

- Question should be in 6-8 lines. 5x3=15
- What is seed dormancy
 - What is model nursery
 - What is Scarification & stratification
 - What is growth regulators
 - What is stock and scion relationship
 - What is soil solarization

Q.2 Choose the correct answer and write the choice 1 or 2 or 3 or 4 in the space given against each sub-question: 15x1.0=15.0

- Which of the following is not a method of vegetative propagation ?
 (1) Grafting (2) Seed sowing
 (3) Layering (4) Cutting
- Which is most important tools of nursery?
 (1) Secateur (2) Rope
 (3) Scissors (4) Tape
- Micrografting is primarily used to ?
 (1) Increase fruit size (2) Propagate virus-free plants
 (3) Enhance flower color (4) Improved seed germination
- In budding and grafting the union between stock and scion takes place through
 (1) Phloem (2) Cortex
 (3) Cambium (4) Xylem
- Which is rooting hormone
 (1) IBA (2) IAA
 (3) CCC (4) GA
- Which type of vegetative propagation involves bending a branch to the ground and covering it with soil to form roots
 (1) Grafting (2) Layering
 (3) Cutting (4) division
- What is the ideal temperature range for most vegetable seedling in a net house ?
 (1) 10-15°C (2) 20-25°C
 (3) 25-30°C (4) 30-35°C
- Shoot tipgrafting is used to produce
 (1) Colorful plants (2) Virus free plants
 (3) Dwarf plants (4) Salt tolerant plants
- How often should net house nurseries be watered
 (1) Every day (2) Every other day
 (3) When the soil is dry (4) As needed
- Which type nursery bed is required during rainy season
 (1) Flat bed (2) Raised bed
 (3) Lateral bed (4) Simple bed
- India having position in case of vegetable and Fruits production in world.
 (1) 1st Rank (2) 2nd Rank (3) 3rd Rank (4) 4th Rank
- Ideal size of nursery bed ?
 1) 3m x 1 m. 2) 4m x 1m 3) 3m x 3m 4) 3m x 4m
- Nursery Act. Was adopted in India During ?
 1) 1973 2) 1978 3) 1956 4) 1965
- Which PGR is suitable for breaking seed dormancy ?
 1) CCC 2) IBA 3) GA3 4) Auxin
- Which is a not method of cutting ?
 (1) Hard wood cutting (2) Soft wood cutting (3) Semi hard wood cutting (4) Tissue culture

Important Horticulture & Nursery Points

1. Renewable Pruning

- It is the pruning of older branches to encourage the growth of new ones from the base or main structure. It helps in rejuvenation and prolongs the productive life of the plant.

2. Mother Block

- A group of selected superior, healthy, true-to-type plants maintained for the purpose of producing propagation material.
- It ensures disease free and high quality plants.

3. Rose (*Rosa indica*)

- Queen of flowers.
- Propagated by cutting, budding and grafting.
- Used for loose flowers, bouquet, garland, perfume and ornamental purpose.
- Important varieties: Hybrid tea, Floribunda, Desi rose.

4. Marigold (*Tagetes spp.*)

- Popular ornamental flower.
- Propagated by seeds.
- Used for garland, decoration, pooja and landscaping.
- Varieties: African marigold, French marigold.

5. Sadabahar (*Catharanthus roseus*)

- Also called Periwinkle.
- Ornamental as well as medicinal plant.
- Flowers throughout the year.
- Uses: Alkaloids used in cancer treatment.

6. Terms

- Pruning - Cutting of unwanted parts.
- Budding - A bud of scion is inserted on rootstock.
- Disbudding - Removal of extra buds.
- Piercing - Making a small hole or injury in plant part.
- Propagation - Raising new plants from vegetative or sexual parts.
- Net house - Structure covered with net to protect from insects.

7. Budding

- A method of vegetative propagation in which a single bud of scion is inserted under the bark of rootstock. Eg. - Rose, Citrus, Peach.

8. Disbudding

- Removal of unwanted buds to enlarge the size and quality of flower or fruit. Eg. - Chrysanthemum, Dahlia.

9. Piercing

- Making a small hole or injury in the stem or branch to stimulate growth or insert buds.



10. Nursery Equipment

- Spade
- Shovel
- Khurpi
- Rake
- Watering can
- Secateurs
- Pruning saw
- Grafting knife
- Wheel barrow
- Sprayer
- Polybags
- Labels

11. Nursery Act

- Nursery Act regulates the quality control, sale and distribution of planting material.
- It prevents the sale of diseased and inferior plants.
- It ensures availability of quality planting material to farmers.

12. Flower

- The modified reproductive part of plant.
- Functions in sexual reproduction.
- Attractive in colour, size and fragrance.



13. Propagation

- Process of producing new plants from existing plants.
- Two types -
 - (i) Sexual Propagation (by seeds)
 - (ii) Asexual/Vegetative Propagation (by cutting, layering, grafting, etc.)

14. Net House & Polyhouse

- Net House - Structure covered with nylon or insect proof net to protect plants from insects, birds, etc.
- Polyhouse - Structure covered with polyethylene sheet to protect from weather and pests and to control temperature.



Net House



Polyhouse

15. Importance of Nursery

- Provides quality planting material.
- Helps in early bearing and high yield.
- Ensures uniformity and true-to-type plants.
- Helps in better planning and utilization of land.

16. Types of Nursery

- Permanent Nursery
- Temporary Nursery
- Special Nursery
- Transit/Nursing Nursery

17. Components of Nursery

- Site
- Soil
- Water
- Labour
- Management
- Tools & Equipment

18. Advantages of Nursery

- Quality plants are produced.
- Proper care and management possible.
- Easy transportation and planting.
- Better growth and early yield.

19. Disadvantages of Nursery

- High initial cost.
- Requires skilled labour.
- More care and maintenance.

20. Vegetative Propagation Methods in Some Plants

Plant	Method
Litchi	Air Layering
Pomegranate	Hardwood Cutting
Guava	Patch Budding
Mango	Wedge Grafting

22. Potting, Depotting and Reporting

- Potting - Filling the pot with soil and planting the seedling.
- Depotting - Removing the plant carefully from the pot.
- Reporting - Transferring the plant to a bigger pot with fresh soil.

23. Rootstock

- The lower part on which scion is grafted.
- It gives strength, disease resistance and adaptability.
- Eg. - Citrus rootstock: Rough lemon, Kaghzi lime.

21. Orchard

- Selection of Site
 - Well drained soil
 - Good irrigation facility
 - Near market
 - Suitable climate
 - Free from frost
- Side of Orchard
 - North-South direction is best.
 - Ensures maximum sunlight.

(iii) Layout Plan



Spacing - Depends on crop and variety.

24. Selection Criteria for Mother Plant

- True to type
- High yielding
- Disease and pest free
- Good quality fruits/flowers
- Well adapted to local conditions
- Proper age and vigour

Important Points About Seed Production

1. Seed and Grain

- Seed** - A mature ovule which contains embryo, endosperm and seed coat.
- It is used for propagation.
- Grain** - The harvested seed of cereals and some other crops.
- It is used for food purposes.



Seed



Grain

2. Weeding and Roguing

- Weeding** - Removal of unwanted plants (weeds) from the seed field.
- It reduces competition and improves seed quality and yield.
- Roguing** - Removal of off-type, diseased or undesirable plants from the field.
- It maintains genetic purity and quality of seed.



Weeding



Roguing

3. Seed Germination Percentage

- It indicates the viability of seed.
- Formula -

$$\text{Germination \%} = \frac{\text{No. of seeds germinated}}{\text{Total no. of seeds tested}} \times 100$$
- Higher germination % means better quality seed.
- Standard germination % for most crops is 80% or more.



4. Seed Classes

- Nucleus Seed** - Original breeder seed, maintained by originator.
- Breeder Seed** - Produced from nucleus seed.
- Foundation Seed** - Produced from breeder seed.
- Certified Seed** - Produced from foundation seed and certified for general use.
- Truthfully Labelled Seed** - Seeds which do not fulfill certification standards but are sold with a label.
- Private (Farm) Seed** - Produced by farmers for their own use.



5. Seed Duration and Rotation Duration

- Seed Duration** - The period for which a seed lot remains suitable for sowing and gives satisfactory germination.
- It varies with crop, storage condition and seed viability.
- Rotation Duration** - The time interval between two successive crops of the same species grown on the same field.
- It helps in maintaining soil fertility and reducing pest and disease build up.



Crop Rotation

6. Genning

- Genning** - The process of separating pure seed from pods or capsules by rubbing, beating or threshing.
- It is more common in pulses and oilseed crops.
- Eg. - Separation of seeds from pods of Groundnut, Soybean, Mustard etc.



7. Processing

- Processing** - The steps done after harvesting to make seed fit for sowing.

Steps -

- Cleaning
- Drying
- Grading
- Treating
- Packing and Labelling



- It improves seed quality and increases shelf life.

8. Seed Act and Institutes

- Seed Act, 1966 (Amended in 1988)**
 - It provides for quality control, sale and distribution of seed.
 - It helps in protection of interest of farmers.
- Important Institutes -**
 - ICAR - Indian Council of Agricultural Research, New Delhi
 - IARI - Indian Agricultural Research Institute, New Delhi
 - NSC - National Seed Corporation
 - SAUs - State Agricultural Universities
 - CSSRI - Central Soil Salinity Research Institute, Karnal
 - NBPGR - National Bureau of Plant Genetic Resources, New Delhi

9. Seed Testing

- Seed testing is done to check the quality and suitability of seed for sowing.
- Important tests -**
 - Germination Test** - To find out the germination percentage.
 - Purity Test** - To determine the purity of seed.
 - Moisture Content** - To know the moisture percentage.
 - Seed Health Test** - To detect the presence of seed borne diseases.
 - Physical Purity** - To find the amount of pure seed in the sample.
 - Viability Test** - To check the living ability of seed.
- These tests ensure high quality seed for better yield.



Quick Revision

Topic	Definition/Meaning	Importance	Examples/Notes
Seed	Mature ovule used for propagation	Ensures crop production	Wheat, Rice, Maize
Grain	Harvested seed of cereals	Used as food	Wheat grain, Rice grain
Weeding	Removal of weeds	Reduces competition	Manual/Mechanical/Chemical
Roguing	Removal of off-type plants	Maintains purity	Done before flowering
Germination %	Viability of seed	Indicates seed quality	Good seed ≥ 80%
Seed Classes	Different levels of seed quality	Ensures quality seed supply	Nucleus → Private seed
Seed Act	Legal provision for seed quality	Protects farmers' interest	Seed Act, 1966 (Amended 1988)
Seed Testing	Tests to check seed quality	Ensures high quality seed	Germination, Purity, Moisture etc.

MIDTERM EXAMINATION

B. Sc. (Ag.) Second Year Second Semester 2018-19

Principles of Seed Technology 3(1+2)

TIME: 30

Time: 60 min.

Question in two part (Section A and B)

Section A: Multiple-choice question (I to X) and fill in the blanks (I to V) each question carries one marks

Q.1.(a) Choose the correct answer by Tick (Each question carries one marks).

- (i). The primary objective of plant breeding is to ~~be developed~~
 - (a) Superior Varieties
 - (b) Inferior Trait
 - (c) Low Heterosis
 - (d) Non of Above
- (ii). Seed or any other propagating material used for raising a crop is known as
 - (a) Seed
 - (b) Composite
 - (c) Inbreed
 - (d) Non of Above
- (iii). Seed contributes to the total crop production is
 - (a) 30%
 - (b) 15-20%
 - (c) 10%
 - (d) All of the above
- (iv). Seed certification began during last quarter of nineteenth century
 - (a) In Sweden
 - (b) Japan
 - (c) Korea
 - (d) U.K
- (v). A Seed testing laboratory in Denmark in order to conduct seed tests for certification by
 - (a) Dr. E. Helvo
 - (b) Dr. J.W. Robertson
 - (c) Dr. Kush
 - (d) Dr. B.B Singh
- (vi). The national seeds corporation (NSC) was established in
 - (a) 1966
 - (b) 1963
 - (c) 1964
 - (d) Non of these
- (vii). A New seed act is to be enacted in the form of the seed bill, which was introduced in Rajya Sabha on
 - (a) December 9, 2004
 - (b) October 2, 2004
 - (c) Both of These
 - (d) None of these
- (viii). The modern classification of improved seed recognizes, how many broad classes
 - (a) Four
 - (b) Three
 - (c) Five
 - (d) None of them
- (ix). The quality norms for breeder seed are indicated color in the tag attached to the seed bag
 - (a) Golden Brown
 - (b) Yellowish Brown
 - (c) Dark Brown
 - (d) None of Them
- (x). The tag of the foundation seed is indicated color in bags
 - (a) Green
 - (b) Red
 - (c) White
 - (d) All of These

Q1. (b). Fill in the blanks

- (i). The potato tubers produced for planting a new crop are known as..... potato.
- (ii). The association of seed certification agencies was formed in year.....
- (iii). The second major step was introduction of new seed development policy, which transformed the character of Indian seed industry by permitting access to.....seed of available anywhere in the world.
- (iv)..... seeds having 100% genetic and physical purity.
- (v)..... purity means the absence of seeds of other varieties of the same crop as well as of other crop species.

Section B: Five brief descriptive questions.

Q.2. Answer in brief (Each question carries three marks).

- (a). Explain the Seed and Grain
- (b). Explain about Basic or Nucleus Seed
- (c). Breeder Seed
- (d). Discuss about the Seed Certification
- (e). Explain the Purity Test

MIDTERM EXAMINATION B.SC.(AG.) IInd YEAR IInd SEMESTER 2019-2020
Principles of Seed Technology

Max. Marks : 30

Name _____ Roll No. _____ Signature _____

- Q. 1. Fill in the blanks with appropriate words (1 mark each)**
- 1.1 ISTA stands for International Seed Technology association
इस्टा का मतलब _____ है।
 - 1.2 Botanically seed is fruit or ovule containing an embryo.
वनस्पतिक रूप से बीज _____ है, जिसमें भ्रुण होता है।
 - 1.3 Tag colour used for foundation seed is white
आधार बीज के लिए _____ रंग का टैग उपयोग किया जाता है।
 - 1.4 National Seed Corporation was established in the year 1963 at Hapur (UP)
राष्ट्रीय बीज निगम की स्थापना _____ वर्ष _____ में हुई थी।
 - 1.5 Class of seed used for foundation seed production is known as Breeder seed
आधार बीज उत्पादन हेतु _____ श्रेणी का बीज बोने हेतु प्रयोग करते हैं।
 - 1.6 Rouging in cross pollinated crop must be done before flowering stage of crop.
परपरागित फसलों में रोगिंग _____ अवस्था से पहले करना अनिवार्य है।
 - 1.7 The part of plant used for propagation of a particular species is known as Seed
बीज का कोई भी भाग किसी भी स्पीसीज के संवर्धन हेतु प्रयोग करना _____ कहलाता है।
 - 1.8 Genetic & Physical purity is maintained by avoiding cross pollination and mechanical mixture.
पर परागण एवं यांत्रिक मिश्रण को रोक कर _____ को बनाए रख सकते हैं।
 - 1.9 In hybrid seed production male sterile line (Line-A) is used as stable sterile parent
संकर बीज उत्पादन में लाइन ए को _____ जनक के रूप में प्रयोग करते हैं।
 - 1.10 Adjustment in sowing dates of A and B line or A and R line for synchrony in flowering period is known as Synchronous flowering or maturity
ए और बी या ए और आर की बुवाई में परिवर्तन कर एक साथ फूल लाना _____ कहलाता है।

Q. 2. Multiple choice questions. Tick the correct answer (1 mark each)

- 2.1 No. of recommended field inspections in hybrid rice seed production is.
संकर धान बीज उत्पादन में अनुशंसित क्षेत्र निरीक्षण की संख्या
(a) 2 (b) 4 (c) 3 (d) 5
- 2.2 Indian seed act was enacted in the year.
भारतीय बीज अधिनियम किस वर्ष में अधिनियमित किया गया था।
(a) 1966 (b) 1969 (c) 1970 (d) 1968
- 2.3 Minimum germination percentage for certification of soybean seeds is.
सोयाबीन बीज के प्रमाणीकरण हेतु न्यूनतम अंकुरण प्रतिशत कितना होता है।
(a) 80% (b) 75% (c) 70% (d) 85%
- 2.4 Seed Certification Agency does not involved in one of the following operation.
बीज प्रमाणीकरण संस्था निम्न में से एक कार्य नहीं करती।
(a) Field inspection (b) Seed production (c) Seed sampling (d) Seed packing
- 2.5 Quantity of foundation/certified seed packed in one bag of wheat.
गेहूँ के आधार/प्रमाणित बीजों को एक बोरी में कितना भरते हैं।
(a) 20kg (b) 30kg (c) 40kg (d) 50kg

Q. 3. Write short notes on any five of the following.

- 3.1 Difference between seed and grain बीज एवं अनाज में अंतर
- 3.2 Maintenance of genetic purity अनुवांशिक शुद्धता का संवर्धन
- 3.3 Characteristics of quality seed गुणवत्ता बीज के गुण
- 3.4 Three line breeding system तीन पंक्ति प्रजनन पद्धति
- 3.5 Classes seed बीज की श्रेणियाँ

1) Ans =>

Seed	Grain
(1) All seeds are grain.	(1) But all grain are not seed.
(2) Seed is sexually produced seeds as well as plant part.	(2) Grain is sexually produced seeds.
(3) Seed is used as a multiplication.	(3) Grain is used for human consumption.
(4) It viability is important.	(4) viability is not important.
(5) Genetic & physical purity are maintain in it.	(5) It is not in.

COLLEGE OF AGRICULTURE, JNKVV, JABALPUR

MID TERM EXAMINATION 2023-24

Subject: Principles of Seed Technology

Date of Exam: 28-06-2024

Name of student [REDACTED]

Claes: B.Sc. (Ag.), II Year, II Sem.

Max Marks: 30 Duration: 1

Enrollment No. [REDACTED]

A. Multiple choice questions

10 marks (01 marks each)

1. Planting ratio of male and female in hybrid seed production of sorghum
[a] 4:2 ✓[b] 2:6
2. Most common male sterility in vegetable crops.
[a] CMS ✓[b] GMS
3. Presence of male and female part on the same plant in different flowers as
[a] Dioecious ✓[b] dd
4. The genetic purity of certified seed is
[a] 99% ✓[b] 99%
5. Modification in distance to maintain seed crop isolation in hybrid seed production of rice
[a] "Urban" ✓[b] Urban
6. Isolation distance in seed production for foundation and certified seed
[a] 200m and 100m [b] R line
7. An isolation distance is minimum between
[a] Varieties. [b] R line
8. Hybrid seed production involves production of parents from
[a] Genera [b] Incompatible species from genera
9. In CGMS system of hybrid seed production requires
[a] R line [b] B line

C. Attempt any five of the following:

05 marks (01 marks each)

1. Every year provided a good year the seed ~~be every~~ year maintaining genetic purity.
[ii] every year in hybrid seed seed buying is a very ~~to be~~ test.
2. Female and male lines in hybrid seed production.
3. [v] 1 tests evaluating seed deterioration, ~~de~~ seed deterioration.
6. [vii] ~~ind~~ ~~em~~ ~~er~~ ~~il~~ ~~the~~ ~~ver~~ ~~me~~ ~~ur~~ or ~~lat~~ ~~on~~ hybrid seed production in production in paddy.

C. Answer any three of the following

15 marks (03 marks each)

6. Explain the role and importance of seed certification agencies in maintaining seed quality.
7. Write a short note on the significance of seed dormancy and methods used for breaking dormancy in seeds.

Fill-in the blanks Rouging

(vi) rouging is the removal of undesirable plants from production plots.

(vii) B hybrid production in pollen donor.

C. Answer any three of the following:

15 marks (03 marks each)

6. Explain the role and importance of seed certification agencies in maintaining seed quality.

- Question should be in 6-8 lines. 5x3=15
- What is seed dormancy
 - What is model nursery
 - What is Scarification & stratification
 - What is growth regulators
 - What is stock and scion relationship
 - What is soil solarization

Q.2 Choose the correct answer and write the choice 1 or 2 or 3 or 4 in the space given against each sub-question: 15x1.0=15.0

- Which of the following is not a method of vegetative propagation ?
 - Grafting
 - Seed sowing
 - Layering
 - Cutting
- Which is most important tools of nursery?
 - Secateur
 - Rope
 - Scissors
 - Tape
- Micrografting is primarily used to ?
 - Increase fruit size
 - Propagate virus-free plants
 - Enhance flower color
 - Improved seed germination
- In budding and grafting the union between stock and scion takes place through
 - Phloem
 - Cortex
 - Cambium
 - Xylem
- Which is rooting hormone
 - IBA
 - IAA
 - CCC
 - GA
- Which type of vegetative propagation involves bending a branch to the ground and covering it with soil to form roots
 - Grafting
 - Layering
 - Cutting
 - division
- What is the ideal temperature range for most vegetable seedling in a net house ?
 - 10-15^oc
 - 20-25^oc
 - 25-30^oc
 - 30-35^oc
- Shoot tipgrafting is used to produce
 - Colorful plants
 - Virus free plants
 - Dwarf plants
 - Salt tolerant plants
- How often should net house nurseries be watered
 - Every day
 - Every other day
 - When the soil is dry
 - As needed
- Which type nursery bed is required during rainy season
 - Flat bed
 - Raised bed
 - Lateral bed
 - Simple bed
- India having position in case of vegetable and Fruits production in world.
 - 1st Rank
 - 2nd Rank
 - 3rd Rank
 - 4th Rank
- Ideal size of nursery bed ?
 - 3m x 1 m.
 - 4m x 1m
 - 3m x 3m
 - 3m x 4m
- Nursery Act. Was adopted in India During ?
 - 1973
 - 1978
 - 1956
 - 1965
- Which PGR is suitable for breaking seed dormancy ?
 - CCC
 - IBA
 - GA3
 - Auxin
- Which is a not method of cutting ?
 - Hard wood cutting
 - Soft wood cutting
 - Semi hard wood cutting
 - Tissue culture

Answer following five questions in brief. Each carries 3 marks = 15 marks

1. Differentiate between seed and grain.
2. Seed Dormancy
3. Name categories of seed starting from superior to inferior.
4. Isolation distance in seed production.
5. What is rouging in seed production?

Section - B - Choose correct answer and tick sign of right appropriately. 1x15 = 15 Marks

1. The genetic purity is highest of -
 (a). Certified I (b). Foundation I (c) Breeder seed (d) Foundation II
2. Breeder seed is produced in the able guidance of -
 (a). Seed Inspector (b). Plant Breeder (c) Entomologist (d) Pathologist
3. The chemical used in seed testing is
 (a). Tetrazolium (b). Chlor-pyriphos (c) MMS (d) EMS
4. The source seed to produce Foundation I will be -
 (a). Certified I (b). Nucleus seed (c) Breeder seed (d) Foundation II
5. Which one is not a self pollinated crop -
 (a). Wheat (b). Barley (c) Oats (d) Maize
6. The color of tag of Breeder Seed is always -
 (a). Golden yellow (b). White (c) Blue (d) Red
7. Usually the Breeder/ foundation seed of Wheat is packed in bag -
 (a). 50 Kg (b). 20 Kg (c) 40 Kg (d) 30 Kg
8. Pollen transferred from one plant to another plant in the crop -
 (a). Barley (b). Paddy (c) Wheat (d) Maize
9. A farmer cannot produce the seed of category -
 (a). Certified I (b). Foundation I (c) Breeder seed (d) Foundation II
10. For producing Certified I seed of a crop the source seed will be -
 (a). Certified II (b). Nucleus seed (c) Breeder seed (d) Foundation II
11. Wild oat (*Avena fatua*) is the objectionable weed of -
 (a). Sorghum (b). Pearl millet (c) Wheat (d) Maize
12. The first initial purest seed of any crop to start seed cycle is always -
 (a). Certified I (b). Foundation I (c) Nucleus seed (d) Foundation II
13. The seed act was implemented in the year -
 (a). 1966 (b). 1976 (c) 1986 (d) 1996
14. The white color seed tag is always tagged with the bag containing
 (a). Nucleus Seed (b). Foundation Seed (c) Breeder Seed (d) Certified Seed
15. Seed treatment is mandatory or compulsory in seed production to avoid -
 (a). Seed borne diseases (b). Discoloration of seed (c) Genetic erosion (d) All these

0.1

seed and grain

Q-1 Answer any 5 out of following. Answer of each question should be in 6-8 lines. 5x3=15

- (i) What is seed dormancy
- (ii) What is model nursery
- (iii) What is Scarification & stratification
- (iv) What is growth regulators
- (v) What is stock and scion relationship
- (vi) What is soil solarization

Q.2 Choose the correct answer and write the choice 1 or 2 or 3 or 4 in the space given against each sub-question: 15x1.0=15.0

(i) which of the following is not a method of vegetative propagation ?

- (1) Grafting
- (2) Seed sowing
- (3) Layering
- (4) Cutting

(ii) Which is most important tools of nursery?

- (1) Secateur
- (2) Rope
- (3) Scissors
- (4) Tape

(iii) Micrografting is primarily used to ?

- (1) Increase fruit size
- (2) Propagate virus-free plants
- (3) Enhance flower color
- (4) Improved seed germination

(iv) In budding and grafting the union between stock and scion takes place through

- (1) Phloem
- (2) Cortex
- (3) Cambium
- (4) Xylem

(v) Which is rooting hormone

- (1) IBA
- (2) IAA
- (3) CCC
- (4) GA

(vi) Which type of vegetative propagation involves bending a branch to the ground and covering it with soil to form roots

- (1) Grafting
- (2) Layering
- (3) Cutting
- (4) division

(vii) What is the ideal temperature range for most vegetable seedling in a net house ?

- (1) 10-15°C
- (2) 20-25°C
- (3) 25-30°C
- (4) 30-35°C

(viii) Shoot tipgrafting is used to produce

- (1) Colorful plants
- (2) Virus free plants
- (3) Dwarf plants
- (4) Salt tolerant plants

(ix) How often should net house nurseries be watered

- (1) Every day
- (2) Every other day
- (3) When the soil is dry
- (4) As needed

(x) Which type nursery bed is required during rainy season

- (1) Flat bed
- (2) Raised bed
- (3) Lateral bed
- (4) Simple bed

(xi) India having position in case of vegetable and Fruits production in world.

- (1) 1st Rank
- (2) 2nd Rank
- (3) 3rd Rank
- (4) 4th Rank

(xii) Ideal size of nursery bed ?

- 1) 3m x 1 m.
- 2) 4m x 1m
- 3) 3m x 3m
- 4) 3m x 4m

(xiii) Nursery Act. Was adopted in India During ?

- 1) 1973
- 2) 1978
- 3) 1956
- 4) 1965

Xiv) Which PGR is suitable for breaking seed dormancy ?

- 1) CCC
- 2) IBA
- 3) GA3
- 4) Auxin

XV) Which is a not method of cutting ?

- (1) Hard wood cutting
- (2) Soft wood cutting
- (3) Semi hard wood cutting
- (4) Tissue culture

College of Agriculture, Balaghat

Date 15.02.2025

PRACTICAL EXAMINATION

Time 02.00PM - 04.00pm

B.Sc. (Ag.) First year, First semester, academic year 2024-25

Course: Skill Enhancement, Horticulture Nursery Management

Solve the questions

Q1. Write the following :- **15 Marks**

Total No. 50

	botanical name	Chromosome no. (2n)	Family	origin
Five Vegetables				
Five Fruits				
Five Plantation Crops				
Five Ornamental crops				
Five Medicinal/spices/flowering				

or

Q1. Short Note On Various irrigation and watering System In Nursery and Propagation Structure

Q2. Enlist the Tools & Implements used in Nursery with Diagram. **10 Marks**

or

Q2. Types of Nursery Beds with Labeled Diagram. Q3. Write in your own Word on Automation on Horticultural Crops **10 Marks**

or

Q3. Various Propagation Structures used for propagate Horticultural Crops

Viva **10 Marks**

Record **05 Marks**