



OBJECTIVES

(6th Dean Committee Syllabus)

Course No.: HORT-111 (New)

Course Title: Fundamentals of Horticulture

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- All Important Definitions, Objectives are shortlisted in this file for the convenience of the students.
 - Students are required to take a print of this file to study at the time of exam.
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Very important objectives for Semester End Examination

Q.1 Define the following terms.

- 1) **Pomology:** - It is the branch of horticulture, which deals with cultivation of fruit crops.
- 2) **Olericulture:** - It is the branch of horticulture, which deals with cultivation of vegetables.
- 3) **Unfruitfulness:** - Inability of plants to produce mature fruits is called unfruitfulness.
- 4) **Wind breaks:** - When rows of trees are planted around the fruit orchard/garden, they help in reducing the wind force are called as wind break. E.g. Eucalyptus, casurina.
- 5) **Propping:** - To avoid uprooting of banana plant due to wind or heavy crop load, support the plant with bamboo stick or casurina poles known as propping or staking.
- 6) **Cuttage:** - Any detached vegetative plant part that can be expected to regenerate the missing part to form a complete plant.

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- 7) **Micro propagation:** - Vegetative propagation of plants by invitro technology producing plantlets, micropropagules or somatic embryos is called micro propagation.
- 8) **Scion:** - It is detached portion (bud/shoot) from parent plant which is added on root stock to develop new plant.
- 9) **Foliage shrub:** - Shrubs are plants smaller than tree produce a large number of branches from the base foliage shrubs are having ornamental leaves.
- 10) **Mulching:** - Mulching is a system of orchard soil management in which the orchard soil is covered with materials like dried grasses. Straw, saw dust, polythene paper etc. with the objective of reducing the loss of soil moisture due to evaporation and to conserve the soil moisture.
- 11) **Green house:** - A greenhouse is a farmed structure covered with transparent material in which crops could be grown under the conditions of partially controlled environment and which is large enough to permit person to work within and to carry out cultural operations.
- 12) **Propagation:** - It is the process of controlled perpetuation of plants with the objective of increasing the number of plants and preserving the essential characters of the plants.
- 13) **Dormancy:** - It is the condition of seed when it fails to germinate even under suitable conditions.
- 14) **Polyembryony:** - A phenomenon of presence of two or more embryo within a single seed.
- 15) **Rootstock:** - The plant part which will give rise to the roots system and into which bud or shoot is set called rootstock plant.
- 16) **Grafting:** - It is an operation of uniting scion stick and root stock in a manner such that they may unite and grow successfully as one plant.
- 17) **Layering:** - It is a technique of propagation in which adventitious roots are caused to form on a stem while it is still attached to the parent plant.
- 18) **Budding :-** It this operation only one bud and is united with stock in a manner such that they may unite and grow successfully as one plant known as budding.
- 19) **Vine:** - All types of climbing plants are broadly referred to as vine.

- 20) **Seed:** - A mature ovule which consists of an embryo, its stored food supply and protective covering.
 - 21) **Temperate zone:** - These are the regions in which temperature goes below freezing point in winter months known as temperate zones.
 - 22) **Annual:** - These are the plants which complete their life cycle in one year or in one season known as annuals.
 - 23) **Perennials:** - These are the plants which complete their life cycle in more than two years known as perennials.
 - 24) **Biennials:** - These are the plants which complete their life cycle in two years or two seasons known as biennials.
 - 25) **Heading back:** - Only one third to one half terminal portions of the branches having their basal portion intact are removed.
 - 26) **Spur:** - Short twig that is specialized for bearing flower buds and fruit on many fruit species.
 - 27) **Sapling:** -Refers to a plant grown from a vegetative part of the original plant asexually.
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Q.4 State true or false.

- 1) Mango is temperate fruit crop.
- **False (tropical fruit crop)**
- 2) Konkan bold is an improved variety of Karonda.
- **True**
- 3) Grapes can be propagated by tissue culture.
- **False (Hard wood cutting)** 4) Cycocel is root promoting hormone.
- **False (IBA)**
- 5) Guava is rich source of ascorbic acid.
- **True**
- 6) Sphagnum moss is medium used for air layering.
- **True.**
- 7) Peach is deciduous fruit tree.
- **True.**
- 8) Mango deciduous fruit tree.
- **False (Evergreen)**
- 9) Papaya is monoecious fruit crop.
- **False (dioecious)**
- 10) Scion is the lower portion of graft combination.

- **False (upper portion)**
- 11) Sapota is commercially propagated by stone grafting.
 - **False (Inarching)** 12) Kagzi lime is propagated by seed.
 - **True.**

Q.5 Selected the proper word from the following statements.

1. Role of GA3 is to increase the **fruit size** / ripening of fruit/rooting in hardwood cuttings.
2. Bending practice is followed in pomegranate / **Guava** / Banana.
3. Grapes are pruned once / **twice** / thrice in year in Maharashtra.
4. Fig is propagated by **air layering** / grafting/budding.
5. Pomegranate is trained by single / double / **multi stem** training system.
6. Papaya is monoecious / **dioecious** fruit crop.
7. In Konkan region mango is commercially propagated by **epicotyl grafting** / softwood grafting / Inarching.
8. Sapota is commercially propagated by stone grafting / **Inarching** / layering.
9. Custard apple belongs to family **Annonaceae** / Rhamance / Moraceae.
10. Denavelling is important intercultural operation in Mango / Sapota / **Banana**.
11. NAA / **IBA** / TIBA is used for rooting of hard wood cutting.
12. Most of the horticultural crops are grown successfully within temperature range – **10-20°C** / 15-35°C / 40-50°C.
13. Sweet orange belongs to family Tilliacege / **Rutaceae** / Anacareliacee.

Fill in the Blanks	
1	Ganesh is an improved variety of Pomegranate .
2	Khirni is a root stock used for Sapota propagation.
3	Annonaceae is the family of custard apple .
4	Mangoes are planted at a spacing of 2.5 x 2.5 m in HDP .
5	In hexagonal system of layout of orchard 15% more trees can be occupied in the given area compared to square system.

6	The soils with pH value between 6.5 to 7.5 are suitable for cultivation of most of the fruit crops.
7	Khirni is most common root stock used for Sapota .
8	Pomegranate is commercially propagated by air layering .
9	Mandarin orange is commercially propagated by shield budding
10	Kagzi lime is commercially propagated by Seed .
11	Seedless variety of mango is Sindhu
12	IBA is used for rooting in hard wood cutting .
13	Root stock is the lower portion of graft union.
14	In quincunx method tree planted at the centre of each square termed as filler tree.
15	Banana belongs to family <i>Musaceae</i> .
16	Ratna is cross between Neelum X Alphonso .
17	Sapota belongs to family Sapotaceae .
18	The origin of mango is Indo Burma region.
19	Pineapple belongs to family Bromeliaceae .
21	Largest fruit producer country in the world is Brazil
22	India is Second largest producer of fruit in world.
23	Botanical Name of mandarin orange is <i>Citrus reticulata</i>
24	Banana is commercially propagated through Sword suckers
25	Wind breaks are planted in orchards towards South- West
26	Papaya is commercially propagated by Seeds
27	Oily spot/ Bacterial blight is a serious bacterial disease of Pomegranate
28	Bower system of training in grape is having high cost benefit ratio.
29	Mango fruits are good source of Vitamin A
30	The nutrient element which improves quality of the fruit is Potassium
31	Fig belongs to family Moraceae
32	Hexagonal system of planting accommodates 15 % . more plants than square system.
33	Banana belongs to family Musaceae
34	Papaya belongs to family Caricaceae

35	A plant complete its life cycle in one year and one season is called as Annual crops
36	The botanical name of papaya is Carica papaya
37	Square system of is the most popular planting system
38	Edible part of pomegranate is Aril
39	Horticulture is derived from Latin word.
40	Ethylene is a ripening hormone.
41	IBA is a Rooting hormone
42	GA₃ is used in grape to increase berry size at conc. of 40-50ppm
43	A branch of hort, which deals with cultivation of fruit crops is called as Pomology
44	In grafting the union between stock and scion takes places through Cambium tissue
45	Scurvy disease occurs due to deficiency of Vitamin C
46	Night blindness is the disease caused due to deficiency of Vitamin A
47	Paclobutrozol/ Cultar/ P₃₃₃ used to regulate the bearing in mango.
48	GA₃ is used for berry elongation in grapes.
49	Application of fertilizers through drip system of irrigation is known as Fertigation
50	for undulating/ hilly areas Contour planting system is followed
51	Bougainvillia/ Karonda plant is mostly used for a live fencing purpose
52	October pruning in grape is also known forward pruning.
53	April pruning in grape is also known backward pruning.
54	Thompson seedless is a variety of Grape
55	Commercial propagation method of Fig is Air Layering
56	Khirani/ Ryan. is a rootstock of sapota is used in propagation
57	Cricket ball, Kalipatti is a variety of Sapota
58	Family of Guava is Myrtaceae
59	In konkan region, Mango is commercially propagated by Epicotyl grafting

60	King of Fruit is Mango.
61	Pomology word derived from Greek language.
	Ganesh is the improved variety of Pomegranate
63	Jamberi/ Rangpur lime .is a rootstock of Sweet orange.
64	Rectangular planting system is commonly followed in Grape.

	True or False	Ans.
1	Rangpur lime rootstock is used for Sweet orange	True
2	Night blindness is the disease occurs due to deficiency of Vitamin D.	False
3	Scurvy disease occurs due to deficiency of Vitamin C	True
4	Spongy tissue is the problem of Banana.	False
5	Dinkar is the variety of Fig.	True
6	Sardar is a variety of Grape.	False
7	Papaya is commercially propagated by Shield budding	False
8	Mallic Hydrazide (MH-40) is a growth regulator.	False
9	Mango is a non-climacteric fruit.	False
10	Acid lime is propagated by grafting.	False
11	Sardar variety of guava is also known as L-49	True
12	Sindhu is a seedless variety of Mango	True
13	Banana commercially propagated by Sword suckers	True
14	Sweet orange is commercially propagated by T budding	True
15	Mango is a rich source of Vitamin A	True
16	Grand Nine (G-9) is a variety of Papaya	False
17	Cricket ball is a variety of Ber	False
18	Alternate bearing is serious problem occur in Alphonso mango	True
19	As per ICMR, Daily requirement of vegetable is 300gm and fruit 85 gm.	True
20	Vitamin E is also known as Anti sterility vitamin	True
21	Mango, Banana is a tropical fruit crop	True
22	Pomegranate, Citrus is a sub-tropical fruit crop.	True
23	Citrus is a climacteric fruit crop.	False

24	Pomegranate is a Non climacteric fruit crop.	True
25	Aonla is a rich source of Vitamin C	True
26	Due to absence of Cambium layer in Banana budding grafting is not possible.	True
27	Botanical name of Kagzi lime is Citrus limon	False
28	Maharashtra is also known as Fruit bowl of India	True
29	Meadow orcharding is applicable in Guava	True
30	In Open centre system maximum fruit setting is done as compare to other two methods	True
31	Heading back is a method of training	False
32	Mango, Jamun, Citrus are the polyembryonic Plants.	True
33	Dogridge is a Ber rootstock	False
34	Vitamin B ₂ is also known as Riboflavin	True
35	National Research Centre for Grape is located at Pune	True

Answer in one sentence

1	Give two examples of Plants propagated by Rhizomes
2	Give two examples of Plants propagated by Bulbs
3	Give two examples of Plants propagated by Air layering
4	Give two examples of Plants propagated by Hard wood cutting
5	Give two examples of Plants propagated by Shield Budding

6	Give two examples of Plants propagated by Grafting
7	Give two examples of Plants commercially propagated by Seed
8	Give two examples of Monocot fruit Plants
9	Give two examples of Tropical fruit crop
10	Give two examples of sub-tropical fruit crop
11	Give two examples of temperate fruit crop.
12	Give two examples of fruits rich in Vitamin A
13	Give two examples of Fruits rich in Vitamin C
14	Which planting system is followed in Hilly areas
15	Which planting system is followed in Highly expensive and fertile soil?
16	In which planting system filler plant is planted at centre of square.
17	Give two examples of plants suitable for filler plant in Diagonal planting systems.
18	Give two examples of plants suitable for fencing

19	Give two examples of plants suitable for wind breaks
20	Wind breaks are planted on which direction of field.
21	Enlist methods of training for fruit crop.
22	Enlist methods of training followed for Grapes.
23	Enlist methods of pruning for fruit crop.
24	Enlist methods of pruning followed in Grape crop.
25	Enlist special horticulture practice followed in fruit crop.
26	Give two methods of irrigation methods followed for fruit crops.
27	Give Two types of mulches used in fruit crops.
28	Give two examples of Auxins
29	Give two example of Growth Retardants.
30	Write Family of banana
31	Write two Varieties of Banana
32	Write Family of Citrus
33	Name two Rootstocks of Sweet orange used in propagation.
34	Name two Rootstocks of Grape used in propagation.
35	Name two varieties of Sapota.
36	Name the rootstock of Sapota used for propagation.
37	Write down Botanical name and Family of Guava
38	Name two varieties of Guava.
39	Write commercial propagation method of Guava
40	Write commercial propagation method of Pomegranate
41	Write Botanical name of family of Ber
42	Write two varieties of Ber.
43	Write commercial propagation of Ber.
44	Write Botanical name of family of Fig
45	Abbreviate MPVK and where it is situated.
46	Abbreviate BSKKV and where it is situated.
47	Abbreviate VNAMAU and where it is situated.
48	Abbreviate PDKV and where it is situated.

MCQ HORT 111

1. Which chemical is used for de-greening of fruit?

- (A) IBA
- (B) Cytokinin
- (C) Gibberalic Acid
- (D) Ethylene

Ans. D

2. HQ of International Society for Horticulture Science (ISHS) is at _____

- (A) USA
- (B) Belgium
- (C) France
- (D) Brazil

Ans. B

3. Journal "Indian Horticulture" is published by _____

- (A) IIHR
- (B) IARI
- (C) ICAR
- (D) IGKV

Ans. C

4. Most abundant and basic Auxin is _____

- (A) IAA
- (B) NAA
- (C) IBA
- (D) 2-4 D

Ans. A

5. India is known as home of _____

- (A) Vegetables
- (B) Spices and Medicinal
- (C) Fruits
- (D) Flowers

Ans. B

6. High Water Use Efficiency (WUE)

- (A) Flood irrigation
- (B) Sprinkler
- (C) Drip
- (D) All of the above

Ans. C

7. Protray are related to _____

- (A) Post harvest
- (B) Nursery
- (C) Processing
- (D) Transport **Ans. B**

10. Disease free plants in micro propagation can be obtained through _____

- (A) Meristem culture
- (B) Anther culture
- (C) Embryo culture
- (D) Cell culture

Ans. A

11. Which of the following chemical is used for polyploidy breeding

- (A) MH
- (B) CCC
- (C) NAA
- (D) Colchicine

Ans. D

12. Which of the following is an antifungal and an antibiotic

- (A) Pimaricin
- (B) Subtilin
- (C) Nisin
- (D) Zeatin

Ans. A

13. Making an incision below a bud to retard its growth

- (A) Nicking
- (B) Ringing
- (C) Notching
- (D) Thinning

Ans. A

14. Germination of seed while it still remains attached with the parent source

- (A) Ovipary
- (B) Apomixis
- (C) Vivipary
- (D) Asepsis

Ans. C

15. Angle formed by attached of a branch to the trunk

- (A) Conn
- (B) Crown
- (C) Corona
- (D) Crotch

Ans. D

16. “Queen of Fruits” is called _____

- (A) Avocado
- (B) Mango
- (C) Mangosteen
- (D) Ber

Ans. C

17. “King of Fruits” is called _____

- (A) Mango
- (B) Guava
- (C) Apple
- (D) Citrus

Ans. A

18. “King of Temperate Fruits” is called _____

- (A) Pear
- (B) Apple
- (C) Peach
- (D) Kiwi Fruit

Ans. B

19. “Queen of Nuts” is called _____

- (A) Walnut
- (B) Almond
- (C) Peanut
- (D) Date palm

Ans. C

20. “King of Nuts” is called _____

- (A) Walnut
- (B) Almond
- (C) Peanut
- (D) Date palm

Ans. A

21. “King of Arid Fruits” is called _____

- (A) Aonla
- (B) Pomegranate
- (C) Phalsa
- (D) Ber

Ans. D

22. “Fruit of the 21st century” is called _____

- (A) Jamun
- (B) Ber
- (C) Aonla
- (D) Bael

Ans. C

23. “Pusa Nanha” dwarf variety of Papaya is developed through _____

- (A) Hybridization
- (B) Mutation
- (C) Selection
- (D) Heterosis

Ans. B

24. Pusa Majestic is a variety of _____

- (A) Papaya
- (B) Gauva
- (C) Mango
- (D) Citrus

Ans. A

25. The fruit of banana is botanically a/an

- (A) Pepo
- (B) Berry (C) Pome
- (D) Drupe

Ans. B

28. Pollination in Mango is mainly

- (A) House fly
- (B) Honey bees
- (C) Weevil
- (D) Wind

Ans. A

29. Polyploidy variety of Mango

- (A) Vellaicollamban
- (B) Olour
- (C) Kurukkan
- (D) All of the above

Ans. D

30. Which Mango variety is suitable for high density planting?

- (A) Sindhu
- (B) Amrapali
- (C) Mallika
- (D) Ambika

Ans. B

31. Seedless variety of Mango

- (A) Mallika
- (B) Safari
- (C) Ratna
- (D) Sindhu

Ans. D

32. Which of the following is the edible part of Litchi

- (A) Pericarp
- (B) Kernal
- (C) Fleshy aril
- (D) Thalamus

Ans. C

33. Regulation in mango flowering to some extent can be induced with the application of

- (A) Paclobutrazol
- (B) ABA
- (C) Auxin
- (D) Thiourea

Ans. A

35. Gulabi is important cultivar of _____

- (A) Strawberry
- (B) Litchi
- (C) Pomegranate
- (D) Grape fruit

Ans. B

36. Which state is known as “Apple Bowl”

- (A) Himachal Pradesh
- (B) Uttrakhand
- (C) J & K
- (D) Punjab

Ans. A

38. Polyembryonic fruit crop (/crops) is (/are)

- (A) Mango
- (B) Citrus
- (C) Jamun
- (D) All of the above

Ans. D

39. In Papaya papain contain _____ protein

- (A) 65.2%
- (B) 82.2%
- (C) 72.2%
- (D) 55.5%

Ans. C

42. Multistorey cropping system is practised in _____

- (A) Bihar & UP
- (B) Karnataka & Kerala
- (C) J & K
- (D) Punjab & Gujrat

Ans. B

44. Bitterpit in Apple is due to the deficiency of _____

- (A) Ca
- (B) Zn
- (C) Mn
- (D) K

Ans. A

47. Which fruit is commonly known as “Fruit of New World”

- (A) Jackfruit
- Passion fruit
- Avocado
- Mango

C

48. Papaya is a native of _____

- (A) Asia
- (B) India
- (C) Brazil
- (D) Tropical America

Ans. D

49. Cricket ball and Kalipatti are famous varieties of _____

- (A) Ber
- (B) Mango
- (C) Sapota
- (D) Litchi

Ans. C

51. Which of the following is a ripening hormone

- (A) GA-3
- (B) Auxin
- (C) Cytokinin
- (D) Ethylene

Ans. D

52. Which type of apomixis is found in apple?

- (A) Recurrent
- (B) Non-recurrent
- (C) Polyembryony
- (D) None of the above

Ans. A

53. Fruit found in desert of cold arid region

- (A) Apple
- (B) Peach
- (C) Pear
- (D) Apricot

Ans. D

54. Seeds are sown immediately after extraction in which fruit

- (A) Citrus
 - Ber
 - Mango

Jamun

A

55. Which one of the following is a climacteric fruit?

- (A) Fig
- (B) Citrus (C) Grape
- (D) Strawberry

Ans. A

57. Man-made hybrid is _____

- (A) Pineapple
- (B) Strawberry
- (C) Pomegranate
- (D) Apple

Ans. B

61. Cultivated strawberry is _____

- (A) Diploid
- (B) Octaploid
- (C) Hexaploid
- (D) Triploid

Ans. B

63. Which of the following system of training of grapes has high cost benefit ratio

- (A) Bower
- (B) Head
- (C) Kniffin
- (D) Trellis

Ans. A

64. Vegetative propagation of date palm is through _____

- (A) Runners
- (B) Suckers
- (C) Slips
- (D) Stolen

Ans. B

65. Which of the following is a non-climacteric fruit

- (A) Litchi
- Mango
- Apple

Banana

A

66. Fruit rich source of Vitamin A is _____

- (A) Papaya
- (B) Mango
- (C) Banana
- (D) Beal

Ans. B

70. Micro-propagation is common in multiplication of _____

- (A) Banana
- (B) Orchids
- (C) Strawberry
- (D) All of the above

Ans. D

71. Bending is practice in guava to encourage

- (A) Better sprouting
- (B) Better ripening
- (C) Better fruiting
- (D) Better quality

Ans. C

75. Development of embryo without fertilization is known as _____

- (A) Parthenocarpy
- (B) Parthenogenesis
- (C) Apomixis
- (D) None of the above

Ans. C

76. Development of embryo from unfertilized egg is known as _____

- (A) Parthenogenesis
- (B) Parthenocarpy
- (C) Apomixis
- (D) None of the above

Ans. A

78. Vivipary is observed in _____

- (A) Guava
- Jackfruit

Ber

Beal

B

83. Tongue grafting is a modified form of _____

- (A) Saddle grafting
- (B) Whip grafting
- (C) Inarching
- (D) None of the above

Ans. B

85. Which fruit is called as “Miracle fruit of China”

- (A) Litchi
- (B) Kiwi fruit (C) Orange
- (D) Pineapple

Ans. B

86. Fruit most suited for jelly making

- (A) Mango
- (B) Banana
- (C) Guava
- (D) Citrus

Ans. C

87. Modified stem of banana is _____

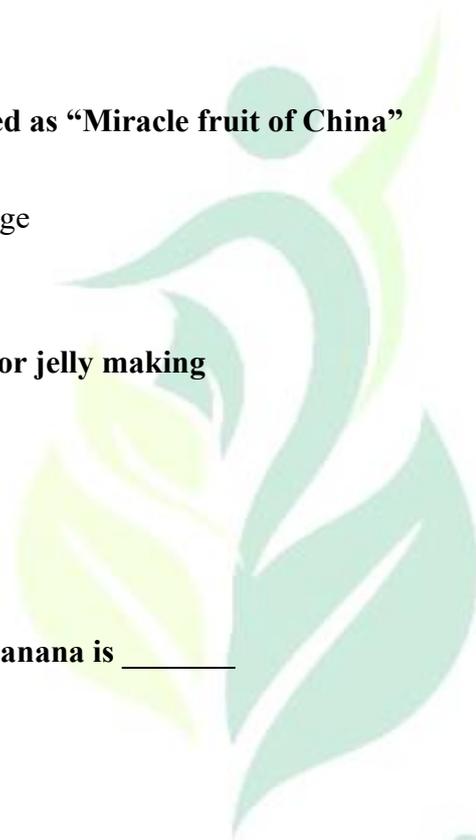
- (A) Sword suckers
- (B) Rhizomes
- (C) Water suckers
- (D) Corm

Ans. B

88. Which of the following is dwarf variety of mango

- (A) Amarpali (B) Alphanso
- (C) Dashehari
- (D) Langra

Ans. A



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90. Which one is sensitive to high water table?

- (A) Guava
- (B) Plum
- (C) Peach
- (D) Pear **Ans. A**

Q 38. rootstock used in sweet orange and mandarin

- 1. Jamberi
- 2. Rangpur lime
- 3. Trifoliate orange
- 4. **All above**

Q 40. As per climate requirement type fruit crop is citrus.

- 1. temperate
- 2. tropical
- 3. **sub- tropical**
- 4. Exotic

Q42. Rootstock use in Sapota propagation *

- 1. Sapota
- 2. **Khirani**
- 3. Any Acharus species
- 4. Olour

Q 43. COMMERCIAL PROPAGATION METHOD IN SAPOTA *

- 1. **Air layering**
- 2. Veneer grafting
- 3. Inarching or approached grafting
- 4. Stem cutting

1. Study or cultivation of fruit crops is known as

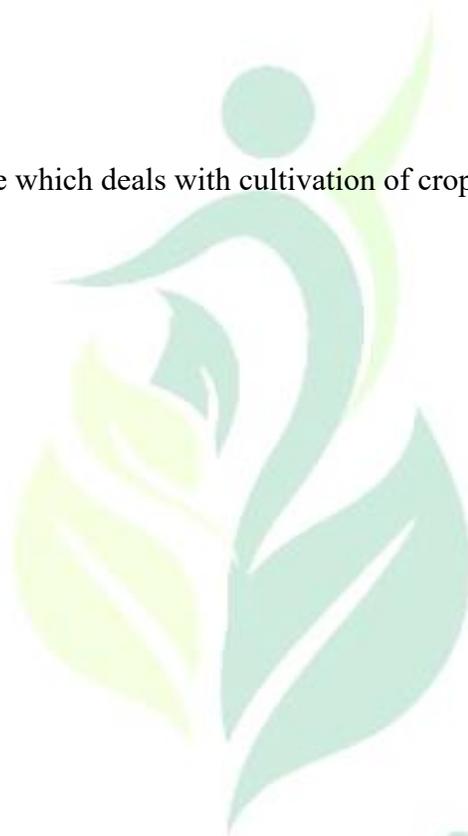
- a) Floriculture
- b) **Pomology**
- c) Oreliculture
- d) Aboriculture

2. Study or cultivation of vegetable crops is known as

- a) Floriculture
- b) Pomology
- c) **Oreliculture**
- d) Aboriculture

3. Study or cultivation of flower crops is known as

- a) **Floriculture**
 - b) Pomology
 - c) Oreliculture
 - d) Aboriculture
4. Branch of horticulture science which deals with raising of plants for aesthetic, educational and scientific purpose is
- a) Floriculture
 - b) Pomology
 - c) Oreliculture
 - d) **Aboriculture**
5. Branch of horticulture science which deals with cultivation of crops whose produce is used only after processing is known as
- a) Spices
 - b) Medicinal
 - c) Aromatic
 - d) **Plantation**



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