DEPARTMENT OF SCIENCE (2023 –2024)

CLASS: IX	SUBJECT: BIOLOGY	DATE:8/2/2024
WORKSHEET NO:4 WITH ANSWERS	TOPIC: IMPROVEMENT IN FOOD RESOURCES	NOTE: A4 FILE FORMAT
CLASS & SEC:	NAME OF THE STUDENT:	ROLL NO.

I. OBJECTIVE TYPE QUESTIONS

Multiple choice Questions: -

1.Fish Oil is rich in

a) Vit E
b) Vit C
c) Vit D
d) Vit K

2. Identify the nutrients derived by the crops from air.

(a) Carbon and oxygen
(b) Hydrogen and oxygen
(c) Calcium and magnesium
(d) Nitrogen and phosphorus

3. In composite fish culture, Catlas are used because they:

(a) are bottom feeders
(b) feed on the weeds
(c) reside in the middle zone
(d) are surface feeders

4. Which one is not a source of carbohydrate?

(a) Rice
(b) Gram
(c) Sorghum
(d) Millets

5. Poultry farming is undertaken to raise _____.

(a) egg and Feather production
(b) chicken meat and feather production
(c) chicken meat and egg production
(d) egg and milk Production

6. _____ is an Indian variety of poultry?
(a) Leghorn
(b) Aseel
(c) Sindhi
(d) Brown swiss

7. Vitamins that are included in the poultry feed are:
(a) Vitamins A and B
(b) Vitamins B and C
(c) Vitamins A and C
(d) Vitamins A and K

8. Practice of cultivating different crops simultaneously on a same piece of land is called:
(a) intercropping
(b) mixed cropping
(c) crop rotation
(d) alternate cropping

9. Which among the following is the rabi crop?
(a) Cotton
(b) Soya bean
(c) Linseed
(d) Pigeon pea

10. Identify weeds from the following options.
(a) Parthenium
(b) Cyprus Rotundas
(c) Xanthium
(d) All of these

11. Which one of the following options is an example of an exotic breed of cattle?
(a) Aseel
(b) Leghorn

(c) Jersey
(d) Sahiwal

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.

12. Assertion: Presence of weeds affects the crop field.
Reason: Weeds compete for food, space, and light

13. Assertion: Layers are given more of vitamin A and K.
Reason: Layers are raised for eggs.

14. Assertion: Crop rotation is the practice of growing two or more varieties of crops in the same region in sequential seasons.
Reason: Cauliflower and chilli plants grown together in alternating rows are examples of crop rotation.

15. Assertion: Fisheries are important place in Indian economy.
Reason: Fisheries provide income and employment to millions of farmers and fishermen particularly in coastal states.

16. Assertion: Legumes increases the soil fertility.
Reason: Microbes in the root nodules of leguminous plants fix atmospheric nitrogen.

III. CASE STUDY BASED QUESTIONS

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

A. Broiler chickens are fed with vitamin-rich supplementary feed for good growth rate and better feed efficiency. Care is taken to avoid mortality and to maintain feathering and carcass quality. They are produced as broilers and sent to market for

meat purposes. For good production of poultry birds, good management practices are important. The housing, nutritional and environmental requirements of broilers are somewhat different from those of egg layers. The daily food requirement for broilers is protein rich with adequate fat. The level of vitamins A and K is kept high in the poultry feeds. Poultry fowl suffer from a number of diseases caused by virus, bacteria, fungi, parasites, as well as from nutritional deficiencies. Appropriate vaccination can prevent the occurrence of infectious diseases and reduce loss of poultry during an outbreak of disease.

(1) Identify the incorrect statements

Statement 1 – Broiler chickens are fed with vitamin-rich supplementary feed for good growth.

Statement 2 – The level of vitamins A and K is kept high in the poultry feeds

Statement 3 – The level of vitamins A and K is kept low in the poultry feeds

Statement 4 – Improved poultry breeds are developed and farmed to produce layers for eggs and broilers for meat.

(a) Both 1 & 2

(b) Only 2

(c) Only 3

(d) None of the above

(2) Poultry breeds which are produce for eggs are termed as _____

(a) Layers

(b) Broilers

(c) Indigenous

(d) Exotic

(3) Poultry breeds which are produce for meat are termed as _____

(a) Layers

(b) Broilers

(c) Indigenous

(d) Exotic

(4) What are the objectives of cross-breeding programme in Indian and Exotic breed.?

B. Honey is widely used and therefore bee keeping for making honey has become an agricultural enterprise. Since bee-keeping needs low investments, farmers use it as an additional income generating activity. In addition to honey, the beehives are a source of wax which is used in various medicinal preparations. The local varieties of bees used for commercial honey production are *Apisceranaindica*, commonly known as the Indian bee, A. dorsata, the rock bee and A. florae, the little bee. An Italian bee variety, A. mellifera, has also been brought in to increase yield of honey.

The Italian bees have high honey collection capacity. They sting somewhat less. They stay in a given beehive for long periods, and breed very well. For commercial honey production, bee farms or apiaries are established. The value or quality of honey depends upon the pasturage, or the flowers available to the bees for nectar and pollen collection. In addition to adequate quantity of pasturage, the kind of flowers available will determine the taste of the honey.

(1) Which species of bee is commonly known as the Indian bee?

(a) Apisceranaindica

(b) Apisdorsata

(c) Apismellifera

(d) Apis florae

(2) Which species of bee is commonly known as the rock bee?

(a) Apisceranaindica

(b) Apisdorsata

(c) Apismellifera

(d) Apis florae

(3) Which species of bee is commonly known as the little Bee?

(a) Apisceranaindica

(b) Apisdorsata

(c) Apismellifera

(d) Apis florae

(4) Identify the correct statements

Statement 1 – Beehives are a source of wax which is used in various medicinal preparations.

Statement 2 – *Apisceranaindica* is commonly known as the Indian bee

Statement 3 – *Apisdorsata* is known as the rock bee

Statement 4 -The quality of honey depends upon the flowers available for nectar and pollen collection.

(a) Both 1 & 2

(b) Both 3 & 4

(c) Only 1

(d) All of the above

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

18. What factors are responsible for losses of grains during storage?

19. What is vermicompost? What is the advantage of vermicompost?

20. List the importance of crop rotation. What do you understand by inter-cropping?

21. Distinguish between Apiculture and Aquaculture.

22. Define hybridization.

23. Define animal husbandry? Differentiate between milch and draught animals.

24. Why should weeds be constantly removed from cultivated fields?

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

25. What are macronutrients and micronutrients? Give examples.

26. Differentiate between manure and fertilizers. Write two disadvantages of fertilizers and two limitations of manures.

27. What do you understand by irrigation. Explain any two irrigation methods.

28. Differentiate between mixed cropping and inter-cropping.

29. What is organic farming and write two objectives of organic farming.

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

30. What are the benefits of poultry farming over cattle farming?

31. What are the advantages of effective animal husbandry practices for farmers?

32. Discuss the precautions that should be used when storing grains.

33. List down the signs and symptoms of a diseased animal.

34. List the various methods of weed control.

35. What are the benefits of mixed-species aquaculture?

36. Define intercropping. Mention its advantages.

ANSWER KEY AND HINTS

I.	**OBJECTIVE TYPE QUESTIONS - Multiple choice Questions: -**
1.	C
2.	A
3.	D
4.	B
5.	D
6.	B
7.	D
8.	A
9.	C
10.	D
11.	C
II	**Assertion and reasoning:**
12.	a
13.	c
14.	c
15.	a
16.	a
III.	**CASE STUDY BASED QUESTIONS**
17.A 1	c
2.	a
3.	b
4.	The cross-breeding program between Indian (indigenous, for example, Aseel) and foreign (exotic, for example, Leghorn) breeds for variety improvement are focused on to develop new varieties for the following desirable traits— number and quality of chicks; dwarf broiler parent for commercial chick production; summer adaptation capacity/ tolerance to high temperature; low maintenance requirements; reduction in the size of the egg-laying bird with ability to utilize more fibrous cheaper diets formulated using agricultural by-products.
17.B. 1.	a
2.	**b**
3.	d
4.	d

IV.	**VERY SHORT QUESTIONS CARRYING 02 MARKS**
18.	Moisture (Found in grains), humidity (in the air)and changes in temperature. Abiotic Factors: Insects, Rats, birds, mites, bacteria, fungi.
19.	Vermicomposting is an environmentally friendly process that recycles organic waste into compost and generates valuable nutrients. It is achieved by using worms like earthworms in the field.
20.	Crop rotation improves water use efficiency by increasing the amount of organic matter in the soil, which can improve soil structure and water-holding capacity. Also, this method helps preserve moisture in deep soil layers, which plants can use during droughts. Intercropping: the practice of growing two or more crops in proximity: in the same row or bed, or in rows or strips that are close enough for biological interaction.
21.	The essential difference between aquaculture and pisciculture is that aquaculture is the process of breeding, rearing, and harvesting of aquatic flora and fauna with commercial value in saltwater or freshwater while pisciculture is the culturing of fish (fish farming) to obtain fish and fish products as food.
22.	The process of an animal or plant breeding with an individual of another species or variety.
23.	Animal husbandry: the branch of agriculture concerned with animals that are raised for meat, fiber, milk, or other products. Milch breeds are milk–yielding animals while draught breeds are working animals. Milch animals are used for farm labor and draught animals for producing milk.
24.	They rob soil moisture and nutrients from the competing crop and decrease harvest efficiencies. Weeds also compete with the crop for sunlight. Because they are plants competing to survive in a limited space, weeds are actively removing nutrients from the soil to grow taller, stronger, and healthier each day.
V.	**SHORT ANSWER TYPE QUESTIONS CARRYING 03 MARKS EACH.**
25.	(i) NUTRIENT REQUIREMENT: There are two types of nutrients required by the plants.

(a) Macronutrients: needed by the plants in large amount. E.g.- N2, P, K, Ca,Mg, S
(b) Micronutrients: needed by the plants in very small amount. - Fe, Cu, Zn, Bo, Mo, Cl.
Sources of plant nutrients: Air – Carbon, Oxygen Water – Hydrogen Soil – N2, P, K, Ca, Mg, S, Fe, Mn, Bo, Zn, Co, Mo, Cl

26.

Manure	Fertilisers
1. Are partially decayed wastes and animal residue by microbes.	1. Is a salt or Organic compound containing essential part of nutrients.
2. It is not nutrient specific and tends to remove general deficiency of the soil.	2. It is nutrient specific i.e. it contain much higher amount of particular nutrients and are used to remove particular deficiency of the soil.
3. It adds humus to the soil.	3. It does not add any humus to the soil.
4. Nutrients present in the manure are absorbed slowly by the crop since it is not soluble in water.	5. Since it is soluble in water it is readily absorbed by plants.
6. It is voluminous and bulky so it is inconvenient to store, transport, handle and apply to the crop.	6. It is compact so it is easy to store, transport and apply to crops.

27. Irrigation is the artificial application of water to the soil through various systems of tubes, pumps, and sprays. Irrigation is usually used in areas where rainfall is irregular or dry times or drought is expected.

Types :

- **Drip irrigation**
- **Tanks**
- **Canal System**
- **Terraced irrigation**
- **Manual Irrigation**

28.

Mixed cropping	Inter cropping
1. It has the target to minimize total crop failure	1.It has the target to improve productivity`
2.Seeds of two crops are mixed before sowing	2.Seeds of two crops are not mixed
3.It involves no set pattern of rows of crops	3.It involves set pattern of rows of crops
4. In this method there is a difficulty of fertilizer application to individual crop.	4.In this method fertilizer can be applied as per need of the crops
5.Harvesting and threshing of crops separately is not possible, thus marketing & consumption of only mixed produce is possible	5. Both crops can be easily harvested & threshed separately thus each crop can be marketed & consumed separately.

29. Organically grown" food is food grown and processed using no synthetic fertilizers or pesticides.

Objectives:

Responsible use of energy and natural resources.

	Maintain biodiversity and protect animal welfare. Conserve the regional ecological balance.
VI.	**Long Answer type questions carrying 05 marks each.**
30.	The following are some of the advantages of chicken farming versus cattle farming: -The financial investment is minimal. -There is a minimum quantity of space required. -It's easy to cope properly. -Returns are processed in a timely manner.
31.	Ans. The scientific management of livestock animals is referred to as animal husbandry. It covers a broad range of subjects. There are other things to consider, including feeding, breeding, and disease control. As the world's population expands and living standards rise, so does the demand for milk, eggs, and meat. Furthermore, as the need for proper animal welfare has been more widely recognized, new limits on livestock production have been introduced. As a result, the productivity of cattle must be increased. Good animal husbandry practices, such as providing good food and preventing illnesses in cattle, can help farmers acquire improved quality and quantity of goods.
32.	The following are some grain storage precautions: -Drying: The moisture content of the grains should be reduced to less than 14% for grain storage. Drying in the sun and afterwards drying in the shade is a nice method. -Hygiene must be maintained, with go downs and storage being cleaned on a regular basis. -Remove any dirt, garbage, webs, or debris from the grains that were previously stored. It's critical to waterproof and seal cracks and gaps in the walls, floor, and ceiling. New gunny bags should be used to store food grains. Once the gunny bag has been filled, the mouth should be tightly sealed.
33.	The signs and symptoms of a diseased animal are as follows: -As a result of the condition, the animal stops eating and becomes lethargic, fatigued, and solitary. -As the animal's body temperature rises, it shivers. -The animal secretes an excessive amount of saliva, which can occasionally hang from its mouth. -The animal excretes a mix of loose dung and brightly colored urine. -The jaws and ears of the animal droop.
34.	Controlling weeds can be done in a variety of ways, including. -Mechanical methods: Weeds are taken out by hand, using a khurpa (trowel), or with a hoe. -Cultural Technique: Seedbed preparation, timely seed sowing, intercropping, and

	proper rotation are examples of cultural approaches. -Chemical approaches: Weeds can be controlled with chemicals like 2,4-D
35.	Some of the advantages of composite fish farming are as follows: -Both native and imported fish species can be used in such systems. -Due to the non-competitive character of selected species, food is harvested in all parts of the water reservoir. -The number of fish in the water reservoir will be increased (intensive fish farming).
36.	The practice of farming two or more crops in rows on the same field at the same time is known as intercropping. The advantages of intercropping are as follows: -Productivity is increased. -Farming two or more crops at the same time saves space and time. -It contributes to the long-term preservation of soil fertility

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