by:
a) Only sons b) Only grand children
c) Only daughter d) Both sons and daughters
7. The DNA finger printing pattern of child is :
a)Exactly similar to both of the parents b) 100% similar to father’s DNA print
c) 100% similar to the mother’s DNA print d) 50% bands similar to father and rest similar mother
8. What is the genetic disorder in which an individual has an overall masculine development gynecomastia and is sterile?
a)Tuner’s syndrome b) Klinefelter’s syndrome
c) Edward syndrome d) Down’s syndrome
9. Which type of selection is observed in industrialmelanism
a) Stabilising b) Directional
c) Disruptive d) Artificial
10. $(p+q)^2=p^2+2pq+q^2=1$ Represents an equation used in:
a) Population genetics b) Mendelian genetics

c) Biometrics d) Molecular genetics

11. Earthworm is a:

a) Herbivore b) Secondary consumer

c) Tertiary consumer d) Detrivore

12. Secondary metabolites such as nicotine strychnine and caffeine are produced by plants for their:

a)Nutritine value b) Growth response

c) Defence action d) Effect on reproduction

13. The relationship when one species is harmed and other remain unaffected .

a) Amensalism b) Predation

c) Symbiosis d) Parasitism

14._____is not generally seen in biodiversity hotspots.

a) Endemism b) Species richness

c) Loss of diversity d) Lesser interspecific competition

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: Vaccination is also called preventive inoculation

Reason: A vaccine prevents the formation of antibodies inside the body

A B C D

16. Assertion: Antibodies have proved effective in lowering mortality rate.

Reason: Antibodies are used for preservation of food like fresh meat, fish and poultry feed.

A B C D

17. Assertion: Discovery of penicillin by Alexander Fleming was a discovery by chance.

Reason: Fleming was working on Penicilliumnotatum along with staphylococcus bacteria

A B C D

18. Assertion: There is no chance of transmission of malaria to a man by the bite of a male Anopheles mosquito.

Reason: It carries a non virulent strain of plasmodium.

A B C D

Section B

19. Name the type of immunity the colostrum provides to a new born baby. Write giving example where this type of immunity should be provided to a person.

OR

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

20. What is baker's yeast? Give its application.

21. What are advantages of Bio pesticides (any two).

22. Give full form of ELISA, on which principle it works.

23. Differentiate between male and female heterogamy.

OR

Differentiate between Turner's syndrome and Down's syndrome.

24.DNA is better genetic material than RNA. Give two reasons.

25. Differentiate between convergent and divergent evolution.

Section C

26. What is megasporogenesis? Explain the development of eight nucleate embryo sac in flowering plants.

OR

Describe the characteristics of wind pollinated flowers.

27. How would you find out the genotype of a pea plant with violet flowers? Explain with the help of Punnet's square showing crosses.

OR

A colour blind child is born to a normal couple. Work out a cross to show how it is possible. Mention the sex of this child .

28. What are plasmids? What is their role in biotechndogy.

29. Give three types of ecological pyramids with example of each type.

30. Why should we conserve biodiversity.

Section D

31. Read the following and answer any four question from 1(i) to 1(v) given below:

Population is defined as the total number of individuals of a species present in a particular area at a given time . The scientific study of human population is called demography. The rapid increase in population over a relatively short period is called population explosion. Four basic processes involved in increase or decrease in the population size. Population shows two type of growth ; exponential and logistic.

1) Write two factor which increase or decrease the population size.
2) The shape of curve having logistic growth is _____
3) Diagramatically represent exponential and logistic growth curve

OR

Write the causes of population explosion

32. Read the following and answer any four question given below :

Rajesh, Ravi and Rohit are roommates. They are doing their graduation. Few months back Ravi fell ill. It took him around 3 weeks to recover. Both his friend were absolutely healthy that time. after sometime Rajesh also fell ill from some other disease. This time Ravi and Rohit both contracted the same illness.

Based on the above information , answer the following question.

1) Is Ravi suffering from genetic disease
2) Why Rajesh's friends suffered from disease
3) Differentiate between communicable and non- communicable disease

OR

Guess the name of disease Ravi suffered when his friend fell ill

Section E

33. Describe the role of Agrobacterium tumefaciens in transforming a plant cell.

OR

Draw a labelled diagram of bioreactor. What are different controling apparatus are there in it.

34. Describe the process of DNA fingerprinting. State its application.

OR

What is translation? Describe different steps in translation.

35. The zygote passes through several developmental stages till implantation. Describe each stage briefly with suitable diagrams.

OR

What are the changes in the ogonia during the transition of a primary follicle to Graffian follicle?