

Biology (New Book) - 9th Class Biology Urdu Medium Chapter 1 Preparation

Q1. Define Pathology

Ans 1: It is the study of diseases, their causes, and effects,

Ans 2: Application: Pathlogy helps in disease diagnosis, treatment development, and disease prevention.

Ans 3: Example: Cancer, for instance, is characterized by uncontrolled growth and spread of abnormal cells.

Q2. What are basic charactristics of hypothesis.

Ans 1: Characteristics of Hypothesis:

A hypotheiss has the followign characteristics.

- > It is proposed statement to answer the problem
- > It always matches with the available observations.
- > It can be tested through experiments
- > There si always a way to disprove the hypothesis.

Q3. Difference between Theory and Pricniple

Ans 1: Theory:- If th ehypothesis is found to be correct then it becomes a theory. It is supported by a number of evidences. A theory can be changed if better evidence is available

Example: The theory of evolution

Ans 2: Principle:

A theory that has been verified and apears to have wide application may become biological pricniple or law

Example: Mendel's laws of inheritance

Q4. Difference between Morphology and Physiology

Ans 1: Morphology:

Defination: The study of the size, shape and structure of animals, plantss and micororganismsm is called morphology. This briach is also called external morphology

Ans 2: Example: Morphology of a flowerign plant includes the structure of roots, ste, leaves, flowers and fruit

Ans 3: Physiology:

Defination: It is the branch of biology that deals with the functioning of body parts.

Ans 4: Example Circulatory system transports vital substances throughout the body

Q5. Define Genetics

Ans 1: It is the branch of Biology that deals with the study of transfer of characteristics from parentsto offspring. Application: In Geneteics, scientists also study the causes of genetic diseases, and develop better varieties of plants.

Q6. How can a scienteist apply the scientific method to confirm and obseration that a certain platn species grows more quickly in hady places than in direct sunlight?

- **Ans 1:** Scientist will use the following steps of scietific method to verity the given observation about the effect of sulight on the growth of certain plant species.
- **Ans 2:** 1. Hypothesis: According to the given obsertions scientist will form a hypothesis that the plant specie grows more quickly in shady places than in direct sunlight.
- **Ans 3:** 2. Experimentation: The scientist will set up two grops of the same plant species under controlled conditions, one in shady areas and the other in direct sunlight Factors like soil type, water, and nutrients would be constant.
- **Ans 4:** Data collection and analysis: After experimentation the scientist will measures the growth of plants in both groups over a set peiod and will compare teh results.
- **Ans 5:** Conclusion: Base don the data, the scietist decides if the hypothsis is correct. If the shady platns grow faster, the hypothesis is confirmed. If not, the scientist may nee dto rethink the idea.

Q7. How malaria is treated?

Ans 1: For the treatmetn of malaria, quainine extracted from the bark of Cinchona plant is used. Apart from quinine certain anti-malarial drugs ar ealso used for the treatment

Q8. How is the profession of medicine and surgery differente from animal husbandry?

Ans 1: Medicine and surgery

The profession of medicine deals with the diagnosis and tretment of diseases In surgery the defective parts of the body are repaired , replaced of remvoed

- Ans 2: For this profession, suddents need to complete a 5-Years Bachelor of Medicine, Bachelor of surgery MBBS degree
- **Ans 3:** Animal Hsbandry:

This field involves breeding and caring for livestock to improve their quality and productivity

Ans 4: For this profession students can pursue a 4-Years BS degree in Animal Husbandry

Q9. What is the contribution of the followign scientists.

- a) A.F.A.King
- b) Ronald Ross
- c) Laveran

Ans 1: a) A.F.A. King

In 1883, a physician A.F.A. King listed twenty obserations. Some impottant obserations of king are

- 1. People who slept outdoors were more likely to get malaria than those who slept indoors.
- 2. People who slept under fine nets were less likely to get malaria than those who did not use such nets.
- 3. People who slept near a smoky fire usually did not get malaria. On the basis of these obserations King suggested a hypotheisi.
- "Mosquitoes transmit Plasmodium so are involved in the spread of malaria".

Ans 2: Ronald Ross:

Ross, a British army physician working in India performed important experiment to confirm that mosqueito transmits plasmodium

Ans 3: Laveran:

A french physician Laveran in 1882 formulated followign hypothesis on the basis of malarial observatins.

"Plasmodium is the cause of malaria".

Q10. Inquisitive Questions:

1. Why is it importnat to classify biology into differente brahcnes such as botany.

Ans 1: Classigying biology into branches like botany, zoolyogy, and microbiology helps scientists to focus on specific area, making research deeper and more effective. For example botanists study plants, zoologist stdy animals, and microbiologists, study tiny organismsm like bacteria. This specialization leads to better discoveries, like nw medicines, way to protect endangered species, or crops that grow in tough conditions. It also allows by dividing biology into smallesr branches, scientists can learn more, solve real-world issues, and make life better for everyone.