



**University Of Calcutta**  
**Department of Horticulture, Institute of Agricultural Science**  
**Admission to Ph.D. Programme (RET 2017) in Horticulture**

**Total Number of Seats: 05 (Five)**

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**Reservation in admission shall strictly abide by the West Bengal State Higher Educational Institutions (Reservation in Admission) Rules, 2013.**

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**Eligibility :** The eligibility criteria is as per UGC rules.

Candidates having degree in Master of Science(Ag) in Horticulture or Allied Biological Sciences (without NET/SET/SLET/GATE) securing 50% marks (subject to endorsement by the concerned Ph.D. Committee) from any UGC recognized University are eligible to appear in the Examination. (Selection will be through Entrance Test & Interview).

Those who have qualified NET/GATE/SLET in the concerned discipline would be exempted from the examination. They may directly submit a statement of purpose or research brief and appear in the interview on the specified date.

All inservice 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 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.

**Important Dates:**

- Last Date for Submission of Application Form: 13<sup>th</sup> November, 2017
- Date of Entrance Test : 15<sup>th</sup> November, 2017 (1:00 PM)
- Publication of List of successful Candidates in written part: 16<sup>th</sup> November, 2017 (2:00 PM)  
(Display in the Department’s Notice Board)
- Date of Interview : 17<sup>th</sup> November, 2017 (1 P.M. onwards)

**Venue:**

- For Entrance Test: Department of Horticulture(1st floor, Annex Building – III,Besides Hazra Law College, 51/2 Hazra Road, Kolkata 700019)
- For Interview : Room of the HOD, Department of Horticulture, Institute of Agricultural Science.

All Candidates are requested to download the Application Form from the University website ([www.caluniv.ac.in](http://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 of Rs. 100/-, paid through a challan (obtainable from sales counter, Hazra Law College campus, Kolkata-700019) 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**

**Ph.D. Entrance Examination (Horticulture) : 2017**

## **Syllabus**

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. Symbiotic 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.

*in continuation ....*



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**Ph.D. Entrance Examination (Horticulture) : 2017**

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.

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**HEAD**

**DEPT. OF HORTICULTURE**



**UNIVERSITY OF CALCUTTA**  
**Department of Horticulture, Institute of Agricultural Science**

Application Form for the Admission Test of the Ph.D. Programme 2017 in HORTICULTURE

Name (in block letters) :  
Date of Birth :  
Father's Name :  
Sex : Male/Female/Third Gender  
Marital Status :  
Whether SC/ST/OBC/  
Physically Challenged :  
Nationality :  
Address for Communication :

Phone No. : Mob: E-mail ID :

Academic Qualifications (Bachelor Degree onwards):

Name of the Examination	Year	University	Subjects taken	Div./Class	% of Marks

Whether qualified in NET/GATE/equivalent examination:

Signature of the applicant with date:

Self attested copies of documents are to be attached.

\*Candidates are requested to deposit application fee of Rs.100/- by cash through duly filled in Calcutta University Challan, endorsed by the Head of the Department.

\*\* Original documents may be asked for as and when required by the appropriate authority.