	INDIAN SCHOOL AL WADI AL KABIR	
Class: IX	**Department: SCIENCE (BIOLOGY)** **2023-2024**	**Date: 21/11/2023**
Worksheet No: 03	**TOPIC: IMPROVEMENT IN FOOD RESOURCES**	**Note:** **A4 FILE FORMAT**
NAME OF THE STUDENT	**CLASS & SEC:**	**ROLL NO.**

I. OBJECTIVE TYPE QUESTIONS

1. Which one is an oil yielding plant among the following?
   (a) Lentil
   (b) Sunflower
   (c) Cauliflower
   (d) Hibiscus

2. Which one is not a source of carbohydrate?
   (a) Rice
   (b) Millets
   (c) Sorghum
   (d) Gram

3. Find out the wrong statement from the following.
   (a) White revolution is meant for increase in milk production
   (b) Blue revolution is meant for increase in fish production
   (c) Increasing food production without compromising with environmental quality is called sustainable agriculture.
   (d) none of the above

4. To solve the food problem of the country, which among the following is necessary.
   (a) Increased production and storage of food grains
   (b) Easy access of people to food grain
   (c) People should have money to purchase the grains
   (d) All of the above

5. Weed affect the crop plants by
   (a) Killing of plants in field before they grow
   (b) Dominating the plants to grow
   (c) Competing for various resources of crops(plants) causing low availability of nutrients
   (d) All of the above

II. Assertion and reasoning:

a) Assertion and Reason are true and Reason is the correct explanation of the Assertion.
b) Assertion and Reason are true but Reason is not a correct explanation of the Assertion.
c) Assertion is true but the Reason is false.
d) Assertion and Reason are false.

6. **Assertion:** Cattle husbandry is done for milk production, meat production and for daily products.
   Reason: Cattles are reared with nutritious food and fodder crops to produce quality products.

7. **Assertion:** Green Revolution is the revolution to grow more crops.
   Reason: Green revolution does not support sustainable farming.

8. **Assertion:** Inter cropping prevents pests.
   Reason: Plant pests can be controlled biologically by their natural parasites and pathogens.

9. **Assertion:** Blue Revolution is a step taken for the increase in the production of fisheries.
   Reason: Blue revolution also indicates the revolution against oil production.

10. **Assertion:** Crops such as gram, peas, kidney peas are source for carbohydrates.
    Reason: We obtain proteins from rice.

III. CASE STUDY BASED QUESTIONS

11. **Read the following and answer questions given below –**

A. Biotic factors like diseases, insects and nematodes, and abiotic factors like drought, salinity and waterlogging, heat, cold and frost have a negative impact on crop production. That is, the crop yield decreases due to these factors.

i. Which are the biotic factors which affect the crop production?
ii. What are the abiotic factors which affect the crop production.
iii. How can one increase crop yield? Give two points.

B. Cereals like wheat and rice provide us with carbohydrates for fulfilling the body's energy requirement. Pulses like gram and peas provide us with proteins. Fruits and vegetables provide us with a range of vitamins and minerals in addition to some proteins, carbohydrates, and fats.

The crops can also be classified as Kharif and Rabi crops. Kharif crops are the crops which are grown in the rainy season (June to October). Some of the examples of Kharif crops are Cotton, Paddy, Maize. Rabi crops are grown in the winter season (November to April). Some of the Rabi crops are Wheat, gram, mustard.

i. Define Rabi and Kharif crops.
ii. What are the crops which give you protein?
iii. Why are fruits and vegetables important in our diet.

IV. VERY SHORT QUESTIONS CARRYING 02 MARKS EACH. ANSWERS TO THESE QUESTIONS SHOULD BE IN THE RANGE OF 30 TO 50 WORDS.

12. What do we get from cereals? Give examples.

13. What do we obtain from seeds and fruits? Give examples.

14. What are some sources of food that you eat which is rich in protein. Give 4 examples.

15. What are biotic and abiotic factors affecting crop production.

V. SHORT ANSWER TYPE QUESTIONS CARRYING 03 MARKS EACH. ANSWERS TO THESE QUESTIONS SHOULD BE IN THE RANGE OF 50 TO 80 WORDS.

16. Name any two factors for which crop variety improvement is done.

17. Can increasing the grain production alone solve the problem of malnutrition and hunger?

18. Define the term hybridization.

19. Define Photoperiod.

VI. Long Answer type questions carrying 05 marks each. Answer to these questions should be in the range of 80 to 120 words.

20. Define Green Revolution and the features of it.

21. Why is crop variety improvement important in cultivation? Describe the important factors for which variety improvement is done.

ANSWER KEY AND HINTS

I.	**OBJECTIVE TYPE QUESTIONS - Multiple choice Questions: -**
1.	(b) Sunflower
2.	(a) Gram
3.	d) none of the above
4.	(d) All of the above
5.	(a) Competing for various resources of crops(plants) causing low availability of nutrients
II	**Assertion and reasoning:**
6.	a) Assertion and Reason are true and Reason is the correct explanation of theAssertion.
7.	b) Assertion and Reason are true but Reason is not a correct explanation of theAssertion.
8.	b) Assertion and Reason are true but Reason is not a correct explanation of theAssertion.
9.	c) Assertion is true but the Reason is false.
10.	d) Assertion is false but the Reason is true.
III.	**CASE STUDY BASED QUESTIONS**
11. A	i. diseases, insects and nematodes
	ii. drought, salinity and waterlogging, heat, cold and frost
	iii. Usage of HYV seeds, proper irrigation and checking the soil quality at regular intervals.
B	i) Kharif crops are the crops which are grown in the rainy season (June to October). Rabi crops are grown in the winter season (November to April).
	ii. Gram, beans, pulses
	iii. for vitamins and minerals.
IV.	**VERY SHORT QUESTIONS CARRYING 02 MARKS**
12.	Main source of carbohydrates. Ex: Wheat, maize.
13.	Oils. Ex : Mustard, sunflower
14.	Pulses. Ex : Kidney beans, gram, beans.
15.	Biotic factors like diseases, insects and nematodes, and abiotic factors like drought, salinity and waterlogging, heat, cold and frost have a negative impact on crop production.
16.	-Higher Yield and Improved Quality

V.	**SHORT ANSWER TYPE QUESTIONS CARRYING 03 MARKS.**
17.	-No, increasing grain production only for storage in warehouses cannot solve the problem of malnutrition and hunger. Food security depends both on availability of food and access to it. As most of our population depends on agriculture for their livelihood, increasing the incomes of people working in agriculture becomes necessary to combat the problem of hunger. It forms the framework that supports the body. Anchors the muscles and supports the main organs of the body.
18.	-refers to the crossing between genetically dissimilar plants or organisms
19.	-the duration of sunlight available to plants is called photoperiod. It affects the growth, flowering, and maturation of crops.
VI.	**Long Answer type questions carrying 05 marks.**
20	Green revolution, great increase in production of food grains (especially wheat and rice) that resulted in large part from the introduction into developing countries of new, high-yielding varieties, beginning in the mid-20th century. Its early dramatic successes were in Mexico and the Indian subcontinent. The new varieties require large amounts of chemical fertilizers and pesticides to produce their high yields, raising concerns about cost and potentially harmful environmental effects. Poor farmers, unable to afford the fertilizers and pesticides, have often reaped even lower yields with these grains than with the older strains, which were better adapted to local conditions and had some resistance to pests and diseases.
21	- Higher yield: Crop variety improvement's main goal is to increase the productivity of the crop. The productivity is improved by producing high yielding varieties through plant breeding. Quality product: To improve the quality of the food crops. The quality of the crop depends on the type of crop. The factors for which variety improvement is done are: (i) Higher yield: To increase productivity of the crop per acre. (ii) Improved quality: The quality of crop products varies from crop to crop. E.g., protein quality is important in pulses, oil quality in oilseeds, preserving quality in fruits and vegetables.

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