

## IMPROVEMENT IN FOOD RESOURCES

Question (1):

Match the following:

01.	White Leghorn	a.	Meat Yielding Poultry
02.	Karan Swiss	b.	Egg Laying Poultry
03.	Murrah	c.	Buffalo
04.	Aseel	d.	Exotic Breed of Cow

Answer: 01 - b  
02 - d  
03 - c  
04 - a

Question (2): Give two reasons as to why there is tremendous scope to develop fisheries in India.

Answer: There is good scope for fisheries in India because

- India has 1.6 million hectares of inland water bodies
- Its coast line is 6500 km long.

Question (3): *Why are wrestlers and sportsmen recommended to have egg, meat and fish as a part of their diet?*

Answer: Sportsmen and wrestlers are recommended to have egg, meat and fish as a part of their diet because they contain high amounts of protein which is essential for growth and development of muscles.

Question (4): *The production of food from animal sources has increased in the last few decades. Justify.*

Answer:

- Improved varieties and cross-breeds have been developed
- Proper health and disease control has also improved the yield

Question (5): *Chicken A is (all chicken in reference are of same variety egg laying) exposed to very bright sunlight, chicken B is kept inside a dark building whereas chicken C is kept in a well-lit building. Which chicken will have maximum laying output?*

Answer: Chicken C will have maximum laying output.

This is because it is exposed to moderate sunlight. Moderate light intensity and duration has a favourable effect on the egg laying output of the hens.

Question (6): *Give two advantages of Holstein-Friesian over the Red Sindhi.*

Answer: Advantages of Holstein-Friesian over the Red Sindhi are:

- Average milk production is more
- Lactation periods extend through the year

Question (7): *In a certain technique, the developing embryo from a superior breed is removed and transferred into another female of inferior characters. Name this technique.*

Answer: The technique is embryo transfer.

## IMPROVEMENT IN FOOD RESOURCES

*Question (8): At a certain organisation in India cross breeds such as Karan swiss, Karan fries etc. have been developed. Which organisation is it? Where is it located?*

Answer: National Dairy Research Institute at Karnal, Haryana.

*Question (9): A certain health conscious person needs to choose between milk of the Surti and the Murrah. Which one should he/she choose?*

Answer: He/she should opt for the milk from the Murrah as its fat content (<7%) is lesser than that of the Surti (8%-12%).

*Question (10): Cows A and B are of same breed. Cow A is fed on grass and cow B is fed on maize, grass, barley, etc. Which do you expect to give a higher quantity of milk?*

Answer: Cow B as it has both roughage and concentrates in its diet.

*Question (11): Which is the odd one out: Karan swiss, Karan fries, Sahiwal, Freswal?*

Answer: Sahiwal. The rest are exotic breeds of cows.

*Question (12): Give three suggestions to improve the health and hygiene of cows and buffaloes.*

Answer: ● The floor of the shed should be sloping to facilitate the cleaning of the shed and to keep it dry.

● They should be sheltered from rain, heat and cold.

● They should be provided with feeding passages and feeding troughs.

*Question (13): Why are additives (in addition to roughage and concentrates) important for the growth of dairy animals? Name two additives.*

Answer: Additives are important as they increase yield of milk and protect the cattle from diseases. Minerals and hormones are additives.

*Question (14): In which period of a cow's life is milk producing food important?*

Answer: Milk producing food is very important during lactation period of a cow.

*Question (15): What is the basic difference between the following sets of food?*

Set A: Green fodder, hay, silage

Set B: Maize, oats, barley, jowar

Answer: Set A contains fibres or roughage whereas set B is low in fibre and high in proteins and nutrients.

*Question (16): Suggest two control measures to prevent transmitting of diseases from infected animals to other living creatures.*

Answer: The two control measures to prevent transmitting of diseases from infected animals to other living creatures are:

● Proper disposal and burial of diseased animals.

● Hygienic handling of all animal products and by-products

## IMPROVEMENT IN FOOD RESOURCES

*Question (17): Classify diseases of dairy animals into three groups.*

Answer:

- Parasitic diseases
- Infectious diseases
- Non-infectious diseases

*Question (18): Suggest two methods to improve the characteristics of a certain breed of cow.*

Answer: The two methods to improve the characteristics of a certain breed of cow are:

- Artificial insemination
- Embryo transfer

*Question (19): Identify two requirements (in the food) for broilers?*

Answer: The two requirements (in the food) for broilers are:

- Protein rich food with adequate fat
- Adequate quantity of vitamin A and vitamin K

*Question (20): Name four seafood items other than fish.*

Answer: Seafood items other than fish are oyster, mussels, shrimps and lobsters.

*Question (21): State whether the following are true or false:*

- (a) Jersey is an Indian breed of cow.
- (b) Mehsana is a breed of buffalo.
- (c) Rinderpest is a parastic disease.
- (d) Karan swiss is produced by crossbreeding Jersy and Red sindhi.

Answer: ● Jersey is an Indian breed of cow

False

● Mehsana is a breed of buffalo.

True

● Rinderpest is a parastic disease.

False

● Karan swiss is produced by crossbreeding Jersy and Red sindhi.

False

*Question (22): What is IPN?*

Answer: IPN is an infectious disease that affects fish. It stands for Infectious Pancreatic Necrosis.

*Question (23): What is VHS?*

Answer: VHS is an infectious disease that affects fish. It stands for Viral Haemorrhagic Septicemia.

*Question (24): Name three crossbred strains of poultry.*

Answer: Three crossbred strains of poultry: HH-260, IBL-80 and B-77

*Question (25): What is artificial insemination?*

Answer: The process of freezing the semen collected from a bull and then injecting it into the vagina of a cow which is in heat is called artificial insemination.

*Question (26): Give the expansion of NDRI.*

Answer: NDRI: National Dairy Research Institute.

*Question (27): Classify the food requirement of dairy animals into two groups.*

Answer: Food requirement of dairy animals can be classified into:

- Maintenance requirement
- Milk producing requirement

*Question (28): What are the different breeds of cows?*

Answer: The different breeds of cows are:

● Draught breed: used for doing physical work  
The different breeds of cows are:

- Dairy breed: used for producing milk
- Dual purpose: used for both purposes

*Question (29): Name two important components of animal feed.*

Answer: Two important components of animal feed are:

- roughage
- concentrates

*Question (30): How are goats and sheep useful to us?*

Answer: Goats and sheep provide us with:

- meat
- milk
- wool

*Question (31): Name two indigenous (local) breeds of sheep found in our country.*

Answer: Nellore and Mandya are two indigenous (local) breeds of sheep.

*Question (32): Define animal husbandry.*

Answer: Animal husbandry deals with the breeding, feeding and caring of domestic animals. It requires proper shelter, nutrition, breeding, disease control and proper economic utilisation.

## IMPROVEMENT IN FOOD RESOURCES

*Question (33): Name two improved cross breeds of cow.*

Answer: Jersey and Brown Swiss are two important cross breeds of cow.

*Question (34): Give three advantages of artificial insemination.*

Answer: The three advantages of artificial insemination are:

- Many cows (upto 3000) can be fertilized using the semen of one bull
- Frozen semen can be stored for a long time
- Method is economical

*Question (35): Mention the protein content in milk, egg and fish.*

Answer: Protein content of :

Egg = 13%

Meat= 21%

Fish= 19%

*Question (36): Name two varieties of Indian fish.*

Answer: Catla and Rohu are two varieties of Indian fish.

*Question (37): Divide the life span of poultry into two stages.*

Answer: The two stages in the life of poultry are :

- Growing period: up to sexual maturity
- Laying period: period from sexual maturity till the end of egg laying period

*Question (38): Mention the measures that need to be taken for prevention of diseases in animals.*

Answer: The following steps can be adopted in order to prevent diseases in animals:

- Cleaning, sanitation and spraying of disinfectants should be carried out at regular intervals.
- Appropriate vaccination should be given to prevent infectious diseases.

*Question (39): What are 'layers'?*

Answer: Chickens that are used for laying eggs are called layers.

*Question (40): State two qualities of essential nutrients.*

Answer: The two qualities of an essential nutrients are:

- In its absence the plant is unable to complete its life cycle.
- The element must have a direct influence on plant nutrition and metabolism.

*Question (41): Define macro nutrients.*

Answer: Nutrients that are utilized by plants in large quantities are called macro nutrients.

## IMPROVEMENT IN FOOD RESOURCES

*Question (42): Give two ways in which manures affect the soil.*

Answer: The two ways in which manures affect the soil are:

- They enrich the soil with nutrients.
- They increase the water holding capacity in sandy soils.

*Question (43): What is composting?*

Answer: Composting is a biological process in which both aerobic and anaerobic micro-organisms decompose organic matter.

*Question (44): Explain the process of green manuring.*

Answer: Green manuring involves ploughing of green plants into soil for the purpose of improving physical structure as well as soil fertility. The green manure crops are grown in the field for about 6-8 weeks and turned into field in tender stage. These crops remain buried for about 1 or 2 months. During this period, plants would be completely decomposed before sowing of next crop.

*Question (45): Why should fertilizers be used in small quantities?*

Answer: Fertilizers should be used in small quantities because they contain higher amounts of nutrients than that present in soil.

*Question (46): What is the drawback of using chemical fertilizers?*

Answer: These chemicals get washed off during irrigation, rainfall, etc., reach rivers and pollute them, thereby disturbing the natural ecosystems.

*Question (47): When are wells used as sources of water?*

Answer: When exploitable ground water is present wells are constructed.

*Question (48): When is river lift system used?*

Answer: In areas whose canal flow is insufficient or irregular due to inadequate reservoir, river lift system is more rational.

*Question (49): What are the causes for the spoilage of stored grains?*

Answer: The causes can be classified as:

- Biotic factors: which include insects, birds, rodents, fungi, etc.
- Abiotic factors: which include moisture content and temperature.

*Question (50): Write a note on the methods used for pest control.*

Answer: Root cutting type of insects are controlled by mixing insecticide chloropyriphos in soil. Stem and leaf cutting and boring type of insects are controlled by dusting or spraying the contact insecticides, malathion, lindane and thiodan.

Sap sucking insects can be controlled by spraying systematic insecticides of dimethoate and metasystox.

*Question (51): How are air borne diseases controlled?*

## IMPROVEMENT IN FOOD RESOURCES

Answer: Air borne diseases are controlled by spraying fungicide solution on infested crops.

*Question (52): How do weeds affect plants?*

Answer: Weeds consume the nutrients and water in the fields. This results in poor yields and poor quality of produce.

*Question (53): Give three methods of ensuring the maintenance of hygiene in storage of grains.*

Answer: The three methods of ensuring maintenance of hygiene are:

- Godowns and stores should be properly cleaned.
- Cracks and holes in the wall, floor or ceiling should be sealed.
- Earthen pots should be cleaned and properly exposed to sun before using them for grain storage.

*Question (54): Give the control measure to be taken against rust in wheat.*

Answer: Control measure: Spray diethane solution in water at intervals of 10 days.

*Question (55): How can the efficiency of irrigation water be increased?*

Answer: The efficiency of irrigation water can be increased by:

- Selecting appropriate crop and cropping system
- Applying optimum quantity of water at the appropriate time
- Keeping weeds under control
- Time scheduling operation
- Controlling pests

*Question (56): What are pesticides?*

Answer: Chemicals used to control pests like weeds, mites, rodents, fungi are called pesticides.

*Question (57): How can rice be protected from Leaf Hopper insect pest?*

Answer: Rice can be protected from Leaf Hopper insect pest by spraying monocrotophos.

*Question (58): How does white grub affect groundnut?*

Answer: White grub feeds on roots. Adult beetles feed on leaves and thus, affect the groundnut crop.

*Question (59): What are tanks?*

Answer: Tanks are small storage reservoirs which intercept and store the run off of smaller catchment areas.

*Question (60): Why is food required?*

Answer: Food is required for growth, development and body repair. It also protects the body from diseases.

*Question (61): What are natural sources of nutrients of plants?*

Answer: The natural sources of nutrients of plants are:

## IMPROVEMENT IN FOOD RESOURCES

- ☉ Air
- ☉ Water
- ☉ Soil

*Question (62): Name the plant macro nutrients.*

Answer: The macro nutrients are:

- ☉ Nitrogen
- ☉ Phosphorous
- ☉ Potassium
- ☉ Calcium
- ☉ Magnesium
- ☉ Sulphur

*Question (63): Name the plant micro nutrients.*

Answer: The micro nutrients are:

- ☉ Iron
- ☉ Manganese
- ☉ Zinc
- ☉ Copper
- ☉ Molybdenum
- ☉ Chlorine

*Question (64): What is a manure?*

Answer: A manure is a bulky source of organic matter which supplies nutrients in small quantities but organic matter in large quantities.

*Question (65): What is the purpose of green manuring?*

Answer: The purpose of green manuring is to improve the physical structure as well as soil fertility.

*Question (66): Name the groups of fertilizers.*

Answer: The groups of fertilizers are:

- ☉ Nitrogenous
- ☉ Phosphatic
- ☉ Potassic
- ☉ Complex

*Question (67): Give two ways in which efficiency of irrigation water can be increased.*

Answer: The two ways in which efficiency of irrigation water can be increased are:

- ☉ Keeping weeds under control
- ☉ Controlling rodent pests

*Question (68): Name the different irrigation systems.*

Answer: The different irrigation systems are:

- ☉ Canal system
- ☉ Tanks
- ☉ Wells
- ☉ River valley system
- ☉ River lift system

*Question (69): Give two preventive measures of pests.*

Answer: The two preventive measures of pests are:

- ☉ Crop rotation and cropping system
- ☉ Summer ploughing

*Question (70): Name the three ways in which insect pests attack plants.*



## IMPROVEMENT IN FOOD RESOURCES

Answer: The three ways in which insect pests attack plants are:

- They cut root, stem and leaf
- They suck cell sap from various parts of the plant
- They bore into stem and fruits

*Question (71): What are the ways in which pathogens are transmitted?*

Answer: Pathogens are transmitted by:

- Seed and soil
- Water
- Air

*Question (72): What are weeds?*

Answer: Weeds are unwanted plants that grow in fields. They adversely affect plant growth.

*Question (73): Give the methods of controlling weeds.*

Answer: The methods of controlling weeds are:

- Mechanical method
- Cultural method
- Chemical method
- Biological method

*Question (74): Give four preventive measures that can be taken to protect crops.*

Answer: The four preventive measures that can be taken to protect crops are:

- Drying
- Maintenance of hygiene
- Prophylactic treatment
- Improved structures

*Question (75): What are the control measures taken against pests attacking food grains?*

Answer: The control measures taken against pests attacking food grains are:

- Chemical control
- Fumigation
- Plant products

*Question (76): What is the control measure that can be taken against white grub?*

Answer: To prevent white grub from attacking ground nut thimet granules should be applied before sowing.

*Question (77): Which are the two types of wells?*

Answer: The two types of wells are:

- Dug wells
- Tube wells

*Question (78): What is crop production?*

Answer: Crop production is the use of plant response within soil and atmospheric environment to produce a high yield per unit area of land.

*Question (79): What is a complex fertilizer?*

Answer: When a fertilizer contains atleast 2 nutrients it is called a complex fertilizer.

*Question (80): Why do we need sustainable agriculture?*

Answer: Natural resources are getting depleted at an alarming rate. We now need to increase production to feed the growing population without damaging the resources.

*Question (81): Comment on the statistics of per-capita availability of land.*

Answer: The per-capita availability of land was 0.5 ha in 1950-51 and 0.13 ha in 1999-2000. It is expected to drop to 0.08 ha in 2020.

(Hectare - ha)

*Question (82): Mention the techniques involved in sustainable agriculture.*

Answer: The techniques are mixed farming, mixed cropping, crop rotation and crop selection.

**IMPROVEMENT IN FOOD RESOURCES**

Question (83): Differentiate between agro-forestry and horti-pastoral system.

Answer: Agro-forestry systems refer to raising crops along with trees whereas horti-pastoral systems refer to growing fodder grasses with fruit trees.

Question (84): Why was mixed cropping adopted?

Answer: Mixed cropping was adopted to greatly reduce the risk of crop failure due to lack of water in rain fed areas.

Question (85): Match the following as pairs for mixed cropping.

A	B
Soya bean	Chick pea
Pigeon pea	Mustard
Barley	Mung bean
Wheat	Pigeon pea

A	B
Soya bean	Pigeon pea
Pigeon pea	Mung bean
Barley	Chick pea
Wheat	Mustard

Answer:

Question (86): A farmer has a pigeon pea field. With which other crop can he mix crop it?

Answer: He can mix crop pigeon pea with soya bean, sorghum or mung bean.

Question (87): If you were a farmer, what criteria would you consider before selecting crops for mixed cropping?

- Answer:
- Duration of crops
  - Growth habits (relative heights)
  - Root patterns
  - Water requirement
  - Nutrient demand

Question (88): In mixed cropping, why do both plants have complementary features and requirements?

Answer: This is done to reduce competition between the plants for light, nutrients and water.

Question (89): What is the disadvantage of growing the same crop continuously?

Answer: This results in the loss of certain nutrients and promotes diseases, insects and pests.

Question (90): What is the advantage of two-year rotation over one-year rotation?

Answer: In the two-year rotation more soil nutrients are replenished when compared to the one-year rotation.

Question (91): Compare mixed cropping and intercropping.

Answer: Comparison between mixed cropping and intercropping

Mixed Cropping	Intercropping
Target to minimize risk of crop failure	Target increase productivity per unit area
Seeds of two crops are mixed before sowing	Seeds of two crops are not mixed
No set pattern of rows	Set pattern of rows
Difficult to apply fertilizer to individual crop	Fertilizer can be placed as per need of the crops

## IMPROVEMENT IN FOOD RESOURCES

Spraying for pest control to individual crop is difficult	Pesticides can be easily applied to individual crop
Harvesting and threshing of crops separately not possible	Both crops can be easily harvested and threshed separately
Marketing and consumption of only mixed produce is possible	Produce of each crop can be marketed and consumed separately

Question (92): If you were to select crop for rotation, what points would you keep in mind?

Answer: ● Availability of water

● Nutrient status of soil

● Availability of inputs

Example: Fertilizers, pesticides, man and machine power.

● Duration of crop

● Marketing and processing facilities

Question (93): Why are different methods required for the assessment of the productivity of crops?

Answer: When different crops are grown in the same field in the same year, comparison of their productivities become difficult due to variation in inputs and outputs. Hence different methods of assessment are looked upon.

Question (94): What are the net returns of a crop rotation?

Answer: The monetary difference of input and output value is expressed as net returns = monetary gross returns - cost of cultivation.

Question (95): Why is there a need for varietal improvement in food production?

Answer: The demands of a growing population and change in human needs has to be satisfied. Hence varietal improvement is essential.

Question (96): Why is selection important during plant breeding?

Answer: Selection propagates desirable characteristics of yield and quality of some plants rather than others.

Question (97): Why is the method of hybridization used in agriculture?

Answer: Hybridization is used to develop a number of improved variety of plants with desirable characteristics.

Question (98): What are the basic needs of man?

Answer: The main concerns of man are food, shelter and clothing.

Question (99): Define sustainable agriculture.

Answer: Sustainable agriculture

It is the successful management of resources for agriculture to satisfy the changing human needs, while maintaining or enhancing the quality of environment and conserving natural resources.

Question (100): What does the sustainability of mixed farming depend on?

Answer: Quality of soil and livestock, location, topography, water facilities, available technology and economics must be considered before mixed farming.

Question (101): Name any two important farming systems.

Answer: ● Food-fodder farming

● Agro-forestry

Question (102): Define mixed cropping.

Answer: It is the growing of two or more crops simultaneously on the same piece of land.

Question (103): What is the aim of mixed cropping?

Answer: Mixed cropping aims at minimizing risk and insuring against crop failure.

Question (104): What are the advantages of mixed cropping?

Answer: ● No risk of crop failure

## IMPROVEMENT IN FOOD RESOURCES

- Variety of produce
- Increase in yield

Question (105): How does mixed cropping increase yield?

Answer: The yield is increased due to complementary effect.

Example: Legume crops complemented with cereals and other non-legume crops increase the yield.

Question (106): Define intercropping.

Answer: It is the growing of two more crops simultaneously in the same field in a definite row pattern.

Question (107): Write any one-year rotation combination and any two-year rotation combination.

Answer: ● One-year rotation: Rice - Wheat

● Two-year rotation: Maize - Potato

Question (108): Define crop rotation.

Answer: It is the growing of different crops in a piece of land in a pre-planned succession.

Question (109): Why are legumes desirable in crop rotation?

Answer: Including legumes in the crop rotation cycle builds up the fertility of soil.

Question (110): What is the cost benefit ratio?

Answer: It is a method to assess the productivity of crop rotation. It is the return per rupee invested and is equal to  $\frac{\text{gross return}}{\text{total investment}}$ .

Question (111): What is varietal improvement?

Answer: Varietal improvement is the variation in plants by tailoring the plant to suit various needs. It has resulted in a dramatic change in our agriculture.

Question (112): Define plant breeding.

Answer: It is the science as well as art of improving the genetic make-up of plants in relation to their economic use.

Question (113): Write any two improved varieties of rice and wheat respectively.

Answer: Rice - Pusa Basmati 1, Vikas

Wheat - HD2687, HD2285

Question (114): Ganga 5 and Shakti are improved varieties of which crop?

Answer: Ganga 5 and Shakti are improved varieties of maize.

Question (115): Define hybridisation.

Answer: Hybridisation refers to the crossing between genetically dissimilar plants to achieve desired qualities of both parent plants in the offspring (hybrid).