Mode of Nutrition

A. Choose the correct answer:

1. **Which mode of nutrition is followed by green plants?**
   A) Parasitic nutrition B) Saprotrophic nutrition
   C) Autotrophic nutrition D) Heterotrophic nutrition
2. **What is the main source of energy for autotrophic organisms?**
   A) Soil nutrients B) Sunlight
   C) Water D) Carbon dioxide
3. **Which of the following is an example of a heterotrophic organism?**
   A) Mango tree B) Mushroom
   C) Algae D) Cyanobacteria
4. **Insectivorous plants show characteristics of both autotrophic and heterotrophic nutrition because:**
   A) They do not perform photosynthesis
   B) They trap and digest insects for additional nutrients
   C) They depend only on insects for survival
   D) They store food in roots
5. **Which of the following organisms obtains nutrition through saprotrophic mode?**
   A) Cow B) Amoeba
   C) Bread mold D) Cactus

B. Fill in the Blanks:

1. Organisms that prepare their own food using sunlight are called _____.
2. Heterotrophs depend on _____ for their food.
3. Parasitic plants derive their nutrition from _____.
4. Saprotrophic organisms break down dead and decaying matter using _____.
5. The process by which green plants prepare food is called _____.

C. Case Study:

A scientist, Dr. Mehra, conducted research on different modes of nutrition in plants. She observed three types of plants:

- **Plant A:** Had green leaves and produced its own food using sunlight.

- **Plant B:** Lacked chlorophyll and grew by attaching itself to another plant for nutrition.
- **Plant C:** Was a pitcher plant that trapped insects for food.

After studying their growth patterns, she made the following observations:

- **Plant A** showed healthy growth and produced oxygen.
- **Plant B** weakened the host plant and survived by taking its nutrients.
- **Plant C** thrived in nutrient-poor soil and used trapped insects as a nitrogen source.

Case Study Questions:

1. Which mode of nutrition was followed by Plant A?
2. Why did Plant B need to depend on another plant for survival?
3. How did Plant C adapt to its environment for survival?
4. Why is photosynthesis important for autotrophic plants?

D. Short Answer Questions:

1. What is autotrophic nutrition? Give an example.
2. How does a parasite obtain its food?
3. What is the difference between saprotrophic and parasitic nutrition?

E. Long Answer Questions:

1. Explain different modes of nutrition with examples.
2. Describe the process of photosynthesis and its significance in the ecosystem.
3. How do heterotrophic organisms obtain their nutrition? Discuss with examples.