ASRB NET Fruit Science Sample Paper

Q1. What is the approximate postharvest loss percentage in grapes?
(a) 10-15%
(b) 23-30%
(c) 35-40%
(d) 45-50%

Q2. The normal storage temperature for temperate fruits is:
(a) 5°C
(b) 01.1°C
(c) 10-12°C
(d) 15-18°C

Q3. Which of the following countries is a major importer of Indian bananas?
(a) Australia
(b) UAE
(c) Canada
(d) Germany

Q4. Which policy aims to double Indian farmers' income through export promotion?
(a) PMKISAN
(b) Agriculture Export Policy
(c) eNAM
(d) National Food Security Mission

Q5. Which agency is responsible for promoting Indian Agri export?
(a) FCI
(b) NABARD
(c) APEDA
(d) NHB

Q6. Who is known as the father of plant tissue culture?
(a) Charles Darwin
(b) Gottlieb Haberlandt
(c) Van Leeuwenhoek
(d) Gregor Mendel

Q7. What is the approximate genomic size of banana?
(a) 123 Mbp
(b) 220 Mbp
(c) 523 Mbp
(d) 900 Mbp

Q8. Which training system is commonly practiced in Sapota cultivation?
(a) Open center system
(b) Horizontal cordon system
(c) Modified leader system
(d) Central leader system

Q9. Which training system is most suitable for high-density planting?
(a) Central leader system
(b) Open center system
(c) Modified leader system
(d) Bush system

Q10. Which growth regulator is used in guava to promote rooting?
(a) 500 ppm
(b) 1000 ppm
(c) 3000 ppm
(d) 5000 ppm

Q11. Which of the following is the richest source of vitamin B_2?
(a) Mango
(b) Apple
(c) Bael
(d) Banana

Q12. Inactivation of enzyme is done by:
(a) Blanching
(b) Freezing
(c) Canning
(d) Dehydration

Q13. Albinism is a physiological disorder of:
(a) Mango
(b) Apple
(c) Strawberry
(d) Banana

Q14. The zero-energy cool chamber (ZECC), also known as an evaporative cooling chamber, was developed by:
(a) Roy and Khurdiya
(b) Sharma and Kumar
(c) Rani and Singh
(d) Verma and Patel

Q15. The state leading in litchi production is:
(a) Maharashtra
(b) Uttar Pradesh
(c) Bihar
(d) West Bengal

Q16. The National Horticultural Board (NHB) was established in:
(a) 1982
(b) 1984
(c) 1986
(d) 1990

Q17. The Ministry of Agriculture announced the year 2012 as the:
(a) Year of Organic Farming
(b) Year of Agriculture
(c) Year of Horticulture
(d) Year of Rice

Q18. The National Horticultural Mission (NHM) was launched in:
(a) 2003-04
(b) 2001-02
(c) 2005-06
(d) 2006-07

Q19. Import of seeds and planting material in India is regulated under:
(a) Insecticide Act, 1968
(b) Seed Act, 1966
(c) Destructive Insects and Pests Act, 1914
(d) Plant Variety Protection Act, 2001

Q20. What is the primary function of quarantine in plant material import?
(a) Increase fruit yield
(b) Detect and prevent entry of exotic pests
(c) Encourage hybridization
(d) Improve soil health

Q21. Which type of apple is suitable for High Density Planting (HDP)?
(a) Standard
(b) Wild
(c) Spur
(d) Seedling

Q22. What is the primary purpose of pruning?
(a) Harvesting
(b) Weed management
(c) Controlling plant size and shape
(d) Disease management

Q23. Mazzard dwarf, a commercial rootstock of:
(a) Sweet cherry
(b) Apple
(c) Pear
(d) Peach

Q24. Self-thinning capacity fruits:
(a) Apple & Mango
(b) Pear & Banana
(c) Grapes & Cherries
(d) Peach & Papaya

Q25. HDP (High Density Planting) is first practiced in which fruit?
(a) Apple
(b) Mango
(c) Guava
(d) Citrus

Q26. Sterilization by ultra-high temperature (UHT) is done at a temperature of:
(a) 100°C for 30 min
(b) 116°C for 30 min
(c) 121°C for 15 min
(d) 149°C for 2 min

Q27. Which of the following is the richest source of fat?
(a) Apple
(b) Walnut
(c) Mango
(d) Banana

Q28. The practice of removing overcrowded and intermingling branches in fruit trees is called:
(a) Pollarding
(b) Training
(c) Thinning
(d) Dehorning

Q29. The fleshy receptacle is the edible part of:
(a) Mango
(b) Fig
(c) Guava
(d) Apple

Q30. Which of the following is a major application of biotechnology in fruit crop improvement?
(a) Increasing soil fertility
(b) Enhancing fruit color with fertilizers
(c) Developing Pest resistant varieties
(d) Delaying fruit ripening using hormones

Q31. The triploid sigmoid growth curve is found in:
(a) Banana
(b) Kiwi fruit
(c) Mango
(d) Apple

Q32. The edible part of pomegranate is:
(a) Aril
(b) Juicy seed coat
(c) Pulp
(d) Peel

Q33. Which one of the following is known as the pride of the garden and choicest fruit of Hindustan?
(a) Mango
(b) Guava
(c) Pomegranate
(d) Apple

Q34. The anthracnose resistant species of mango is:
(a) Mangifera indica
(b) M. laurina
(c) M. odorata
(d) M. quadrifida

Q35. Mango leather is called:
(a) Mango pulp
(b) Mango jam
(c) Am paper
(d) Mango candy

Q36. The National Research Centre for Pomegranate is located at:
(a) Solapur, Maharashtra
(b) Pune, Maharashtra
(c) Lucknow, Uttar Pradesh
(d) Ahmedabad, Gujarat

Q37. The most common fruit in protected cultivations is:
(a) Strawberry
(b) Tomato
(c) Cucumber
(d) Peppers

Q38. Cork spot of apple is caused by:
(a) Magnesium deficiency
(b) Potassium deficiency
(c) Calcium deficiency
(d) Iron deficiency

Q39. The type of placentation found in citrus is:
(a) Parietal
(b) Axile
(c) Free central
(d) Basal

Q40. The normal storage temperature for temperate fruits is:
(a) 5°C
(b) 01.1°C
(c) 1012°C
(d) 1518°C

Q41. A high C:N ratio in fruit crops promotes:
(a) Vegetative growth
(b) Flowering
(c) Root development
(d) Fruit ripening

Q42. Which of the following is a bioregulator that promotes the flowering of fruit crops?
(a) Cytokinin
(b) Gibberellin
(c) Ethylene
(d) Abscisic acid

Q43. As of 2004-05, how many Agri Export Zones (AEZs) were notified across India?
(a) 50
(b) 60
(c) 70
(d) 80

Q44. What is the primary objective of establishing Agri Export Zones (AEZs) in India?
(a) Enhance agricultural exports
(b) Improve domestic food supply
(c) Increase urbanization
(d) Promote industrialization

Q45. Which of the following is a common method used to control excessive vegetative growth in fruit orchards?
(a) Application of growth retardants
(b) Increased irrigation
(c) High density planting
(d) Soil acidification

Q46. What is the calorific value range of banana fruit per 100 grams?
(a) 30–50 kcal
(b) 50–100 kcal
(c) 67–137 kcal
(d) 140–180 kcal

Q47. Chilling injury in bananas occurs below which temperature?
(a) 10°C
(b) 15°C
(c) 12°C
(d) 8°C

Q48. Best tissue for nutrient analysis in papaya is _____
(a) leaf
(b) stem
(c) Flower
(d) Petiole

Q49. Which of the following is a primary pollinator in fruit crops?
(a) Wind
(b) Birds
(c) Bees
(d) Moths

Q50. Which of the following practices is NOT typically associated with canopy management in fruit crops?
(a) Training
(b) Pruning
(c) Excessive irrigation
(d) Use of plant growth inhibitors

Q51. What is the role of plant growth inhibitors in fruit tree canopy management?
(a) Promote flowering
(b) Enhance fruit color
(c) Regulate excessive vegetative growth
(d) Induce fruit ripening

Q52. Which training system is commonly used to develop a strong framework in young fruit trees?
(a) Open center system
(b) Modified central leader system
(c) Vase system
(d) Espalier system

Q53. Which country is the largest fruit producing nation in the world?
(a) Bangladesh
(b) Pakistan
(c) China
(d) Mexico

Q54. The term "Pomology" is derived from which language?
(a) Latin
(b) Greek
(c) French
(d) Sanskrit

Q55. Nursery accreditation is carried out in India by which agency?
(a) APEDA
(b) ICAR
(c) NHB
(d) DAC&FW

Q56. Who is regarded as the father of systemic pomology?
(a) M.S. Swaminathan
(b) Charles Darwin
(c) De Candolle
(d) Linnaeus

Q57. The main objective of the Clean Plant Programme (CPP) is to:
(a) Promote hybrid seed production
(b) Control postharvest losses
(c) Provide virusfree planting material
(d) Enhance mechanization in horticulture

Q58. Post Entry Quarantine (PEQ) refers to_____
(a) Testing plant quality in markets
(b) Growing imported plants under surveillance
(c) Export testing of seeds
(d) Genetic purity test

Q59. The RNAi construct in Arctic apples is designed to silence which genes?
(a) PPO genes
(b) Bt genes
(c) Pectinase genes
(d) AUX genes

Q60. The genetically modified, non-browning variety of apple is called:
(a) Sunny apple
(b) Arctic apple
(c) Ruby apple
(d) Crystal apple

Q61. In which month is spring budding done in citrus?
(a) January to February
(b) March to April
(c) May to June
(d) September to October

Q62. Best planting material for pineapple is:
(a) Suckers
(b) Slips
(c) Crowns
(d) Roots

Q63. Which of the following is class one preservative?
(a) Vinegar
(b) KMS
(c) Silver nitrate
(d) Sugar

Q64. Which sugar is most commonly used in vase solutions?
(a) Fructose
(b) Glucose
(c) Sucrose
(d) Lactose

Q65. What is the term used for the pollination process of figs, involving the interaction between fig trees and fig wasps?
(a) Caprification
(b) Caprifigging
(c) Syconization
(d) Blastophagization

Q66. Which abiotic factor is most limiting for fruit production in arid regions?
(a) High temperature
(b) Excessive rainfall
(c) Soil salinity
(d) Soil texture

Q67. The process of transferring pollen from the male to the female flower in plants is called:
(a) Germination
(b) Pollination
(c) Fertilization
(d) Absorption

Q68. Which of the following is the most important factor for the successful development of fruit after pollination?
(a) Temperature
(b) Water availability
(c) Nutrient supply
(d) All of these

Q69. The most common irrigation method used in fruit orchards for water management is:
(a) Drip irrigation
(b) Flood irrigation
(c) Furrow irrigation
(d) Sprinkler irrigation

Q70. Which of the following growth regulators is used to regulate fruit drop in orchards?
(a) Gibberellin
(b) Auxin
(c) Cytokinin
(d) Ethylene

Q71. The first successful embryo culture was done in:
(a) Mango
(b) Pear
(c) Cherry
(d) Apple

Q72. Fertigation is a practice used in agriculture to:
(a) Increase soil erosion
(b) Apply fertilizers through irrigation
(c) Control pests and diseases
(d) Control waterlogging

Q73. Which nutrient helps prevent lodging in fruit crops?
(a) Nitrogen
(b) Potassium
(c) Phosphorus
(d) Calcium

Q74. Which growth regulator is used to promote apical dominance in plants?
(a) Auxin
(b) Cytokinin
(c) Gibberellin
(d) Ethylene

Q75. Which of the following is a recommended practice for rejuvenating old fruit trees?
(a) Heavy fertilization
(b) Deep irrigation
(c) Selective pruning
(d) Girdling

Q76. Mango fruit contains the highest amount of which vitamin?
(a) Vitamin C (3000 IU)
(b) Vitamin D (1200 IU)
(c) Vitamin K (1600 IU)
(d) Vitamin A (4800 IU)

Q77. Major chutney exported from India is:
(a) Tomato chutney
(b) Apple chutney
(c) Mango chutney
(d) Tamarind chutney

Q78. India is the largest producer of which fruit globally?
(a) Mango
(b) Banana
(c) Apple
(d) Papaya

Q79. Which country is the largest exporter of fresh fruits globally?
(a) Brazil
(b) India
(c) Kuwait
(d) Spain

Q80. Which Indian state is the leading producer of organic fruits?
(a) Kerala
(b) Himachal Pradesh
(c) Sikkim
(d) Meghalaya

Q81. What is the key to the success of High-Density Planting (HDP) in apples?
(a) Use of hybrid varieties
(b) Early harvesting
(c) Control of tree size
(d) Use of organic fertilizers

Q82. Banana fruit is a rich source of which mineral, and how much does it contain?
(a) Calcium – 150 mg
(b) Iron – 80 mg
(c) Potassium – 450 mg
(d) Magnesium – 300 mg

Q83. Which citrus fruit has a high content of malic acid?
(a) Orange
(b) Lemon
(c) Sweet lime
(d) Mandarin

Q84. The hydrovacuum cooling process is also called:
(a) Freeze drying
(b) Hydrovac cooling
(c) Vacuum sealing
(d) Sublimation

Q85. Which of the following is a major reason for postharvest losses in India?
(a) Inadequate cold storage facilities
(b) Excessive rainfall
(c) Low seed quality
(d) High input costs

Q86. Enzymatic processes influence the storage life of produce. Which of the following is affected by respiration?
(a) Ripening
(b) Spoilage
(c) Freezing
(d) Drying

Q87. Keeping dried products in boxes or bins to equalize moisture content is called____
(a) Drying
(b) Sweating
(c) Fermentation
(d) Freezing

Q88. Which of the following is not a postharvest technology?
(a) Cold storage
(b) Grading
(c) Crop rotation
(d) Packaging

Q89. The word 'citrus' is derived from which language?
(a) Latin
(b) Arabic
(c) Greek
(d) Sanskrit

Q90. Hand peeling is done in which fruits?
(a) Mango & Papaya
(b) Apple & Orange
(c) Banana & Guava
(d) Pear & Plum

Q91. Mega Food Parks in India are established under which ministry?
(a) Ministry of Agriculture
(b) Ministry of Rural Development
(c) Ministry of Food Processing Industries
(d) Ministry of Commerce and Industry

Q92. Which citrus fruit is considered important in North India?
(a) Lemon
(b) Orange
(c) Mandarin
(d) Sweet lime

Q93. The Central Post Harvest Engineering and Technology is located in:
(a) Pune
(b) Ludhiana
(c) Bangalore
(d) Delhi

Q94. The sterilization temperature for spore forming bacteria is:
(a) 100°C
(b) 110°C
(c) 120°C
(d) 130°C

Q95. Frozen foods should always be kept at temperatures below:
(a) 5°C
(b) 10°C
(c) 15°C
(d) 18°C

Q96. In squash, SO2 is used in:
(a) 100 ppm
(b) 300 ppm
(c) 700 ppm
(d) 1000 ppm

Q97. What percentage of fruits and vegetables is lost postharvest in India, approximately?
(a) 5–7%
(b) 10–12%
(c) 20–30%
(d) 35–40%

Q98. Banana leaf is traditionally considered as a:
(a) Shade giving plant part
(b) Feedstock for animals
(c) Biological plate
(d) Composting material only

Q99. The botanical family of citrus fruits is:
(a) Rosaceae
(b) Rutaceae
(c) Solanaceae
(d) Fabaceae

Q100. Which of the following is used as an ethylene absorber or scrubber in postharvest technology?
(a) NaOH
(b) KMnO4
(c) H2O2
(d) CaO

Q101. Pollinizers are:
(a) Agents that spread diseases
(b) Pollinating insects
(c) Plants that provide pollen to other plants
(d) Plants that produce nectar

Q102. Which international body actively promotes global postharvest management practices?
(a) WTO
(b) FAO
(c) IMF
(d) UNICEF

Q103. What is the primary benefit of implementing canopy management practices in mature fruit orchards?
(a) Enhance fruit quality
(b) Increase soil productivity
(c) Reduce labor costs
(d) Improve soil health

Q104. Which of the following techniques is widely used in horticulture to produce virus free planting material?
(a) Micrografting
(b) Grafting
(c) Budding
(d) Layering

Q105. The main objective of the Nursery Act is to:
(a) Promote flower trading
(b) Regulate seed export
(c) Ensure quality planting material
(d) Encourage organic nurseries

Q106. Which one of the following is the dwarfing rootstock of Ber?
(a) Zizypus nummularia
(b) Pusa Navrang
(c) Pusa Nanha
(d) Kesar

Q107. Most versatile rootstock for plum is:
(a) St. Julien
(b) Mazzard
(c) Mahaleb
(d) Myrobalan

Q108. The commercial hormone used for cutting is:
(a) NAA
(b) IBA
(c) GA3
(d) Cytokinin

Q109. Which type of pruning involves removing a circular ring of bark from a branch?
(a) Heading back
(b) Thinning out
(c) Ringing or Girdling
(d) Notching

Q110. In India, mangoes are generally available during which period?
(a) January to March
(b) March to mid-August
(c) May to September
(d) July to December

Q111. Which country is the world's leading producer of organic fruits?
(a) USA
(b) Brazil
(c) Australia
(d) Germany

Q112. Which Indian state is leading producer of grapes?
(a) Assam
(b) Gujrat
(c) Tamil Nadu
(d) Maharashtra

Q113. Apomictic species of apples commercially propagated by _____
(a) By grafting
(b) By budding
(c) By seed
(d) By cuttings

Q114. What is the ideal temperature range for mango cultivation?
(a) 18–20°C
(b) 22–24°C
(c) 24–27°C
(d) 28–30°C

Q115. Which Indian state is a leading hub for fruit exports?
(a) Punjab
(b) West Bengal
(c) Maharashtra
(d) Kerala

Q116. What is the main reason behind India's low share in global fruit exports despite high production?
(a) Low productivity
(b) Poor taste
(c) Lack of demand
(d) Poor postharvest management

Q117. Codex Alimentarius is associated with:
(a) Fruit breeding
(b) Plant tissue culture
(c) Food safety standards
(d) Organic certification

Q118. Which acid is commonly recommended for jelly preparation?
(a) Acetic acid
(b) Oxalic acid
(c) Citric acid
(d) Formic acid

Q119. For perishable commodities, the relative humidity (RH) is typically kept in the range of:
(a) 50-60%
(b) 60-70%
(c) 90-95%
(d) 70-80%

Q120. What is the approximate storage life for grapes?
(a) 12 weeks
(b) 36 weeks
(c) 68 weeks
(d) 1012 weeks

Q121. Strawberry can be stored at which percentage of relative humidity?
(a) 50-60%
(b) 70-80%
(c) 80-90%
(d) 90-95%

Q122. At what temperature should potatoes be stored in cold storage?
(a) 02°C
(b) 24°C
(c) 57°C
(d) 10-12°C

Q123. What is the traditional method of storing potatoes?
(a) Bins
(b) Cold storage
(c) Clamps
(d) Refrigeration

Q124. India is the largest global exporter of which processed fruit product?
(a) Apple cider
(b) Mango pulp
(c) Banana chips
(d) Papaya jam

Q125. Which of the following is a notified Agri Export Zone (AEZ) for mangoes in India?
(a) Varanasi (UP)
(b) Ratnagiri (Maharashtra)
(c) Ludhiana (Punjab)
(d) Nashik (Maharashtra)

Q126. The major acid present in grape is:
(a) Citric acid
(b) Tartaric acid
(c) Malic acid
(d) Oxalic acid

Q127. Photosynthetically active radiation (PAR) is measured by:
(a) Pyranometer
(b) Pyrano-albedometer
(c) Quantum sensor
(d) All of these

Q128. Removal of terminal portion of the shoots leaving its basal portion is known as:
(a) Thinning out
(b) Heading back
(c) Skirting
(d) Dehorning

Q129. Process of removal of air from filled can is:
(a) Blanching
(b) Exhausting
(c) Processing
(d) Sealing

Q130. Geographical Indication (GI) tag is valid for:
(a) 5 years
(b) 10 years
(c) 15 years
(d) 20 years

Q131. Important constituent of jelly is:
(a) Sugar
(b) Acid
(c) Water
(d) Pectin

Q132. 'Pusa Delicious' and 'Pusa Majesty' are the ..... varieties of papaya.
(a) Monoecious
(b) Dioecious
(c) Gynodioecious
(d) None of these

Q133. Which of the following fruit is parthenocarpic?
(a) Mango
(b) Citrus
(c) Banana
(d) Grape

Q134. Severe pruning is practiced in:
(a) Guava
(b) Ber
(c) Loquat
(d) Pomegranate

Q135. In papaya, female plants can be produced in bulk through:
(a) Pollen culture
(b) Ovule culture
(c) Meristem culture
(d) Cell culture

Q136. Which of the following rootstock is incompatible for most of the Ber varieties?
(a) Ziziphus rotundifolia
(b) Ziziphus mauritiana
(c) Ziziphus jujube
(d) Ziziphus nummularia

Q137. Pruning in fruit crops is done to:
(a) Increase yield
(b) Obtain quality fruits
(c) Prevent alternate bearing
(d) None of these

Q138. In which fruit crop, fruit buds borne laterally with leafy shoots in the leaf axils?
(a) Walnut
(b) Avocado
(c) Citrus
(d) Guava

Q139. The process of breakdown of the protein in food (usually fatty foods) is known as:
(a) Putrefaction
(b) Rancidity
(c) Sorting
(d) Sliminess

Q140. Final stage of fruit development:
(a) Maturation
(b) Ripening
(c) Senescence
(d) Horticultural maturity

Q141. The main site of auxin synthesis is:
(a) Leaves
(b) Root meristem
(c) Shoot apex
(d) Fruits

Q142. Wine grape is botanically known as:
(a) Vitis vinifera
(b) Vitis champini
(c) Vitis labrusca
(d) Vitis aestivalis

Q143. CEPA is chemically:
(a) 2 - Chloroethyl phosphoric acid
(b) 2 - Chloromethyl phosphoric acid
(c) 2 - Chloroethyl phosphonic acid
(d) 2 – Chloro mthyl phosphonic acid

Q144. The name 'Tamarind' derives from which language?
(a) Arabic
(b) Latin
(c) Greek
(d) Spanish

Q145. Markers used for determining genetic variation in plants is:
(a) Morphological markers
(b) Biochemical markers
(c) Molecular markers
(d) All of these

Q146. Haploids are used for:
(a) Development of homozygous lines
(b) Generation of exclusive male plants
(c) Induction of mutations
(d) All the above

Q147. The genetic variability present among the tissue cultured cells, plants is called as:
(a) Somaclonal variation
(b) Mutation
(c) Chimeras
(d) None of these

Q148. Seed viability lost when the moisture content drops down to critical level in:
(a) Orthodox seeds
(b) Recalcitrant seeds
(c) Truthful label seeds
(d) None of these

Q149. Tissue cultured shoots of banana are stored in liquid nitrogen at:
(a) 0°C
(b) -206°C
(c) -196°C
(d) -60°C

Q150. Botanically, the fruit of apple is:
(a) Berry
(b) Drupe
(c) Sorosis
(d) Pome

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Solutions

S1. Ans.(b)
Sol. postharvest losses in grapes typically range from 23-30% due to factors like handling, transportation, and improper storage conditions, leading to a reduction in quality and marketability.

S2. Ans.(b)
Sol. The optimal storage temperature for temperate fruits is between 01.1°C. This temperature range slows down respiration and the ripening process, extending the shelf life of fruits like apples, pears, and cherries.

S3. Ans.(b)
Sol. The UAE is a major importer of Indian bananas due to proximity, demand, and competitive pricing. Indian bananas are favored for their taste and availability. The Middle East remains a key export destination for Indian fresh produce.

S4. Ans.(b)
Sol. The Agriculture Export Policy aims to boost India's Agri export share and double farmers' income. It promotes infrastructure development, branding, and market access. Fruits and horticultural crops are major focus areas under this policy.

S5. Ans.(c)
Sol. APEDA (Agricultural and Processed Food Products Export Development Authority) promotes agri and horticulture exports. It provides financial assistance, infrastructure support, and quality certification. APEDA plays a key role in enhancing India's export potential.

S6. Ans.(b)
Sol. Gottlieb Haberlandt is recognized as the father of plant tissue culture. In 1902, he proposed the concept of totipotency, the ability of a plant cell to regenerate into a whole plant. His work laid the foundation for modern micropropagation.

S7. Ans.(c)
Sol. The banana genome is approximately 523 million base pairs (Mbp). Genome sequencing helps in identifying traits for disease resistance, shelf life, and productivity. It also aids in breeding programs for improved banana varieties.

S8. Ans.(d)
Sol. The Central Leader system is commonly practiced in Sapota cultivation. This system allows the main trunk to grow without interruption, creating a strong central leader structure. It provides better support for the heavy fruit load of Sapota and helps in maintaining the tree shape and overall productivity.

S9. Ans.(d)
Sol. The Bush system is most suitable for high density planting as it allows for efficient space utilization and promotes better fruit production in compact areas.

S10. Ans.(c)
Sol. A concentration of 3000 ppm of Indole-3-butyric acid (IBA) is used in guava to promote root development during propagation.

S11. Ans.(d)
Sol. Banana is the richest source of vitamin B_2 (riboflavin), essential for energy production and skin health.

S12. Ans.(a)
Sol. Blanching is the process of briefly heating food to inactivate enzymes that cause spoilage and deterioration of flavor, texture, and nutritional content.

S13. Ans.(c)
Sol. Albinism is a physiological disorder in strawberry where the plants develop without chlorophyll, resulting in white leaves and poor growth due to the inability to perform photosynthesis.

S14. Ans.(a)
Sol. The zero-energy cool chamber (ZECC) was developed by Roy and Khurdiya. It is a low-cost and energy-efficient method for cooling and preserving fruits and vegetables, particularly in rural areas.

S15. Ans.(c)
Sol. Bihar is the leading state in litchi production in India. The state contributes a significant portion of the country's total litchi production, particularly from the Muzaffarpur region.

S16. Ans.(b)
Sol. The National Horticultural Board (NHB) was established in 1984 with its headquarters in Gurgaon, Haryana, to promote the development of the horticulture sector in India.

S17. Ans.(c)
Sol. The Ministry of Agriculture announced 2012 as the Year of Horticulture to highlight the importance of horticulture and its role in enhancing food security, nutritional security, and rural employment.

S18. Ans.(c)
Sol. The National Horticultural Mission (NHM) was launched in 2005-06 to address the development of horticulture in India, focusing on improving production, productivity, and post-harvest management.

S19. Ans.(c)
Sol. The Destructive Insects and Pests Act, 1914 governs the import of seeds and planting materials to prevent entry of exotic pests and diseases. It mandates quarantine checks and approvals by the Plant Protection authorities.

S20. Ans.(b)
Sol. Plant quarantine plays a crucial role in preventing the entry of foreign pests, pathogens, and weeds through imported seeds or planting material. It includes inspection, testing, and certification at designated ports and laboratories.

S21. Ans.(c)
Sol. Spurtype apples are best suited for High Density Planting due to their compact growth habit and better canopy management, allowing for more trees per unit area and easier harvesting.

S22. Ans.(c)
Sol. The primary purpose of pruning is to control the size and shape of plants, improving their structure and enhancing fruit quality.

S23. Ans.(a)
Sol. Mazzard dwarf is a commonly used rootstock for sweet cherry, known for producing compact, high-yielding trees that are well-suited for commercial orchards.

S24. Ans.(a)
Sol. Apple and Mango are known to exhibit self-thinning, a natural process where excess fruits fall off, leaving the best ones to grow and develop.

S25. Ans.(a)
Sol. High-density planting (HDP) was first practiced in apple cultivation, allowing for more trees per unit area and enhancing fruit production in limited space.

S26. Ans.(d)
Sol. Ultra-high temperature (UHT) sterilization is typically done at 149°C for 2 minutes. This process helps in killing microorganisms without altering the nutritional value and flavor of the product.

S27. Ans.(b)
Sol. Walnut is the richest source of fat among the options listed. It is high in healthy unsaturated fats, particularly omega-3 fatty acids, which are beneficial for heart health.

S28. Ans.(d)
Sol. Dehorning is a rejuvenation technique involving the severe pruning or removal of major branches in old or unproductive trees. It helps reduce overcrowding, improves air and light penetration, and stimulates vigorous new shoot growth for better yield.

S29. Ans.(b)
Sol. The edible part of a fig is the fleshy receptacle, which includes the stem and flower structures. Figs are unique as their flowers are inside the fruit, making it a multiple fruit type.

S30. Ans.(c)
Sol. Biotechnology has enabled the development of pest resistant fruit varieties through genetic modification, such as Bt brinjal and virus-resistant papaya. These innovations reduce pesticide use, lower production costs, and increase yield stability in horticulture.

S31. Ans.(b)
Sol. The triploid sigmoid growth curve is typically observed in Kiwi fruit. This growth curve represents a specific growth pattern where the plant undergoes a gradual growth phase before reaching its maximum size and then slowing down.

S32. Ans.(b)
Sol. The edible part of pomegranate is the juicy seed coat (called aril). The seeds are surrounded by a sweet, juicy covering that is consumed, while the hard seed itself is often discarded or used for juice extraction.

S33. Ans.(a)
Sol. The mango is often referred to as the "pride of the garden" and the "choicest fruit of Hindustan" due to its cultural significance, sweet flavor, and widespread popularity in India.

S34. Ans.(b)
Sol. Mangifera laurina is known for its resistance to anthracnose, a fungal disease that affects mangoes, particularly during the fruiting and storage periods. This species helps in breeding resistant mango varieties.

S35. Ans.(c)
Sol. Mango leather, a dried, flexible fruit snack made from mango pulp, is known as am paper in India. It is made by pureeing mangoes and drying them into sheets, often consumed as a healthy snack.

S36. Ans.(a)
Sol. The National Research Centre for Pomegranate (NRCP) is located at Solapur, Maharashtra. It focuses on research related to pomegranate cultivation, disease management, and improving crop quality.

S37. Ans.(a)
Sol. Strawberry is one of the most commonly cultivated fruits in protected cultivation systems like greenhouses and polyhouses. It thrives in controlled environments, providing optimal conditions for high-quality fruit production.

S38. Ans.(c)
Sol. Cork spot in apples is primarily caused by calcium deficiency. Calcium plays a vital role in cell wall structure and fruit development, and its deficiency leads to cell collapse, resulting in the characteristic corky lesions on the fruit's skin.

S39. Ans.(b)
Sol. Citrus plants exhibit axile placentation, where ovules are attached to the central column of the ovary. This type of placentation is common in many fruits like citrus and tomato, allowing for the development of multiple carpels.

S40. Ans.(b)
Sol. The optimal storage temperature for temperate fruits is between 01.1°C. This temperature range slows down respiration and the ripening process, extending the shelf life of fruits like apples, pears, and cherries.

S41. Ans.(b)
Sol. A high C:N ratio promotes flowering in fruit crops, as it favors the accumulation of carbon compounds in plants, which supports reproductive growth. When nitrogen is limited, the plant shifts its energy toward reproductive processes, including flowering and fruit formation.

S42. Ans.(b)
Sol. Gibberellin is a bioregulator that plays a key role in promoting flowering and fruit setting in many fruit crops. It helps break dormancy, promote flower bud formation, and induce flowering under certain environmental conditions.

S43. Ans.(b)
Sol. By 2004-05, the Government of India had notified 60 AEZs in various states to promote agricultural exports.

S44. Ans.(a)
Sol. Agri Export Zones aim to boost agricultural exports by focusing on specific products and improving their quality and processing.

S45. Ans.(a)
Sol. Growth retardants help manage vegetative growth, ensuring resources are allocated to fruit development.

S46. Ans.(c)
Sol. The calorific value of banana fruit ranges from 67 to 137 kcal per 100g, depending on the variety and ripeness. Bananas are a good energy source due to their carbohydrate content.

S47. Ans.(c)
Sol. Chilling injury in bananas occurs when exposed to temperatures below 12°C. This can cause blackening of the peel and spoilage, especially during storage and transport.

S48. Ans.(d)
Sol. Best tissue for nutrient analysis in papaya is Petiole

S49. Ans.(c)
Sol. Bees are one of the most important pollinators in fruit crops. They transfer pollen between flowers, promoting crosspollination, which is essential for fruit set and improving the quality and quantity of the fruit produced.

S50. Ans.(c)
Sol. Canopy management involves practices like training, pruning, and the use of plant growth regulators to optimize fruit production, but excessive irrigation is not a recommended practice.

S51. Ans.(c)
Sol. Plant growth inhibitors help control excessive vegetative growth, ensuring that energy is directed towards fruit development.

S52. Ans.(b)
Sol. The modified central leader system is effective in shaping young trees, promoting a strong structure that supports fruiting.

S53. Ans.(c)
Sol. China is the world's leading fruit producer, accounting for a significant share of global production. It grows a wide variety of fruits like apples, citrus, and melons. High domestic demand and export capacity drive its production.

S54. Ans.(b)
Sol. The word "Pomology" comes from the Greek words pomum (fruit) and logos (study). Pomology is the scientific study of fruit crops, including their cultivation, development, and postharvest management. It plays a key role in horticulture.

S55. Ans.(c)
Sol. The National Horticulture Board (NHB) provides nursery accreditation to ensure that nurseries follow standard procedures in propagation, plant health, record keeping, and infrastructure. Accreditation enhances trust among buyers and promotes certified nursery status.

S56. Ans.(c)
Sol. De Candolle is considered the father of systemic pomology due to his work in the classification of fruit crops. He introduced a systematic approach to studying fruits based on morphology and taxonomy, laying a foundation for modern pomology.

S57. Ans.(c)
Sol. The Clean Plant Programme (CPP) aims to ensure the supply of disease free and certified planting material, especially for fruit crops. It focuses on eliminating viruses and other pathogens using tissue culture and quarantine protocols, enhancing crop productivity and export potential.

S58. Ans.(b)
Sol. Post Entry Quarantine (PEQ) is a system where imported planting material is grown under controlled conditions to monitor for latent pests or diseases. This ensures that only healthy, safe material enters commercial cultivation or distribution.

S59. Ans.(a)
Sol. In Arctic apples, RNA interference (RNAi) is used to silence four PPO (polyphenol oxidase) genes. These genes are responsible for enzymatic browning in apple tissues. Silencing them results in non-browning apples with improved visual appeal and longer shelf life.

S60. Ans.(b)
Sol. The Arctic apple is a genetically engineered variety developed to prevent browning when cut or bruised. This trait is achieved by silencing PPO genes using RNAi technology, enhancing consumer experience and reducing food waste.

S61. Ans.(b)
Sol. Spring budding in citrus is typically done from March to April when the weather is suitable for successful bud grafting and rootstock growth.

S62. Ans.(b)
Sol. Slips are considered the best planting material for pineapple, as they root more easily and result in faster-growing plants.

S63. Ans.(d)
Sol. Sugar is considered a class one preservative, which is commonly used in food preservation, especially in jams, jellies, and syrups. It helps in preventing microbial growth by drawing out moisture.

S64. Ans.(c)
Sol. Sucrose is the most commonly used sugar in vase solutions for cut flowers. It acts as an energy source, aiding in flower opening and prolonging vase life. While glucose and fructose can also be used, sucrose is preferred due to its effectiveness and stability.

S65. Ans.(a)
Sol. Caprification is the process by which certain fig species, such as the Smyrna type, are pollinated by fig wasps (Blastophaga psenes). This mutualistic relationship involves introducing male figs containing developing wasps into female fig trees to facilitate pollination.

S66. Ans.(c)
Sol. Soil salinity is a significant abiotic factor limiting fruit production in arid regions. High salt content in the soil reduces water availability and affects plant health by inhibiting nutrient absorption, leading to poor growth and fruit development.

S67. Ans.(b)
Sol. Pollination is the transfer of pollen from the male part (anther) to the female part (stigma) of the flower. It is a key step in the reproductive cycle of plants and is required for fertilization to occur, leading to fruit set.

S68. Ans.(d)
Sol. Temperature, water availability, and nutrient supply are all critical factors for successful fruit development after pollination. Proper environmental conditions and resource availability ensure that the fertilized ovules develop into healthy fruits

S69. Ans.(a)
Sol. Drip irrigation is the most efficient and widely used method for water management in fruit orchards. It delivers water directly to the root zone of plants, reducing water wastage, improving water use efficiency, and promoting better root development.

S70. Ans.(b)
Sol. Auxin is used in orchards to regulate fruit drop. It helps maintain the retention of fruit on the tree by preventing premature abscission (the shedding of fruit). This regulator is commonly applied to enhance yield and quality.

S71. Ans.(c)
Sol. The first successful embryo culture was conducted with cherry embryos. This technique was a breakthrough in plant biotechnology, allowing for the rescue of embryos from incompatible pollinations and enabling the propagation of otherwise unviable seedlings.

S72. Ans.(b)
Sol. Fertigation is the process of applying fertilizers through an irrigation system. This method ensures that nutrients are delivered directly to the plant roots, improving nutrient uptake and reducing nutrient losses, especially in fruit crops.

S73. Ans.(b)
Sol. Potassium is essential for strengthening cell walls, improving plant rigidity, and enhancing resistance to lodging in fruit crops. It also helps in drought tolerance and better fruit quality, preventing the plant from toppling under wind or heavy fruit load.

S74. Ans.(a)
Sol. Auxin is the growth regulator that promotes apical dominance, the phenomenon where the main shoot suppresses the growth of lateral buds. This helps the plant maintain a single dominant stem, especially during the early stages of growth, encouraging upward growth and minimizing branch formation.

S75. Ans.(c)
Sol. Selective pruning helps remove dead or diseased wood, improves light penetration, and stimulates new growth in old trees

S76. Ans.(d)
Sol. Mango is rich in Vitamin A, with approximately 4800 IU. This vitamin supports vision, skin health, and immune function, making mango a highly nutritious fruit.

S77. Ans.(c)
Sol. Mango chutney is the most commonly exported chutney from India. It is widely popular in international markets for its tangy sweet flavor. The product is valued in regions like the UK, USA, and Middle East. It contributes significantly to processed food exports.

S78. Ans.(a)
Sol. India is the world's largest producer of mangoes, contributing over 40% of global production. Popular Indian varieties like Alphonso and Kesar are exported worldwide. Mango is both economically and culturally significant in India's horticultural exports.

S79. Ans.(d)
Sol. Spain is the largest exporter of fresh fruits, especially citrus and stone fruits, due to its favorable climate and advanced postharvest handling. Its export network covers the EU and many international markets. Spain's high-quality standards boost its trade reputation.

S80. Ans.(c)
Sol. Sikkim is India's first fully organic state and a leading producer of organic fruits. The state's favorable agroclimatic conditions support crops like orange, guava, and banana. Organic farming in Sikkim is promoted under various government schemes.

S81. Ans.(c)
Sol. The success of High-Density Planting (HDP) in apple cultivation primarily depends on controlling the tree size. Smaller trees allow closer spacing, easier management, and higher yield per unit area.

S82. Ans.(c)
Sol. Banana is rich in potassium, containing around 450 mg per 100g. Potassium helps regulate fluid balance, nerve signals, and muscle contractions in the human body.

S83. Ans.(c)
Sol. Sweet lime (also known as Mosambi) is known to have a high malic acid content among citrus fruits. Malic acid contributes to the fruit's flavor and plays a role in plant metabolism and energy production.

S84. Ans.(b)
Sol. Hydrovac cooling is a method that uses a combination of vacuum and cold water to rapidly reduce the temperature of produce. It is especially useful for cooling perishable items quickly without freezing them.

S85. Ans.(a)
Sol. Inadequate cold storage infrastructure is a major cause of postharvest losses in India. Perishable commodities like fruits and vegetables deteriorate quickly without temperature control. This results in wastage and price volatility. Strengthening cold chain logistics is essential.

S86. Ans.(a)
Sol. Respiration is a key enzymatic process that affects the ripening of fruits and vegetables. During respiration, stored nutrients are consumed, leading to the breakdown of starches into sugars, which accelerates ripening. This process directly influences the shelf life and quality of produce.

S87. Ans.(b)
Sol. Sweating is the process of keeping dried products in boxes or bins to allow moisture content to balance out across the entire batch, ensuring uniform texture and quality.

S88. Ans.(c)
Sol. Crop rotation is a preharvest agricultural practice aimed at soil fertility and pest control. It is not part of postharvest management. In contrast, cold storage, grading, and packaging are essential for preserving product quality after harvest.

S89. Ans.(c)
Sol. The word 'citrus' has been derived from a Greek word, indicating the ancient recognition and use of citrus fruits in Mediterranean regions.

S90. Ans.(a)
Sol. Hand peeling is done in mangoes and papayas to remove the thick, hard outer skin and expose the edible part, making them easier for consumption and processing.

S91. Ans.(c)
Sol. Mega Food Parks are developed under the Ministry of Food Processing Industries (MoFPI). These parks aim to create modern infrastructure for food processing and reduce postharvest losses. They also boost rural employment and farmer incomes by linking farms to markets.

S92. Ans.(d)
Sol. Sweet lime is considered an important citrus fruit in North India due to its adaptability to the region's climate and its high consumer demand for its sweet, mildly acidic taste and nutritional benefits.

S93. Ans.(b)
Sol. The Central Post Harvest Engineering and Technology is located in Ludhiana, Punjab, and focuses on developing technologies to improve postharvest handling, processing, and storage of agricultural products.

S94. Ans.(b)
Sol. 110°C is the sterilization temperature required for killing spore forming bacteria. This temperature is commonly used in autoclaving processes to ensure complete sterilization of equipment and materials.

S95. Ans.(a)
Sol. Frozen foods should be kept below 5°C to ensure they remain frozen and maintain their quality. Temperatures below this prevent microbial growth and spoilage.

S96. Ans.(c)
Sol. 700 ppm of SO2 (sulfur dioxide) is used in squash to preserve color, prevent oxidation, and extend shelf life by inhibiting microbial growth.

S97. Ans.(c)
Sol. India suffers about 20–30% postharvest losses in fruits and vegetables. These losses are due to poor handling, lack of storage, and inefficient logistics. It impacts both farmer incomes and national food security. Reducing these losses is a key government priority.

S98. Ans.(c)
Sol. The banana leaf is culturally and traditionally used as a biological plate in many regions due to its large surface, hygiene, and Eco friendliness.

S99. Ans.(b)
Sol. Citrus belongs to the family Rutaceae, which includes economically important fruits like oranges, lemons, and limes. Members of this family are rich in vitamin C and essential oils.

S100. Ans.(b)
Sol. KMnO4 (Potassium Permanganate) is commonly used as an ethylene scrubber to absorb ethylene gas, which speeds up ripening in fruits and vegetables. This helps extend the shelf life of produce by delaying ripening.

S101. Ans.(c)
Sol. Pollinizers are plants that produce pollen and provide it to other plants to facilitate pollination. This is essential for fruit set in many crops, especially those with imperfect flowers, where pollen transfer is necessary for fertilization.

S102. Ans.(b)
Sol. FAO (Food and Agriculture Organization) promotes global best practices in postharvest management. It supports capacity building, training, and infrastructure development in developing countries. FAO's initiatives help reduce food waste and improve food security worldwide.

S103. Ans.(a)
Sol. Canopy management in mature orchards focuses on improving light distribution and air circulation, leading to enhanced fruit quality

S104. Ans.(c)
Sol. Micrografting combines tissue culture and grafting to produce virus free planting material, especially in citrus and apple. The shoot tip from an infected plant is grafted onto a virus free rootstock under sterile conditions, eliminating pathogens and ensuring healthy plants.

S105. Ans.(c)
Sol. The Nursery Act is implemented to ensure the supply of genuine and quality planting materials to farmers and orchardists. It mandates registration of nurseries, proper labeling, and maintenance of mother plants for traceability and disease-free propagation.

S106. Ans.(a)
Sol. Zizypus nummularia is the dwarfing rootstock used for Ber (Indian Jujube), helping in improving the tree's size and yield.

S107. Ans.(a)
Sol. St. Julien is considered the most versatile rootstock for plum due to its compatibility with a wide range of plum varieties and its ability to adapt to different soil types.

S108. Ans.(b)
Sol. Indole-3-butyric acid (IBA) is commonly used in horticulture to stimulate root formation in cuttings, making it the commercial hormone of choice for rooting.

S109. Ans.(c)
Sol. Ringing or Girdling involves removing a circular ring of bark from a branch, which disrupts the flow of nutrients and encourages fruiting above the girdled area.

S110. Ans.(b)
Sol. Mangoes are seasonally available in India from March to mid-August, with peak availability during summer. The duration may slightly vary depending on region and variety.

S111. Ans.(c)
Sol. Australia is the leading producer of organic fruits in terms of certified land area. It has vast tracts of organically managed farmland and exports organic produce globally. Highquality standards and sustainable practices give Australia an edge.

S112. Ans.(d)
Sol. The leading producer of grapes in India is (d) Maharashtra, accounting for around 80% of the country's total grape production. Maharashtra, regions like Nashik, Sangli, Pune, and Solapur are known for their grape cultivation.

S113. Ans.(c)
Sol. Apomictic species of apples are commercially propagated by seed. Apomixis is a form of asexual reproduction that allows the plant to produce seeds without fertilization, ensuring genetic uniformity in the progeny.

S114. Ans.(c)
Sol. The ideal temperature for mango cultivation lies between 24–27°C. This temperature supports proper flowering, fruit setting, and ripening, ensuring good yield and fruit quality.

S115. Ans.(c)
Sol. Maharashtra leads India's fruit exports, especially grapes, pomegranates, and mangoes. The state's favorable agroclimatic conditions and export infrastructure aid its dominance. It also hosts several Agri Export Zones and APEDA initiatives.

S116. Ans.(d)
Sol. Despite being a top producer, India's share in global fruit exports remains low due to inadequate postharvest handling and cold chain infrastructure. Losses during transport and packaging reduce export quality. Improved logistics can boost competitiveness.

S117. Ans.(c)
Sol. Codex Alimentarius is a global set of food safety standards developed by FAO and WHO. It ensures safe, quality food in international trade. Codex guidelines help countries align with global safety practices, including for processed fruits.

S118. Ans.(c)
Sol. Citric acid is widely used in jelly preparation to enhance flavor and assist in setting. It helps maintain the pH needed for pectin to gel properly. It also acts as a preservative, improving shelf life. Natural sources include citrus fruits like lemon.

S119. Ans.(c)
Sol. For perishable commodities, maintaining a relative humidity (RH) of 90-95% is essential. This high level of humidity prevents moisture loss from fruits and vegetables, preserving their freshness and extending shelf life.

S120. Ans.(b)
Sol. The storage life of grapes is typically 36 weeks, depending on the storage conditions. Proper refrigeration and humidity control are key to maintaining the quality of grapes during storage.

S121. Ans.(d)
Sol. 90-95% RH is the ideal range for storing strawberries, as this high humidity prevents the fruit from drying out and helps maintain its texture and flavor.

S122. Ans.(b)
Sol. Potatoes should be stored at 24°C to prevent sprouting and maintain freshness for longer periods. This temperature range also slows down the degradation process while preserving the texture and taste.

S123. Ans.(c)
Sol. Clamps are the traditional method for storing potatoes, where they are stored in a heap, usually covered with straw to maintain a cool temperature. This method helps protect the potatoes from freezing and maintains humidity levels for longer shelf life.

S124. Ans.(b)
Sol. India is the leading exporter of mango pulp, used in juices, nectars, and baby food products. Countries like Saudi Arabia, UAE, and the USA are major importers. Indian varieties like Totapuri and Alphonso are preferred for pulp processing.

S125. Ans.(b)
Sol. Ratnagiri in Maharashtra is a notified AEZ for mangoes, especially Alphonso. The zone offers infrastructure, export support, and cold storage facilities. AEZs aim to enhance value addition and promote exports from specific agroclimatic regions.

S126. Ans.(b)
Sol. Tartaric acid is the primary acid found in grapes, contributing to their tartness and flavor.

S127. Ans.(c)
Sol. Photosynthetically active radiation (PAR) is measured using instruments quantum sensors.

S128. Ans.(b)
Sol. The removal of the terminal portion of shoots leaving its basal portion is referred to as heading back. It helps in promoting lateral growth.

S129. Ans.(b)
Sol. Exhausting is the process of removing air from filled cans to preserve the contents and prevent spoilage.

S130. Ans.(b)
Sol. A Geographical Indication (GI) tag is valid for 10 years, after which it can be renewed

S131. Ans.(d)
Sol. Pectin is a key constituent of jelly, providing the gelling agent needed to form its structure.

S132. Ans.(c)
Sol. 'Pusa Delicious' and 'Pusa Majesty' are Gynodioecious varieties of papaya, meaning they have both male and female flowers on the same plant, but they also produce some female plants that only bear fruit. This allows for self-pollination and better fruit set compared to strictly dioecious varieties (where male and female plants are separate).

S133. Ans.(c)
Sol. Banana is a parthenocarpic fruit, meaning it can develop without fertilization, resulting in seedless fruits.

S134. Ans.(b)
Sol. Severe pruning is typically practiced in ber (Indian jujube) to enhance fruit production and maintain plant health.

S135. Ans.(b)
Sol. Female papaya plants can be produced in bulk through ovule culture, a technique that encourages the growth of female plants.

S136. Ans.(d)
Sol. Ziziphus nummularia is generally considered incompatible with most of the ber varieties, causing issues in grafting.

S137. Ans.(b)
Sol. Pruning is primarily done to improve the quality of fruits by enhancing light penetration and air circulation.

S138. Ans.(b)
Sol. In avocado, fruit buds are borne laterally with leafy shoots in the leaf axils.

S139. Ans.(a)
Sol. The process of breakdown of protein in food, usually fatty foods, is known as putrefaction.

S140. Ans.(b)
Sol. Ripening is considered the final stage of fruit development, marking the period when fruits reach their full flavor and texture.

S141. Ans.(c)
Sol. Auxin is primarily synthesized at the shoot apex in plants, where it plays a crucial role in growth and development.

S142. Ans.(a)
Sol. Wine grape is botanically known as Vitis vinifera, which is the most commonly cultivated species for wine production.

S143. Ans.(c)
Sol. CEPA stands for 2 - Chloroethyl phosphonic acid which is a plant growth regulator.

S144. Ans.(a)
Sol. The name 'Tamarind' is derived from the Arabic language, where "tamr hindī" means "Indian date."

S145. Ans.(d)
Sol. Genetic variation in plants can be determined using morphological, biochemical, and molecular markers, each providing different insights.

S146. Ans.(d)
Sol. Haploids are primarily used for the development of homozygous lines, Generation of exclusive male plants, Induction of mutations, which are important for plant breeding and research.

S147. Ans.(a)
Sol. The genetic variability present among tissue-cultured plants is termed somaclonal variation, which can lead to desirable or undesirable traits.

S148. Ans.(b)
Sol. Recalcitrant seeds lose viability when their moisture content drops below a critical level, unlike orthodox seeds which can withstand desiccation.

S149. Ans.(c)
Sol. Tissue-cultured shoots of banana are typically stored in liquid nitrogen at -196°C for preservation.

S150. Ans.(d)
Sol. The fruit of apple is a pome, a type of fleshy fruit derived from the ovary and surrounding tissue.