

# Chapter 15

## ANSWERS

### Multiple Choice Questions

- |         |         |         |         |
|---------|---------|---------|---------|
| 1. (b)  | 2. (d)  | 3. (d)  | 4. (d)  |
| 5. (a)  | 6. (c)  | 7. (d)  | 8. (b)  |
| 9. (a)  | 10. (a) | 11. (b) | 12. (a) |
| 13. (d) | 14. (d) | 15. (d) | 16. (c) |
| 17. (d) |         |         |         |

### Short Answer Questions

18. (a)— (ii)                      (b)— (iii)                      (c)— (i)                      (d)— (iv)
19. (a) protein                      (b) fodder                      (c) Kharif                      (d) vegetables  
(e) Rabi
20. Crop which has been developed by introducing a new gene from any other source, to obtain the desired character, is called as genetically modified (GM) crop. Bt Cotton is an example of GM crop which is made insect-resistant by introducing a new gene from a bacteria.
21. Useful traits of improved crops are  
(a) higher yield  
(b) improved nutritional quality  
(c) resistance to biotic and abiotic stresses  
(d) change in maturity  
(e) wide range of adaptability  
(f) desired agronomic characteristics.
22. Organic matter is important for crops because  
(a) it helps in improving soil structure.  
(b) it helps in increasing water holding capacity of sandy soil.  
(c) in clayey soil large quantity of organic matter helps in drainage and in avoiding water logging.
23. **Hint—** Excess use of fertilizers causes environmental pollution as their residual and unused amounts will become pollutants for air, water and soil.

- 24.** (a) organic farming (b) mixed cropping (c) inter cropping  
(d) crop rotation (e) weeds (f) pathogen
- 25.** (a)—(iii) (b)—(v) (c)—(iv) (d)—(i) (e)—(ii)
- 26.** Farmers of low rainfall area will be suggested to  
(a) practice farming with drought resistant and early maturing varieties of crops.  
(b) to enrich the soil with more humus content as it increases the water-holding capacity and retains water for longer duration.
- 27.** (1) Energy yielding— wheat, rice, maize  
(2) Protein yielding— gram, pigeon gram, lentil, soybean  
(3) Oil yielding— groundnut, castor, mustard, soybean  
(4) Fodder crops— barseem, oat, sudan grass
- 28.** Hybridisation— Hybridisation refers to crossing between genetically dissimilar organisms.  
Photoperiod— Duration of sunlight available to the plant is called as photoperiod. It affects the growth, flowering and maturation of crops.
- 29.** (a) Flowering of plants  
(b) June to October  
(c) November to April  
(d) Kharif  
(e) Rabi
- 30.** Different crops and cultivation practices require different climatic conditions, temperature, photoperiod for their growth and completion of life cycle. There are some crops which are grown in rainy season (Kharif crops) while some others are grown during winter season (Rabi crops).
- 31.** (a) 16  
(b) Carbon and Oxygen  
(c) Hydrogen  
(d) 13.  
(e) Six, macronutrients  
(f) seven, micronutrients
- 32.** Compost— Compost formation is the process in which farm waste materials like livestock excreta, vegetable wastes, animal refuse, domestic waste, straw, eradicated weeds are decomposed and used as manure.  
Vermicompost— The compost prepared from organic matter by using earthworm which hastens the process of decomposition.
- 33.** (b) → (c) → (a) → (d)

- 34.** Merits of Italian bee variety *A. mellifera* are—
- (a) It stings less.
  - (b) It has high honey collection capacity.
  - (c) It stays in given bee-hive for long periods and breeds very well.
- 35.** In agricultural practices, higher input gives higher yield. This means higher money input to raise the yield. Financial conditions of the farmers allows them to take up different farming practices and technologies. The farmer's purchasing capacity for input decides cropping system and production practices.

### Long Answer Questions

- 36.** Hybridisation refers to crossing between genetically dissimilar plants. It may be inter varietal, inter specific and inter generic. Two crops of good characters (desired character) are selected and crossed to obtain a new crop having desired characters of parental crops. This method of hybridisation improves crops with respect to yield, disease resistance, pest resistance etc.
- 37.**
- (a) *Vermicompost* — Compost is a kind of manure which is rich in organic matter and nutrients. The compost prepared by using earthworms to hasten the process of decomposition of plants and animals refuse is called as Vermicompost.
  - (b) *Green manure* — The manure which is prepared by decomposing green plants in field itself is called green manure. For example — sun hemp is grown in fields, mulched by ploughing and allowed to decompose in field for the preparation of green manure.
  - (c) *Bio fertilizer*— Living organisms which are used as fertilizer to supply the nutrients to plants, are called as biofertilizers. For example, blue green algae, which fix nitrogen in soil, rice fields, are called as biofertilizer.
- 38.** Various modes of weed control are
- (a) mechanical removal
  - (b) proper seed bed preparation to avoid the weed growth
  - (c) timely sowing of crop to avoid the growth of weed.
  - (d) intercropping and crop rotation also help in weed control.
- 39.**
- (a) Capture fishery is the method of obtaining fish from natural resources while culture fishery is the method of obtaining fish by fish farming.
  - (b) Mixed cropping is growing two or more crops simultaneously on the same piece of land; while intercropping is growing two or more crops simultaneously on the same field in a definite pattern. i.e., in different rows.
  - (c) Bee keeping is the practice to rear the honey bee for obtaining honey; while poultry farming is the practice to raise the domestic fowl for egg and meat production.

**40. Hint— Demerits** (i) threat to bio-diversity (ii) only economically important and valued fishes will be cultured.

**Merits** (i) large amount of desired fishes can be obtained in small area (ii) improvement can be done.

**41.** Composite fish culture is the method to culture five or six species, both indigenous and exotic, together in a single fish pond. These species are selected so that they do not compete for food among themselves having different types of food habits. As a result food available in all the parts of the pond is used. For example— Catla are surface feeders, Rohu is middle zone feeder and Mrigals and common carps are bottom feeders.

**42.** Because good pasturage provides more quantity and quality of nectar for honey to honey bees.

**43. Hint—**Cutting plant parts, sucking cell sap, borers.

**44.** Pesticides are used in very accurate concentration and in a very appropriate manner, because if used in excess it

- (a) harms the soil and causes loss of fertility
- (b) checks the replenishment of organic matter
- (c) kills the micro organism of soil
- (d) causes air, water and soil pollution.

**45. Hint—** (i) Roughage is largely fibre. (ii) Concentrates are rich in proteins and nutrients.

**46.** Maintenance of temperature is needed for better egg production by poultry birds. Therefore, larger size (increase in surface area of body) and no adaptability of summer may cause decline in egg production. To obtain the smaller size and higher summer adaptability, cross breeding of poultry birds are done. Small size is also needed for better housing and low feed.

**47.** Some preventive measures of poultry bird diseases are

- (a) cleaning of poultry farms
- (b) proper sanitation of poultry farms
- (c) spraying of disinfectants at regular intervals
- (d) appropriate vaccination of birds.

**48. (i)** With addition of chemical fertilizer there is sudden increase in yield due to release of nutrients N,P,K etc in high quantity. The gradual decline in the graph may be due to continuous use and high quantity of chemicals which kills microbes useful for replenishing the organic matter in the soil. This decreases the soil fertility.

**(ii)** Manures supply small quantities of nutrients to the soil slowly as it contains large amounts of organic matter [Hint: importance of organic matter can be included]. It enriches soil with nutrients thereby increasing soil fertility continuously.

- (iii) The difference in the two graphs indicate that use of manure is beneficial for long duration in cropping as the yield tends to remain high when the quantity of manure increases.

In case of Plot B the chemical fertilizers may cause various problems when used continuously for long time. Loss of microbial activity reduces decomposition of organic matter and as a result soil fertility is lost that affects the yield.

**49.** Crossword.

		<sup>10</sup> T							
	<sup>1</sup> S	U	N	<sup>2</sup> F	L	O	<sup>6</sup> W	E	R
		N		O			E		
<sup>8</sup> M		A		D			E		<sup>7</sup> L
R				D			D		E
I				E					G
G				<sup>3</sup> R	A	<sup>4</sup> B	I		H
<sup>9</sup> A	P	I	S			O			O
L						R			R
S		<sup>5</sup> N	I	T	R	O	G	E	N
						N			