

L. Name of the Programme: Ph. D. in Plant Physiology

6.4.1. Brief History of the Programme:

The program of PhD in plant physiology have been being offered since the year 1999 under the faculty of agriculture by the Department of Plant Physiology after its establishment on 15th February, 1999 consequent upon the quadri-partitioning of the erstwhile Department of Genetics and Plant Breeding.

Specific objectives:

- To develop an academic program and ambiance for learning plant physiology in general and crop physiology in particular.
- To impart education at advance level to develop theoretical understanding of functional biology and technical ability for its applied field
- To orient and equip the students for perusing scientific research in the field of crop physiology.
- To generate scientific information in the field of crop physiology.

Accomplishments:

- 24 students including 8 students in the last five year have been awarded Ph.D. degree in this programme till date.
- The students of this department have earned prestigious fellowships at All India level like INSPIRE Fellowship, National Fellowship for Higher Education (NFHE) of SC and ST students, Maulana Azad National Fellowship for Minority Students, National Fellowship for students of OBC and Swami Vivekananda Single Girl Child Scholarship for Research in Social Sciences for pursuing Ph. D. degree.
- 10 students of the PhD programmesince 2016-17 qualified in the National Eligibility Test (NET) under Agricultural Research Service (ARS), 2 students cracked the ARS main examination.
- The students passed from this department have been placed in several prestigious jobs like
Assistant Botanist in West Bengal Agricultural Service (Research) (5),
Assistant Director of Agriculture (4),
Faculties in other Universities/Colleges (6), etc.
- Research students of this department regularly participate and present their important research findings in different national and international seminars and symposia and publish research articles in standard journals.



6.4.2. Faculty Strength

SL No.	Type of Faculty	Sanctioned Faculty	Faculty in place	Vacant position	Faculty recommended by ICAR
1.	Professor	1	0	1	
2.	Associate Professor	1	0	1	
3.	Assistant Professor	5	2	3	1

Note: a) The service of the retired Professors of the Department has been taken of (Document 1 & 2).
b) The voluntary assistance of the Ph. D. students has been taken for practical classes (Document 3).

(See Annexure VII, VIII, IX)

6.4.3. Technical and Supporting staff

SL No.	Category of Staff	Sanctioned Staff	Staff in place	Vacant position	No. of Staff recommended by the ICAR
1.	Technical Assistant	3	0	3	1 (Lab Assistant)
2.	Laboratory Attendant	2	2	0	
3.	Office Assistant	1	0	1	
4.	Junior Assistant				1 (Assistant)
5.	Field Worker	2	2	0	

Note: The service of the retired Technical Assistant of the Department has been taken as and when required for conducting practical classes (Document 4).

(See Annexure X)

6.4.4. Classrooms and Laboratories:

6.4.4.1. Number of Classroom: 2

6.4.4.2. Number of Functional Laboratories: 3

SI No.	Name of Laboratory/ Facility	Area (Square-metre)	No. of Supporting Staff Attached
1.	PG Practical Laboratory	120	2
2.	PG Laboratory I	45	
3.	PG Laboratory II	45	
4.	PG Laboratory III	25	
5.	Inoculation –cum-culture Room	25	



6.4.4.3. List of major equipments, laboratories, farm facilities, workshops and other instructional units

SL. No.	Name of Laboratory/ Facility	List of major equipments and facilities
1.	PG Practical Laboratory	Table Top Lab. Centrifuge (One No.), Systronics visible Spectrophotometer – (One No.) Model 105, Hot Air Drying oven with thermostatic control (two nos.), Hot water bath, Soxhlet apparatus with heating arrangement, Dhona Single Pan Balance (one), Electronic Balance –two, Remi High Speed Cooling Centrifuge-one, Horizontal Shaker, Seed Germinator, Students’ Monocular Microscope Kyowa-Getner (2 Nos.), +12 microscopes Laboratory Willey Mill, Laboratory Refrigerator, BOD incubator Autoclave For Physiological Sterilization, Distillation set, Portable photosynthesis system CI-340 Hand Held, Biovis Leaf Portable Leaf Area Meter,
2.	Plant Tissue Culture Laboratory	Laminar Air Flow, Culture Racks
3.	PG Laboratory I	Table Top Lab. Centrifuge (One No.), Systronics visible Spectrophotometer –(One No.) Model 105, Hot Air Drying oven with thermostatic control (one), Hot Water Bath with thermostat control (one), DhonaElectical Balance, Electronic balance, Metal distillation set, Refrigerator
4	PG Laboratory II	Digital pH meter, Sartorius Analytical Balance Model : QUINTIX213-10IN, Systronics UV-VIS single beam spectrophotometer (200-1000 nm) Type 118, Digital Conductivity Meter, Spectrophotometer Model –NV-503, Refrigerator, Gel Electrophoresis System-(casting unit and power pack)
5	PG Laboratory III	Visible range Spectrophotometer Systronics 104, Laboratory Refrigerator, Hot Air Drying oven with thermostatic control (one), Hot water bath with thermostat control (one), Metal distillation set, DhonaElectical Balance, Table top centrifuge

6.4.4.4. Justify whether these facilities are sufficient to meet the course curricula requirement:

The students of the program have access to spectrophotometers (both visible and UV-VIS), cetrifuses (both Table Top & Cold), pH meters, balances (electrical/electronic), Hot air drying ovens, Horizontal shaker, seed germinator, monocular microscopes, refrigerator, distillation set, paper chromatography sets, Laminar Air flow, Hot water bath, Gel electrophoresis system, Portable photosynthetic system, conductivity meter, Autoclave, portable leaf area meter etc. Further, as and when required the students can access the facilities



of other department also. So, as a whole the available facilities are sufficient to meet the curricula requirement.

6.4.4.5. Number of theory batches for the Degree Programme- 1

6.4.4.6. Number of Practical Batches for the Degree Programme-1

6.4.5. Conduct of Practical and Hands-on-Training:

Major part of the practical syllabus can be successfully done with the available facilities. Facilities can be given to at least 10 students to make them skilful enough for the entire practical.

Post Graduate Practical Manual:

PG Practical Manual Volume 1: For the courses PPH 501, PPH 502 & PPH 503.

6.4.6. Supervision of students in PhD Programme:

6.4.6.1. Total Number of Students pursuing the Degree at Present: 12

6.4.6.2. Total Number of faculties supervising the Students: 3

	2016-17	2017-18	2018-19	2019-20	2020-21
Number of students pursuing the Ph D	2	3	0	3	4
Number of eligible faculty	2	2	2	3*	3*

*** One faculty from College of Agriculture Bankura**

Eligible Criteria to become a PhD Advisor:

(Clause 6.03 of the BCKV Regulations regarding Doctoral Degree Programme, 2019)

6.03. Recognition of chairperson / Member of Advisory Committee

- (i) A teacher of the Viswavidyalaya as defined in the Act having at least three (3) years of research and/ or teaching experience after a doctoral degree and at least seven (7) publications after the doctoral degree or joining in service as applicable in the NAAS/ UGC rated journals and /or peer reviewed journals with impact factor as approved by the Board of Studies of the concerned department and subsequently by the PG-UG Council of the respective Faculty, if required, may be recognised as chairperson / member of the Advisory Committee of a student under doctoral degree program.
- (ii) A teacher of the Viswavidyalaya without Doctorate degree but having at least 10 years research / teaching experience and at least seven (7) publications in the NAAS/ UGC rated journals and /or peer reviewed journals with impact factor as approved by the Board of Studies of the concerned department and subsequently by the PG-UG



Council of the respective Faculty, if required, may be recognised as chairperson /member of Advisory committee of a student under doctoral degree program.

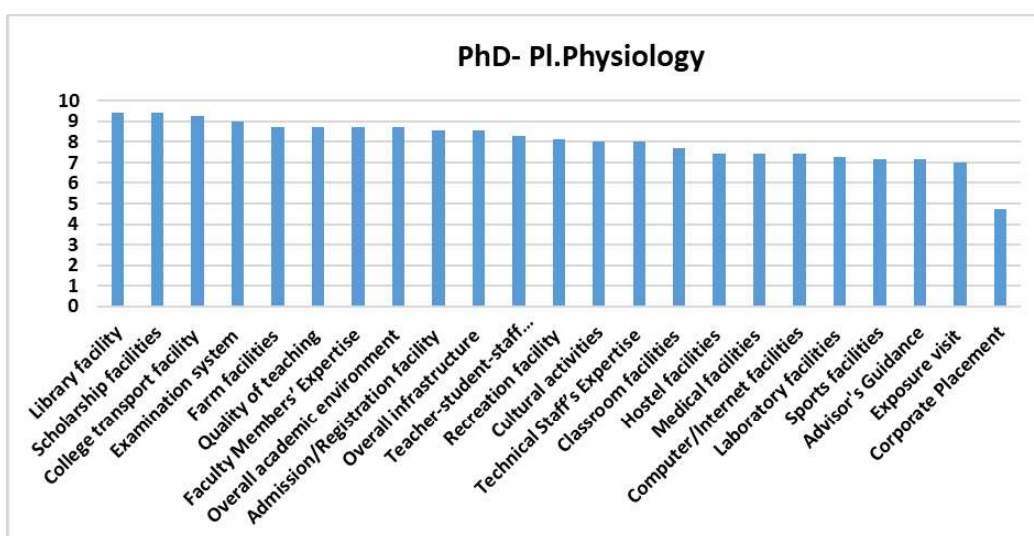
- (iii) The teachers of the Viswavidyalaya who have registered themselves for the doctoral degree programme shall not be eligible as the Chairman / Member of the Advisory committee of a student.

* Documentary evidence attached as annexure I

6.4.7. Feedback of stakeholders:

6.4.7.1. Mention the feedback mechanism (duly supported by the documents)

Feedback from the students was conducted in Google Forms using standard questionnaire (24 questions) developed on the basis of comprehensive dimension of Agricultural Education in BCKV campus. The dimension covered all the physical and academic facilities provided by the University. The responses were collected on a 10-point scale (1 denotes poorest facility and 10 denotes excellent facility) from the students of this programme. Individual responses were analyzed statistically (by computation of weighted average of every facility as perceived by the students) for the programme and the result was graphically presented in the SSR. As a documentary evidence, individual responses collected from the students’ email ID through Google Forms have been stored in our computer (Google Drive). On demand, of ICAR Peer Review Team, the link for the individual responses can be shared.



Comment: Doctoral students of Ph D-Plant Physiology Programme are happy with nearly all the facilities provided by the University. Though, facilities like Corporate Placement and Exposure Visit have good scope for improvement.



6.4.7.2. What action the University has taken to address the issues raised in the feedback? *Action taken*

The feedback reports were shared with concerned sections of the university. Students responded very positively with regards to majority of the facilities provided by the university. However, with respect to timely publication of results and corporate placement, there are ample scopes of improvement. Considering this feedback, the university has taken administrative actions for publication of results within stipulated period as reflected in the circulars of the concerned authorities. As corporate placement, to a great extent, is beyond the purview of the university itself, the Placement Cell continuously in touch with the potential employers to utilize the vacancies in favour of BCKV.

Impact

We are expecting very positive impacts in near future on these issues as some steps have already been taken in recent times as mentioned above.

6.4.8. Student intake and attrition in the Ph D programme for last five years:

Academic Year	Sanctioned strength	Actual intake	Attrition (%)	Students awarded with the degree
2016-17	4	2		0
2017-18	3	3		2
2018-19	3	0		1
2019-20	4	3		3
2020-21	4	4		0

Note: Students can submit their thesis from 6th semester onwards. Hence, working out attrition cannot be possible. Therefore, the number of the students awarded with the Ph D in different academic session are included in the table.

6.4.9. ICT Application in Curricula Delivery:

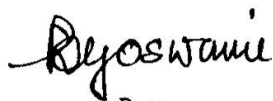
LCD Projectors and computers. All the classes are taken using power point presentation. During covid-19 period all the theory classes, seminars, viva-voce examination are conducted in online mode in Google meet platform. Examinations are conducted in the Google form.



I, the **Dean, Prof. Subhendu Bikash Goswami**, hereby certify that the information contained in the Section 6.4.1 to 6.4.9 are furnished as per the records available in the college, and degree awarding university.

Place: Mohanpur

Date: 02-11-2021



Dean
Faculty of Agriculture
Bidhan Chandra Krishi Viswavidyalaya
Mohanpur, Nadia, West Bengal

(Signature of Dean of the Faculty with Date & Seal)

