



University of Calcutta
Department of Horticulture
Institute of Agricultural science
51/2 Hazra Road, Kolkata 700 019
RET 2021

Applications are invited for admission to the Ph.D. Program 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 to the Head of the Department, after paying Rs. 100/- which is to be deposited online through SBI Collect <https://www.onlinesbi.com/sbicollect/>

For making the payment go to the site specified above, then choose State-(West Bengal), Type-(Educational Institution), then select Calcutta University and proceed to Category-(Payment of Misc. Fees), choose Application for Admission to PhD and proceed to the next step

A photocopy of the challan of RET examination fee deposited by the candidate must be attached to the application of the candidate or the RET.

The eligible candidates will have to appear in a written examination of 50 marks comprising of MCQ and Short answer type questions (Duration: 1 hour) to be held in the Department of Horticulture, the details of which are appended below. Qualification bench mark for written examination will be 50%. Successful candidates will be called for an interview and the final selection for joining the Ph.D. Program of this Department, along with the allocation of supervisor will be made on the basis of this interview. The students who have cleared UGC/CSIR (JRF) Examinations / NET / SET / SLET /GATE or have obtained DST INSPIRE Fellowship /Teacher fellowship or have passed equivalent examinations shall not be required to appear at the Ph.D. entrance test and can directly apply for the interview. All those called for interview will have to submit a statement of purpose of research in 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 :5 (Five) -Reservations will be followed as per the existing West Bengal Higher Educational Institutions (Reservations in Admissions) Rules

Important Dates:

Last date of submission of application (both for Written Part and Interview Part)	20.12.2021
List of eligible candidates for written examination to be displayed in the Department's Notice Board on	21.12.2021
Date of RET (Written part) Examination	22.12.2021 MCQ and Short Answer 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 successful candidates in the written part of RET	23.12.2021 At 4 P.M.
RET (interview part)	24.12.2021 (12 noon onwards) for candidates declared successful in the RET (written part) and also for the candidates who have cleared UGC/CSIR (JRF) Examinations / NET / SET / SLET /GATE or have obtained DST INSPIRE Fellowship /Teacher fellowship or have passed equivalent examinations in the Department of Horticulture (1st floor, Annex Building – III, Besides Hazra Law College, 51/2 Hazra Road, Kolkata 700019)
Declaration of the names of successful candidates in the RET, in the Notice Board of the Department of Horticulture, University of Calcutta and official website of the University of Calcutta	After approval from the Honorable Vice Chancellor of the University of Calcutta



University of Calcutta
Department of Horticulture, Institute of Agricultural Science
Admission to Ph.D. Program (RET 2021) in Horticulture

Total Number of Seats: 05 (Five)

The entire process with respect to admission and other matters related to Ph.D program for the Department of Horticulture would be as per to the University of Calcutta (Regulation for the Degree of Doctor of Philosophy, Ph.D.), Regulations 2016.

Eligibility:

Candidates having degree in Master of Science (Ag) in Horticulture or Allied Biological Sciences from any UGC recognized University or a degree (in Horticulture or Allied Biological Sciences) declared equivalent to the Master's degree by the corresponding statutory regulatory body of this University, with at least 55% marks in aggregate or its equivalent grade 'B' in the UGC 7-point scale (or an equivalent grade in a point scale wherever grading system is followed). A relaxation of 5% of marks, from 55% to 50%, or an equivalent relaxation of grade, may be allowed for those belonging to SC/ST/OBC (non-creamy layer)/Differently-abled. The eligibility marks of 55% (or an equivalent grade in a point scale wherever grading system is followed) and the relaxation of 5% to the categories mentioned above are permissible based only on the qualifying marks without including the grace mark procedures.

The students who have cleared UGC/CSIR (JRF) Examinations / NET / SET / SLET /GATE or have obtained DST INSPIRE Fellowship /Teacher fellowship or have passed equivalent examinations or equivalent examination may directly submit a statement of purpose of research in 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.

Entrance Test:

- The Ph.D. Entrance test will be of 50 marks (duration 1 hr.) consisting of both Multiple Choice Questions (MCQ) and short answer type questions.
- The Syllabus for the Entrance Test is attached herewith.
- The successful candidates will have to appear for an interview for final selection.
- Declaration of names of selected candidates will be notified later (Subject to approval by the Honorable Vice Chancellor). It will be communicated to the successful candidates through postage as well as e-mail.

All Candidates are requested to download the Application Form from the University website (www.caluniv.ac.in) and submit the filled up Application Form, Attested copy of relevant mark sheets, along with the receipt of deposition of Application Fee, within the due date to the Head, Department of Horticulture, Institute of Agricultural Science, University of Calcutta, 51/2 Hazra Road, Kolkata – 700019.

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



UNIVERSITY OF CALCUTTA
DEPARTMENT OF HORTICULTURE
INSTITUTE OF AGRICULTURAL SCIENCE
Syllabus for Ph.D. Entrance Examination (Horticulture): 2021

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 seedlessness. 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, oilpalm, 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.
