



भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान मोहाली

(शिक्षा मंत्रालय, भारत सरकार)

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INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH MOHALI

(Ministry of Education, Govt. of India)

Sector – 81, Knowledge City, P. O. Manauli, S. A. S. Nagar, Mohali, Punjab -140306

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सूचना / NOTICE

Ref.: Advt. No. IISERM/NF (01)/Regular/2024-25 dated: 20.10.2024

Pattern and syllabus of written examination and skill test for the post of Technical Assistant (Horticulture) (Post Code: R-04)

1. The written examination will be a Multiple Choice Questions based exam.
2. The written exam will be of 120 minutes duration. Extra 20 minutes compensatory time will be given to candidates belonging to Persons with Benchmark Disabilities (PwBD) category. However, they will be required to produce a proof of disability of 40% or above during invigilation in examination hall.
3. Written exam will have 100 multiple choice questions (MCQs) of Horticulture, General Studies, English Comprehension, and Quantitative Aptitude & Mental Ability.

Sl. No.	Subject	No. of Questions	Marks
1.	Horticulture	55	110
2.	General Studies	15	30
3.	English Comprehension	15	30
4.	Quantitative Aptitude & Mental Ability	15	30
Total		100	200

4. Each question will have 4 options i.e. A, B, C and D and only one correct answer.
5. The candidates will be awarded +2 marks for each correct answer encircled by them in the OMR sheet.
6. For each incorrect answer encircled in the OMR sheet, 0.5 marks will be deducted.
7. If a question is left blank/unanswered, there will be no penalty for that answer.
8. If any candidate encircles more than one answer, it will be treated as a wrong answer even if one of the given answers happens to be correct and there will be penalty of 0.5 marks deduction.
9. Merit list shall be drawn on the basis of marks obtained in written exam for final selection of the candidate subject to qualifying in the skill test which is of 50 marks.

Syllabus for written exam (200 Marks):

Horticulture:

- A. Fruit industry in India and its potential. General principles of cultivation. 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.
- 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 postharvest 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.

General Studies:

Questions on General Science, current events of national and international importance, History of India, Indian agriculture, Indian Geography, Indian Culture & new Agri-horti initiatives and schemes of Govt, of India i.e. PEQ, CPP, CDP, MIDH, NABARD, ICAR research institutions & Environmental studies.

English Comprehension:

Active Passive, One-word Substitution, Unseen Passage, Fill in the blanks, Antonyms, Synonyms, Direct-Indirect, Error Detection, Sentence Improvement.

Quantitative Aptitude & Mental Ability:

Time & Work, Average, Percentage, Ratio & Proportion, Interest, Profit & Loss, Time & Distance, Decimals, Fractions, Partnership, Analogies, Problem Solving, Judgement, Coding –Decoding, Relationship concept.

Pattern and Syllabus for Skill Test (50 Marks):

- **Plant Identification Test:** writing botanical/scientific name of the plants and finding color of flowers based on the name of plants, identifying the family of grass and writing name of the weeds in the areas of plantation.
- **Soil Identification Test:** identifying type of the soil
- **Gardening Tool Identification Test:** finding name of garden tool and its purpose
- **Computer Related Skill Test:** MS Office Word, Excel, Powerpoint and Paint
- **Writing Skill Test:** Drafting of letters/notices/other forms of communications

Kindly Note: *The syllabus is indicative and not exhaustive. The syllabus should not be considered as the only source of information while preparing for the examination.*

भर्ती प्रकोष्ठ
भा. वि. शि. अ. सं. मोहाली
