



INDIAN SCHOOL MUSCAT
SENIOR SECTION
DEPARTMENT OF BIOLOGY
CLASS X
HEREDITY AND EVOLUTION

1	Define the terms 1. Heredity 2. Variation	1
2	How does creation of variation vary in asexual and sexual reproduction?	1
3	What is the meaning of trait in genetic terms?	1
4	How does the creation of variation in a species promote survival?	1
5	Give three contrasting characters Mendel studied in garden peas.	1
6	Why Mendel is called father of genetics?	1
7	What are 1. Acquired trait 2. Inherited trait	2
8	What is meant by evolution? Mention few tools which help in tracing evolutionary relationship in human being.	2
9	Why are traits acquired during the life time of an individual not inherited?	2
10	Suggest an example to show that individual cannot pass on to its progeny the experiences of its life time	2
11	What factors could lead to the rise of a new species?	2
12	State the major postulates of the theory of natural selection	2
13	What are fossils? What do they tell us about the process of evolution?	2
14	How will you estimate the age of the fossils?	2
15	What are homologous organs? How do they provide evidence in support of evolution?	2
16	What are analogous organs? Give examples	2
17	What is sex chromosome? Name the two types of sex chromosomes. Mention the sex chromosomes present in male and female.	2
18	Explain Mendel's experiment with pea on inheritance of traits considering only one visible characteristics	3
19	How does Mendel experiments showed that traits are inherited independently? Explain with example.	3
20	How do genes control the characteristics or traits in an organism?	3
21	The genotype of a pea plant producing violet flower is denoted by	3

VV and that of a pea plant producing white flower is denoted by vv.
When these two are crossed

- 1) What colour of the flower would you expect in the F₁ progeny?
 - 2) Give the percentage of violet flower plant if F₁ plants are self pollinated
 - 3) In what ratio would you find the genotype of VV and Vv in the F₂ progeny?
- 22 How is the sex of the child determined in human being? 3
- 23 Suggest an example from plant kingdom to shows that dissimilar structures evolved from a common ancestor. 3



INDIAN SCHOOL MUSCAT

SENIOR SECTION
DEPARTMENT OF BIOLOGY
CLASS X
OUR ENVIRONMENT

1	What is meant by the term environment?	1
2	What are biodegradable waste materials? Give examples	1
3	What are non-biodegradable waste materials? Give examples	1
4	Which of the following materials are biodegradable? Aluminium wire, synthetic fiber, wool, pesticide, tea leaves, wood, glass materials, metallic containers.	1
5	What are non biodegradable substance?	1
6	Define ecosystem.	1
7	What are the various components of the ecosystem?	1
8	Give examples for 1) Artificial ecosystem 2) Natural ecosystem	2
9	What is a food chain? Give examples for aquatic and terrestrial ecosystem.	2
10	List the biotic and abiotic components of an ecosystem.	2
11	What is a food web? Show its formation.	2
12	Define trophic levels. Diagrammatically represent various trophic levels in a food chain	2
13	Give the significance of study of food chain.	2
14	What are the harmful effects of ozone depletion?	2
15	Which organisms belongs to third and fourth trophic levels in the food chain comprising the following Rats ,Plants , Hawk and snakes	2
16	Which category of organisms forms the starting point of a food chain? Mention the percentage of light energy that plants can utilize.	2
17	Consider the food chain : Grass -----Deer-----Lion What will happen if all the lions are removed from the above food chain?	2
18	The number of malaria patients in a village increased tremendously when large number of frogs were exported from the village? What could be the cause for it?	2

- 19 What is ozone? How is it formed? 2
- 20 What is the role of decomposers in the ecosystem? 2
- 21 Explain why the flow of energy in the ecosystem is unidirectional? 2
- 22 What are 1) Producers 2) Consumers 3) Decomposers 3
- 23 Consider the following food chain
 Grass -----Mice -----Snakes-----Peacocks
 If in this chain 100 J of energy available at the producer level, then calculate the energy transferred to the Peacock as food.
- 24 What are primary consumer, secondary consumer and tertiary consumers? Give examples 3
- 25 Explain why a food chain usually cannot have more than three or four steps. 3
- 26 What are the conclusions drawn from the study of flow of energy between the various components of the environment or ecosystem? 3
- 27 “If we excessively use pesticides to protect the crop from diseases, then it may cause long term damage to man kind” Justify this statement. 3
- 28 What is garbage? Suggest various methods of garbage disposal. 3