

Selection Process for the post of Junior Superintendent [Horticulture]

(Staff Recruitment Advt. No: IITDH/ Admin/Staff Recruitment/26/2023-24 dated 12th September 2023)

All the shortlisted candidates are required to appear in person for the Written Test(s). The venue for Written Test (s) is IIT dhArwAD.

Candidates securing minimum qualifying marks as laid down by the selection committee in Written test I shall be shortlisted for Written test II.

The final selection will be based on aggregate marks obtained from both the written tests (I & II) with weightage of 40% in Written Test I and 60% in Written Test II.

Examination Pattern:

Written Test -I (MCQ Type) (40% Weightage)

Section	Topics/Subjects
1	General Ability Test
2	Technical Questions

Note: 0.25 Negative Marks for every wrong answer MCQ test.

Written Test-II (60% Weightage)

Section	Topics/ Subjects
3	Technical
4	Technical Trade/Skill Test (Pen and Paper)

Note: 0.25 Negative Marks for every wrong answer in MCQ questions, if any.

Syllabus:

Section	Broad syllabus
1	General Awareness, Reasoning, Quantitative Aptitude, Communication Skills
2	A. Fruit industry in India and its potential. General principles of cultivation.
3	Method of propagation. Physiological basis of rooting. Special plant growing structures-mist propagation, greenhouse and glass house. Promising rootstocks for fruit crop. Plant growth regulators, retardants and inhibitors relating to flowering sex expression, fruit set, fruit development and ripening. Orchard management practices, manures and manuring, irrigation, training and pruning high density plantings. Fruit thinning and fruit drop.
4	B. Origin, history, pomological description, climate requirements and production techniques of important temperate, sub-tropical fruit crops. Important pests, diseases and physiological disorders and their management, integrated management of pests and diseases. Harvesting and harvest maturity indices. Handling and marketing problems of major fruits. Special problems of production. C. Principle methods of preservation. Important fruit and vegetable products. Processing techniques and equipment's. Wastes from processing factory and their

impact on the environment. By-products and utilization. Nutritive value of fresh and processed fruits and vegetables. Standards of fruit and vegetable products.

D. Economic principles in fruit and vegetable production. Use of planning and budgeting techniques. Efficiency measures of orchard management.

E. Extension education and its importance. Methods of evaluation of extension programs. Socio-economic survey and status of different categories of farmers. Training programs of extension workers. Lab to land and T&V programs.

F. Importance, nutritive value and classification of vegetables. Types of vegetable, gardening. Principles of vegetable cultivation including nursery management. Climate requirement and cultivation of major summer and winter vegetable crops. Off-season vegetable production.

G. Disease and pests of vegetable crops and measures to control. Weeds, their characteristics and association with various vegetable crops. Cultural, biological and chemical control of weeds.

H. Principles of plant breeding in the improvement of major vegetable crops. Methods of breeding of self, cross-pollinated and vegetative propagated crops. Seed technology and its importance. Production, processing, testing and marketing of vegetable seeds.

I. Plant physiology and its significance. Growth and development factors affecting growth. Absorption and translocation of water, transpiration and water economy. Modern concepts of photosynthesis and respiration.

J. Processes and factors of soil formation. Mineral and organic constituents of soil and their role of maintaining soil productivity. Plant nutrient elements of soil and their availability. Nitrogenous, phosphatic and pottasic and micronutrient fertilizers and their use. Problem soils and their reclamation. Water conservation and watershed management. Water use efficiency in relation to crop production. Criteria for scheduling irrigation, ways and means of reducing runoff losses.

K. Importance and scope of floriculture, landscaping. History, theory and principles of landscape plantings and lawns. Beautification of slopes, forests and wastelands. Layout of home gardens and public parks. Propagation of ornamentals. Cultural requirement of ornamental trees, shrubs, climbers, bulbs and annuals for winter and summer season. Production technology and post-harvest management of cut flowers, bulbs, house plants and bedding plants.

L. Planting design considerations, Selection of plant material for landscape, Plants and indoor air quality, Landscaped parking, Organic gardening basics, Forest and vegetation types in India, Important fertilizers, Medicinal plants.