

Department of Horticulture Institute of Agricultural science University of Calcutta 51/2 Hazra Road, Kolkata: 700019

Applications are invited for admission to the Ph.D. Programme in the Department of Horticulture, Institute of Agricultural Science. Candidates willing to pursue research work leading subsequently to the Ph.D. (Ag.) degree in Horticulture, University of Calcutta, **should apply in the format attached herewith along with necessary documents to the Head of the Department, after paying an application fee of Rs. 100/- by online payment through SBI/ Collect https://www.onlinesbi.sbi/sbicollect/icollecthome.htm, by clicking on Educational Institutions \rightarrowCalcutta University \rightarrowMiscellaneous Fee. A photocopy of the receipt of RET examination fee deposited by the candidate must be attached to the application of the candidate for the RET.** 

**Candidates having degree in Master of Science (Ag) in Horticulture or Allied Biological Sciences** (without NET/SET/SLET/GATE) securing 50% marks from any UGC recognized University is eligible to appear in the written part of the Examination. (Selection will be through Entrance Test & Interview).

The eligible **candidates will have to appear at a written examination** (**MCQ and Short answer type**) **of 1 hour** to be held in the Department of Horticulture, the details of which are appended below. Successful candidates (Qualification bench mark- 50% of the total marks of the written examination) will be called for an interview.

For final selection of the candidate, a weightage of 70% to the entrance test and 30% to the performance in the interview/ viva-voce shall be given which is as per to the clause 5.4.2 of the UGC (Minimum Standards and Procedure for Awards of M.Phil/Ph.D Degree) Regulation 2016.

The allocation of supervisor will be made on the basis of this interview to be held in the Department of Horticulture. Those candidates who have already passed UGC-CSIR-ICAR NET/SET/SLET/GATE/Teacher Fellowship or equivalent examination need not appear at the written test and can directly apply for the interview and for them a weightage of 100% shall be given for the interview only. All those called for interview will have to submit a statement of purpose or research brief and appear in the interview on the specified date.

All in-service applicants eligible for interview will have to produce "No Objection Certificate" in original from the employer at the time of RET (interview), failing so will automatically reject their claim for admission.

## Vacancies: 4 (Four)

No TA/DA shall be paid to the candidates for appearing in the Entrance Test or called for the Interview.

**Important Dates:** 

Important Dates:	
Last date of submission of application (both for Written Part and Interview Part)	20.03.2024
List of eligible candidates for written examination to be displayed in the Department's Notice Board on	21.03.2024
Date of RET (Written part) Examination	02.04.2024 MCQ and Short answer type Type: 50 Marks: One hour Duration: 12.00 hrs—13.00 hours VENUE: Dept. of Horticulture, Institute of Agricultural Science.
Declaration of results (in the Notice Board, Department of Horticulture, University of Calcutta) showing the names of	03.04.2024
successful candidates in the written part of RET RET (interview part)	At 4 P.M. 04-04-2024 (12 noon onwards) for candidates declared successful in the RET (written part) and also for the candidates who have already cleared eligibility tests like NET, GATE, SLET etc. Venue: Dept. of Horticulture, Institute of Agricultural Science
Declaration of the names of successful candidates in the RET, in the Notice Board of the Department of Horticulture, University of Calcutta	To be notified later



## UNIVERSITY OF CALCUTTA DEPARTMENT OF HORTICULTURE INSTITUTE OF AGRICULTURAL SCIENCE Syllabus for Ph.D. Entrance Examination (Horticulture): 2024

Principles and fundamentals of horticulture. Orchard management, nursery management and seed production. Method and time of propagation of different fruit and plantation crops in different regions. Importance of fruits and vegetables in human nutrition. Horticulture based cropping system. Principles of breeding of horticultural crops. *Micropropagation, meristem culture, ovule culture, in vitro pollination*. Contribution of horticulture in national economy and exports.

Growth and development physiology of flowering, fruit set and development, parthenocarpy and selflessness. Maturity and ripening. Plant growth regulators and their role. Physiological basis of flowering and fruiting. Production of bio-agents and bio-fertilizer. Green house management. Stionic relations and root stock.

Improved production technology of fruits and plantation crops (mango, citrus, banana, grape, sapota, papaya, guava, pineapple, aonla, pomegranate, apple, pear, peach, coconut, arecanut, oil palm, cashew, tea, coffee, rubber), high density planting, Integrated nutrient and water management, fertigation, precision farming in horticulture, watershed management for promotion of horticulture. Protected cultivation. Training, pruning and canopy management. Physiological disorders in fruits and plantation crops. Important diseases and pests of fruit and plantation crops and their management.

Importance of vegetables and spices. Classification of vegetables and spices. Climatic and soil requirements, commercial varieties and hybrids, nutritional requirement, irrigation, inter-culture, weed control, mulching, plant protection and other cultural practices of warm and cool season crops i.e. solanaceous fruit vegetables, okra, cucurbits, onion, cole crops, root crops, sweet potato, cowpea, beans and peas, leafy vegetables and spices (Black pepper, cardamom, cinnamon, clove, nutmeg, cumin, fennel, coriander and fenugreek).Breeding strategies for vegetables, tuber crops, potato and spices. Hybrid seed production. Biotic and abiotic stress breeding. Biotechnological tools for breeding. Protected cultivation of vegetables. Agronomical and genetical principles of vegetable seed production. Pollination system in vegetable crops.

Principles of floriculture and landscaping, History and development of gardens, Production technology of indoor plants, Commercial production of field flowers, bulbous, foliage, pot plants, medicinal and aromatic plants. Specific problems concerning production of roses, chrysanthemum, carnation, jasmine, gerbera, marigold, orchids and anthurium. Essential oils from flowers. Active ingredients in important medicinal plants. Major insects, nematodes, diseases and their management. Flower arrangements and value addition.

Importance of post-harvest handling in horticultural crops, physiology of fruits, vegetables and flowers after harvest. Different methods of storage, cool chain management, processing for value addition and product diversification. Disease management in storage. Quality assurance and food laws.



## DEPARTMENT OF HORTICULTURE INSTITUTE OF AGRICULTURAL SCIENCE UNIVERSITY OF CALCUTTA

Name (In block letters):

Date of Birth:

Father's Name:

**Marital Status:** 

Whether SC/ ST/ OBC/ PH:

**Permanent Address:** 

Phone / Mobile No.:

E-mail ID:

**Academic Qualification:** 

Self-attested photograph

Name of the Examinations	Year	Board/University	Subject Taken	Div./Class	% of Marks

Whether passed UGC-CSIR-ICAR NET/SET/SLET/GATE/Teacher Fellowship or equivalent examination Present Position:

Date:

Attach self **-attested marksheets**/ certificates/ NOC (If working) with other relevant documents and copy of payment receipt. Submit the application & documents physically along with scanned copy of payment of Rs-100/ through SBI collect, to the Department.