

**PG and Research Department of Botany**

**Horticulture - 18PBY2E2 17PBY2E3**

**K1 level questions**

1. Horticulture is the study that includes
  - a) **Fruits, vegetables and flowers**
  - b) All food crops
  - c) Vegetable gardens and lawns near hotels only
  - d) Some bush crops and apples
2. Root suckers are
  - a) Insects that suck nutrients from the roots of plants
  - b) **Shoots that arise from roots to form new plant**
  - c) New plant parts that arise from the branches of fruit trees
  - d) Roots of neighboring plants that share water with the another plant
3. A variety or strain produced by horticultural or agricultural techniques and not normally found in natural population is called
  - a) Hybrid
  - b) Tissue culture
  - c) GMO
  - d) **Cultivar**
4. Cryopreservation is a technique used for
  - a) Crystallization of food
  - b) Food packing
  - c) **Seed saving**
  - d) Preservation of excess production of vegetables
5. In hybridization this is not part of the technique used
  - a) Transfer pollen
  - b) Collect pollen
  - c) Emasculate
  - d) **Use of two plants to bridge the stems together**
6. Tissue culture is a good technique to
  - a) Cross two varieties
  - b) Rapidly increase the size of a trees by strengthening the stem
  - c) **Eliminate virus**
  - d) Improve yield of crops
7. The following is not a plant growth regulator
  - a) **Acetic acid**
  - b) Auxins
  - c) Gibberellins
  - d) Ethylene
8. Mycorrhizae is associated with the following
  - a) **Formation of root nodules**
  - b) Hyphae penetrating the soil
  - c) Found mostly in lower plants
  - d) Soil erosion
9. The pH in soils can be raised by adding:
  - a) Sand
  - b) **lime**
  - c) sulphur
  - d) nitrogen
10. In cold places frost damage can be reduced in horticultural crops using these methods except
  - a) Overhead sprinklers at night
  - b) **Green houses and shade nets**
  - c) Wind breaks placement
  - d) Appropriate fungicide application

11. Disadvantages of natural vegetative propagation includes  
 a) **lack of dispersal mechanisms**      b) no fertilization is involved  
 c) area is quickly colonized      d) daughter plants can grow quickly
12. Onion and garlic are examples of  
 a) Rhizome      b) corm      c) stem tuber      d) **bulb**
13. Examples of Corm include  
 a) **Gloriosa**      b) Canna      c) Lallang      d) Ginger
14. A common example of stem tuber is  
 a) Ginger      b) Garlic      c) Onion      d) **Potato**
15. External agencies are not required in  
 a) **natural vegetative propagation**      b) sexual reproduction  
 c) bisexual reproduction      d) trisexual reproduction
16. In cutting method of vegetative propagation, cuttings are mainly taken from  
 a) Leaves of parent plant      b) **Roots or stems of parent plant**  
 c) Shoots of parent plant      d) Buds of parent plant
17. Example of plant in which vegetative propagation is occurred by leaves is called  
 a) Cannabism      b) Chrysanthemum      c) **Cryophyllum**      d) Brassica
18. Example of natural vegetative propagation does not include  
 a) **Corals**      b) bulbs      c) corms      d) rhizomes
19. Considering corms of natural vegetative propagation, buds are present at  
 a) Front side of corm      b) Backside of corm      c) **Top of corm**      d) End of corm
20. Artificial methods of vegetative propagation includes  
 a) Cloning      b) grafting      c) cuttings      d) **both b and c**
21. Advantages of Artificial Methods of Vegetative Reproduction include  
 a) Crops with better quality      b) Crops with more yield  
 c) **Ability to produce plants with desirable qualities**      d) All of these
22. A low branch with a node is bent down and covered with soil in  
 a) Marcotting      b) **Layering**      c) Cutting      d) Budding
23. Layering can be done on plants such as  
 a) bulbs      b) **Lime**      c) Sugar cane      d) Oleander
24. Roses can grow successfully if stock and scion are  
 a) **Of related species**      b) Of different species      c) Of different groups      d) Of similar class

25. For successful grafting, stock and scion shall be  
 a) Of different species                      b) **Of same species**  
 c) Of similar groups                      d) Of different class
26. Cutting is not suitable for  
 a) **Lime**                      b) Sugar-cane                      c) Oleander                      d) Tapioca
27. Layering can be done on plants such as  
 a) Bulbs                      b) **bougainvillea**                      c) Sugar cane                      d) Oleander
28. Artificial methods of reproduction do not include  
 a) **Rhizome**                      b) cutting                      c) layering                      d) budding
29. Rootex contains  
 a) **Auxins**                      b) ABA                      c) Kinetin                      d) Ethylene
30. Urea is a source of  
 a) Phosphorous                      b) **Nitrogen**                      c) Potassium                      d) All of the above
31. Banana is propagated by  
 a) Stem cutting                      b) Tillers                      c) **Suckers**                      d) Crown
32. Which is not applicable to vegetatively propagated plants  
 a) To get true to type plants                      b) To protect an elite quality  
 c) To conserve a plant                      d) **To get a new type of plant**
33. Spot the odd one  
 a) Borders                      b) Hedges                      c) Edges                      d) **Bonsai**
34. Green manure plants used by farmers mainly belong to  
 a) Compositae                      b) **Leguminosae**                      c) Solanaceae                      d) Poaceae
35. Bioherbicides have been recommended  
 a) **To prevent eco-degradation**                      b) Because of their ready availability  
 c) Because of their cheap rates                      d) Because of their abundance
36. Water logging of soil makes it physiologically dry because-  
 (a) This condition does not allow the capillary force to work  
 b) **this condition does not allow oxygen to enter the soil**  
 C) both (a) and (b)  
 d) none of these
37. Which one of the following is natural insecticide  
 a) Pyrethrum                      b) Nicotine                      c) **both (a) and (b)**                      d) None of these

38. The process by which nutrient chemicals or contaminants are dissolved and carried away by water, or are moved into a lower layer of soil

- a) Mulching                      b) Desertification                      c) Incineration                      **d) Leaching**

39. Composted manure is produced from

- a) Farmyard manure and green manure                      b) Farm refuse and household refuse  
c) Organic remains of biogas plants                      **d) Rotten vegetables and animal refuse**

40. Aims of plant breeding are to produce

- a) Disease-free varieties                      b) High-yielding varieties  
c) Early-maturing varieties                      **d) all of the above**

40. The desired varieties of economically useful crops are raised by

- a) Vernalization                      b) Mutation                      c) Natural selection                      **d) hybridisation**

41. A plant breeder: waists to develop a disease resistant variety.  
What should he do first?

- a) Hybridisation                      b) Mutation                      c) **Selection**                      d) Production of crop

42. Main function of biofertilizer is

- a) To increase chemical process                      b) To increase physiological process  
**c) To increase biological process**                      d) To increase photosynthesis process

43. Seed treatment with Vitavax is the main controlling method of

- a) Loose smut                      b) Rust                      c) Downy mildew                      **d) All of these**

44. Pudding is done to

- a) Reduce percolation of water                      b) Pulverise and levelling soil  
c) Kill weeds                      **d) All of the above**

45. The main function of NABARD is

- a) Farmers' loaning  
b) Agricultural research  
**c) Refinancing to agricultural financing institutions**  
d) Development of agriculture

46. The word 'Agriculture' is derived from—

- a) Greek                      b) **Latin**                      c) Arabic                      d) French

47. What is the area in floriculture (in 1000 hectare) in India

- a) 40 – 50                      b) 60 - 80                      c) **100 - 120**                      d) None of these

48. The instrument, which is used for sowing of seed with fertilizer together at a time, is

- a) Seed drill                      b) Dibbler                      c) Seed sowing behind plough                      **d) Ferti-cum Seed drill**

49. Seed treatment is done to control—

- a) Soil-borne disease      b) Air-borne disease      c) **Seed-borne disease**      d) None of these

50. Main function of biofertilizer is

- a) To increase chemical process      b) To increase physiological process  
c) **To increase biological process**      d) To increase photosynthesis process

51. SO<sub>2</sub> and NO<sub>2</sub> Produce pollution by increasing

- a) Alkalinity      **b) Acidity**      c) Neutrality      d) Buffer action.

52 . Carbon monoxide is pollutant as it

- a) Inactivates nerves      b) Inhibits glycolysis  
c) Combines with oxygen      d) **Combines with haemoglobin.**

53. Spraying of DDT produces pollution of

- a) Air      b) Air and Water      c) Air and Soil      d) **Air, Water and Soil.**

54 .Acid rain is caused by

- a) **SO<sub>2</sub>** and NO<sub>2</sub>      b) SO<sub>2</sub> and CO      c) NH<sub>3</sub> and CO      d) SO<sub>2</sub> and NH<sub>3</sub>.

55. Which gas of the atmosphere holds up ultraviolet rays ?

- a) O<sub>2</sub>      b) **O<sub>3</sub>**      c) N<sub>2</sub>      d) CO<sub>2</sub>.

56. Major aerosol pollutant in Jet Plane emission is

- a) SO<sub>2</sub>      b) CO      c) CH<sub>4</sub>      d) **CFC.**

57. Ozone layer is found in

- a) Thermosphere      b) **Stratosphere**      c) Mesosphere      d) Lithosphere.

58. Chief air pollutant which is likely to deplete ozone layer is

- a) Sulphur dioxide      b) Carbon dioxide  
c) Carbon monoxide      d) **Nitrogen oxides and Fluorocarbons.**

59. Most abundant water pollutant is

- a) Detergents      b) Pesticides      c) **Industrial wastes**      d) Ammonia.

60. Green house effect is related to

- a) Increased growth of green algae      b) **Global warming**  
c) Cultivation of vegetables in house      d) Development of terrace gardens.

61. Which is not a green house gas?

- a) **CFC**      b) CH<sub>4</sub>      c) CO      d) H<sub>2</sub>

62. Which one of the following is normally not an atmospheric pollutant?

- a) CO      b) **CO<sub>2</sub>**      c) SO<sub>2</sub>      d) Hydrocarbon.

63. Lichens indicate pollution by

- a) O<sub>3</sub>      b) **SO<sub>2</sub>**      c) NO<sub>2</sub>      d) CO.

64. BOD is connected with

- a) Organic matter      b) microbes      c) **Microbes and Organic matter**      d) None of the above.

65. World Environment Day is

- a) 28th February      b) **5th June**      c) 7th August      d) 10th April

66. Ozone day is observed on

- a) 25th December      b) **16th September**      c) 21st April      d) 30th January.

67. The worst enemy of ozone is

- a) Liquid NH<sub>3</sub>      b) SO<sub>2</sub>      c) **CH<sub>4</sub>**      d) CO.

68. Air pollution effects are usually found on

- a) Flowers      b) **Leaves**      c) Stems      d) Roots.

69. Pesticide responsible for Ozone depletion is

- a) BHC      b) DDT      c) Melathion      d) **None of the above.**

70. Eutrophication results in reduction of

- a) Dissolved nitrate      b) **Dissolved Oxygen**  
c) Mineral salts      d) Parasitic protozoa.

71. Pollutants released from paddy field is

- a) CO<sub>2</sub>      b) CO      c) H<sub>2</sub>O<sub>2</sub>      d) **CH<sub>4</sub>.**

72. Itai-Itai disease is due to the toxicity of

- a) Lead      b) **Cadmium**      c) Strontium      d) Tin.

73. The newspaper contains one of the following toxic material

- a) Mg      b) **Cd**      c) Pb      d) Hg.

74. Cadmium damages

- a) Heart      b) Lungs      c) Stomach      d) **Liver and Kidneys.**

75. Minamata disease is due to pollutant

- a) Lead      b) **Mercury**      c) Hydrogen Sulphide      d) Sulphur dioxide

76. Which Pollutant causes leaf curling

- a) CO      b) H<sub>2</sub>S      c) O<sub>3</sub>      d) **SO<sub>2</sub>**

77. Component of smog

- a) O<sub>3</sub>      b) PAN      c) PPN & PAN      d) **Both (a) & (b).**

78. SO<sub>2</sub> pollution causes

- a) Plasmolysis
- b) Destruction of cell wall
- c) **Destruction of Golgi bodies**
- d) Destruction of chlorophyll.

79. A green house gas is

- a) H<sub>2</sub>
- b) CO
- c) **CO<sub>2</sub>**
- d) N<sub>2</sub>.

80. Water blooms are formed by

- a) Lemna
- b) Hydrilla
- c) Water hyacinth
- d) **Planktonic algae.**

81. Thermal pollution is more common near

- a) Hot water springs
- b) **Coal based power plants**
- c) Tropical regions
- d) Temperate regions.

82. Increasing high skin cancer and high mutation rate are

- a) **O<sub>3</sub> depletion**
- b) Acid rain
- c) CO pollution
- d) CO<sub>2</sub> Pollution.

83. Noise Pollution is measured in

- a) Hertz
- b) Fathoms
- c) Manometers
- d) **Decibels.**

84. Sound becomes hazardous noise pollution at level

- a) Above 30 dB
- b) Above **80 dB**
- c) Above 100 dB
- d) Above 120 dB.

85. Ozone hole causes

- a) Global warming
- b) Reduction in the rate of photosynthesis
- c) **More UV rays come to earth**
- d) All the above.

86. Carbon monoxide kills because it destroys

- a) **Haemoglobin**
- b) Phytochrome
- c) Cytochrome
- d) Both a and b.

87. Ozone hole is caused by

- a) Acetylene
- b) Ethylene
- c) **Chlorofluorocarbons**
- d) Methane.

88. Anxiety and stress are caused by

- a) Air pollution
- b) **Noise pollution**
- c) Water pollution
- d) Nuclear pollution

89. Automobile exhaust gas that causes major respiratory problem is

- a) **CO**
- b) CH<sub>4</sub>
- c) NO<sub>2</sub>
- d) Chlorine.

90. Role of CFC present in atmosphere is to

- a) **Reduction in ozone**
- b) Ozone formation
- c) Formation of leg haemoglobin
- d) Enhance chlorophyll formation.

91. Linnaeus is credited with introducing

- a) The concept of inheritance
- b) Law of limiting factor
- c) Theory of heredity
- d) **Binomial nomenclature**

92. Basic taxonomic unit is  
a) Kingdom    b) Genus    c) **Species**    d) Order
93. Binomial nomenclature means writing the name of plant in two words which designate  
a) Order and Family    b) Family and genus    c) Species and variety    d) Genus and species
94. Classical taxonomy is also termed  
a) **Beta taxonomy**    b) Systematic    c) Descriptive taxonomy    d) Experimental taxonomy
95. Coacervates were experimentally produced by  
a) **Oparin and Haldane**    b) Darwin    c) Aristotle    d) Louis Pasteur
96. Coacervates were formed by  
a) DNA    b) Radiations    c) Polymerization    d) **Polymerisation and aggregation**
- 97) Algal bloom results in  
a) Global warming    b) Salination    c) **Eutrophication**    d) Biomagnification
- 98) The main atmospheric layer near the surface of earth is  
a) **Troposphere**    b) Mesosphere    c) Ionosphere    d) Stratosphere
- 99) Which one is green manure  
a) **Sesbania**    b) Rice    c) Oat    d) Maize
- 100) Which one is the major component of Bordeaux mixture  
a) **Copper sulphate**    b) Sodium chloride    c) Calcium chloride    d) Magnesium sulphate

## Horticulture K3 level question

### Unit 1

1. List out the divisions of Horticulture
2. Illustrate the brief history about Horticulture past to present.
3. Produce a proper definition for Horticulture; write in detail about scope and importance.
4. What are the ecological factors affecting the growth of Horticultural crops.
5. Give the relationship between plant growth and environment factors.
6. What are the possibilities of vegetable cultivation in India?
7. Discuss major business opportunities in horticulture.

### Unit 2

8. Identify the meaning for Bioinoculants and where it can be apply.
9. What are the main growing media used in horticulture
10. What do you understand by soil testing? Why is soil testing required and how is it done?

11. Describe the advantages and disadvantages of soil nursery.
12. What is a crop nursery? Give four reasons for raising seedlings first in a nursery.
13. What is a green manure crop? What are its advantages and disadvantages?
14. Write an essay on basic components of organic farming.
15. Summarize the methods of fertilizer applications.
16. Write down the advantages of organic manure. Write a brief note on vermicompost and its application.
17. Differentiate the following i & ii with examples.
  - i) Mixed cropping v/s Intercropping.
  - ii) Inorganic v/s Organic fertilizers.

### **Unit 3**

18. Investigate the mechanism of seed dormancy.
19. Outline the advantages of plant propagation by seeds.
20. Enlist the mechanism of dormancy breaking of seeds.
21. Give the scientific reasons of the following concepts.
22. Foliar spray mechanism increases the growth and development in crops.
23. What is training? What are different systems of training?
24. What do you mean by pruning? Explain the different types of pruning.
25. What is adaptive cultivation? Write in detail the adaptive cultivation in horticulture.
26. Produce proper notes for importance of medicinal plants cultivation in India.
27. Prepare notes for medicinal plant cultivation in India with examples.
28. Write an essay on major horticultural crops of India
29. What is the impact of medicinal and aromatic plants trade.
30. Excess potassium and phosphorus fertilizers increase crop yields but Cause the problem of eutrophication.

### **Unit 4**

31. Create a proper meaning for turf production and write briefly about their significance.
32. Demonstrate about methods of direct and indirect seedling production.
33. Differentiate bulb and bulbils with examples.
34. Identify the meaning for adaptive cultivation and where it can be apply.
35. Explain in detailed about the bonsai techniques and indoors plants growing.
36. In the context of landscape design give the principles of design.
37. Write briefly about the following i & ii with examples.
  - i) Sand culture and gravel culture.
  - ii) Terrace garden and vertical garden.
38. Explore the mechanism of Terrarium culture.

## Unit 5

39. Outline the advantages of cut flower industry in India.
40. Enlist the mechanism of landscaping and designing.
  - i) Give the notes for the following terms. Storage; Processing; Marketing of harvested fruits and vegetables.
  - ii) Indoor Gardens and its role
41. Write shortly about Bosai techniques.
42. Write briefly about principles of landscaping.
43. Write notes for following sentence
  - i) Post-harvest handling
  - ii) Harvesting
  - iii) *Storage; Processing*
44. Enlist major pest and diseases of major floricultural crops. And discuss their management.
45. Discuss different methods of flower arrangement
46. Write an Essay on National Horticultural Mission of India
47. Discuss the effect of ethylene in post-harvest technology.
48. Summarize the post harvest handling of horticultural products.
49. Explain in detailed about on major causes of post-harvest loss in horticultural crops.
50. Explain the importance of post harvest technology in horticultural crops.

## K4 level question

### Unit 1

1. Prepare a mind map and explain the classification of Horticultural plants.
2. Classify vegetable crops based on the plant part used as a vegetable with examples.
3. Define the term “horticulture,” and discuss the role of horticulture in enhancing human well-being and environmental beautification.
4. Give an account on divisions of horticulture and nutritive value of horticultural crops.
5. Distinguish the following disciplinary areas of horticulture with the kinds of crops grown and cultural practices used.
  - i. Pomology
  - ii. Olericulture
  - iii. Floriculture
  - iv. Nursery crops
6. Cultivated plants are classified by annuals, biennials, and perennials. Distinguish the growth and flowering habits of each group with example of horticultural crops involved in your discussion.
  - i. Annuals
  - ii. Biennials
  - iii. Perennials

## **Unit 2**

7. Identify and discuss about the various types of potting media preparation.
8. Define nursery, write a detail note on types of nursery beds with some examples.
9. Point out the role of primary and secondary nutrients and their functions.
10. What are the important functions of nitrogen? Write its deficiency symptoms.
11. Categorize the soil profile of a cultivation land and write about its structure.
12. What are the different methods for the application of fertilisers in vegetable crops?

## **Unit 3**

13. List the factors which affect seed germination.
14. Discuss in detail about the factors responsible for seed dormancy.
15. Name any four fruit plants which are raised first in the nursery through seeds.
16. Illustrate the directing plant growth ie. Training, Pruning and Thinning.

## **Unit 4**

17. Distinguish the following terms as modifications of stem tissues and provide two examples of crops for each.
  - i. Tuber
  - ii. Runner
  - iii. Rhizome
  - iv. Corm
18. Write an essay on gardening and maintenance of rock and vertical gardens.
19. Discuss about the propagation through specialized underground structures.
20. Illustrate the vegetative propagation - Cutting, Layering, Grafting and Budding.

## **Unit 5**

21. What is preservation? Discuss different methods of preservation of fruits and vegetables.
22. Explain how to handle cut flowers so that water loss (wilting) does not become a problem during the postharvest period.
23. Design a postharvest handling system (harvest to sale at destination markets) for a horticultural product
24. What is lawn? What are the major advantages of lawn? Explain different methods of planting lawn grasses
25. Discuss production technology of rose under the following heads : Soil and Climate, Important Varieties, major pests and diseases.