

# **FIST (DST) P.G. DEPARTMENT OF BOTANY**

## **DEPARTMENTAL PROFILE FOR ACCREDITATION BY NAAC**



**S. M. M. TOWN PG COLLEGE, BALLIA  
M.G.KASHI VIDYA PEETH, VARANASI**

# P.G. Department of Botany

## 1. Faculty Profile – Our faculty

	Name and Designation	Area of Research and Specialization
	<b>Dr. R.P. Raghava</b> M.Sc., Ph.D. Associate Professor and Head 9415657030	Bioregulators 27
	<b>Dr. Nisha Raghava</b> M.Sc., B.Ed. Ph.D. Assistant Professor (SS)	Bioregulators 21
	<b>Dr. Subhas Chandra</b> M.Sc., NET, Ph.D. Assistant Professor	Plant cell tissue culture, microbial genetics, biotechnology
	<b>Vacant Teaching Staff</b>	03

### Supporting Staff

<b>Sri. Hemanshu Shekhar</b>	<b>Laboratory Assistant</b>
<b>Vacant 01 post for Laboratory Assistant</b>	
<b>Sri Heera Singh</b>	<b>Laboratory Attendant/Parichar</b>
<b>Sri Santosh Prasad</b>	<b>Laboratory Attendant/Parichar</b>

Botany department started with UG course in 1963. PG courses started in 1979. The department got **DST (FIST)** in 2004. Dr Anil Kumar Srivastava is working on biodegradation of dyes, pesticides and other hazardous non-degradable compounds by the native microorganisms. He has screened a large number of local microflora and evaluated their hydrolytic enzyme activities.

Apart from heading his own department, Dr Srivastava is also the **convener** and guest faculty of the Self Financed department of **Biotechnology**.

Dr RP Raghava and Dr Nisha Raghava have worked on flower development of legumes and other plants and the relationship between nodule metabolism and growth of legumes. At present, they are working on new groups of bioregulators such as triazoles and penicillins. They have published several papers in different journals of repute and are active members of a number of

scientific and academic bodies They have participated in a number of national and international seminars.

Dr Alok Srivastava is an active worker of microbiology. He has conducted two major projects funded by DST and DBT and is now on leave from this department and working as a senior scientist at National Institute of Microbial Science, Mau. He has worked as a PDF in Hebrew University and has presented several papers in different national and international seminars, including those held in Norway, Netherlands, Hungary etc.

Dr. Subhas Chandra joined the department as Assistant Professor on 01.06.2010. He is scholar from BHU and has been working in the fields of plant cell tissue culture, microbial genetics and biotechnology. He has been awarded JRF and SRF in Flora of India project from Botanical survey of India.

### **2. Student Profile:**

Though the students who seek admission in this institution come mostly from economically and socially backward segments of the society, yet their performance is appreciable. It is further appreciating that girl students usually constitute about half or sometimes more than half of the total strength. Our students are doing well in different walks of life after completing their studies from this institution. Most of the students come from Hindi medium schools, hence with a poor proficiency in English language. Many students studied from this department are holding senior positions in different arenas of society.

### **3.Changes in Courses:**

In 2003, we have adopted the syllabi recommended by UGC for both UG and PG courses almost in Toto. Our head of the department was convener of the Board of Studies that introduced the changes.

### **4.Success rate and drop out rate:**

The department has showed a good trend in success rate of students. The success rate of UG students is more than 60%. In case of PG students, it is more than 90%.The drop out rate is almost negligible.

### **5.Learning Resources of the department:**

The department is equipped with following resources for our students-

**A. Library:** For UG students, there is a central library. But for PG and research students, there is a departmental library with sufficient books and journals.

**B. Computers:** At present, there are 12 computers in the department.

**C. Laboratories:** There is a big well-equipped laboratory for UG students. Two laboratories equipped with necessary amenities are there for PG students. There is a separate laboratory for physiology and biochemistry practical. There is a research laboratory with working facility for about ten students and is equipped with all the modern facilities like spectrophotometers, ovens, incubators, BOD incubators, Laminar Air flow, microbial shakers, research microscopes, cooling centrifuge, autoclave, distillation plant, PCR, ultrasonicator, lyophilizer, deep incubator (-180°C) gel electrophoresis etc.

**D. Other Resources:** The department has a rich archive of museum and prepared slides for both UG and PG students. We have a good collection of models and charts for easy learning of students.

**6. Modern teaching methods:** We use overhead, slide and LCD projectors apart from normal blackboard teaching. We also organize students' seminars and

group discussion. Many of our faculty uses ICT resources in the process of their teaching

**7. Academic and personal Counseling:** The staff members take keen interest in providing academic counseling to our students, particularly those pursuing PG courses. We keep them updated regarding various avenues available to them after their post-graduation. We make our maximum efforts for genuine placements of our research students after they complete their doctoral work. Further, our students do not hesitate to consult us if and when they have some personal problems.

**8. Faculty development programmes:** All the faculty have completed the required number of orientation and refresher courses.

**9. Participation in academic activities:**

**Teaching-** The faculty members are regularly involved in teaching of both UG and PG classes. Each faculty takes about 24 periods per week. Dr Anil K Srivastava is a guest faculty and convener of the department of Biotechnology also.

**Research-** Four of our faculty members are actively involved in research. Their research profiles are mentioned above.

**Other Academic Activities-**The head of this department (Dr Anil Kumar Srivastava) has served as convener, RDC (Botany) as well as convener, academic council of VBS Purvanchal University, Jaunpur.. Our faculty members are routinely involved in other college activities, like proctorship, paper setting, evaluation, etc.

**10. Collaboration with other departments and institutions:** The department works in collaboration with NBAIM, Mau , BHU and Department of Zoology of this institution..

**11. Priority Areas of Research, Ongoing Projects and Publications of last two years**

**Dr Anil Kumar srivastava**

**Priority areas of research** – Biodegradation of dyes and other hazardous compounds.

**Ongoing Projects**

(i)**Major Project-** Evaluation of cyanobacterial toxicity on Makhana plant (*Euryale ferox*) and a common carp, *Cyprinus carpio*. Funded by CST, Lucknow, Total outlay-Rs 5,44,000.00

**Dr R.P Raghava and Dr Nisha Raghava**

**Priority areas of research** –Bioregulators

**Publications** (Last 5 years)

1. Gupta SK, **RP Raghava and Nisha Raghava. 2004.** Stomatal studies of Cowpea (*Vigna unguiculata*) cultivars in relation to Bromiconazole. J.Ind. Bot,Soc. 83:116-119

2. Pandey R, **RP Raghava**, and **Nisha Raghava**. 2005. Parantic angiospermic plants of Ballia District and their medicinal uses. Indian J. Applied & Pure Biol. 20: 267-270
3. Gupta BP, **Nisha Raghava**, BP Singh, SP Singh R. Pandey and **RP Raghava**. 2007. Chemical Regulation stomatal characteristics regulating physiological processes in two varieties of Cowpea with Putreseine. Ind.J. Bot. Soc.. 86: 170-182.
4. Rai A, **N. Raghav**, BP Gupta and **RP Raghava**. 2007. Bio-efficacy of Putrescine on Leaf Growth in relation to productivity of tomato (*Lycopersican esculentum*). 4: 239-246
5. Rai A. **N. Raghava**, BP Gupta and **RP raghava**. 2008. Influence of Polyamine on yield and quality of tomato(*Lycopersican esculentum*). Ind. J. Applied & Pure Biol. 23: 5-8
6. Tillotama, **N Raghava**, **RP Raghava** and AK Singh. 2008 Efficacy of Triacontanol on Growth and nodulation of Cowpea. 23: 305-310
7. Singh L. **Raghav N. Raghav R.P.** Jayanti..2008. Allelopathic effects of *Parthenium* on *Lagenaria siceraria* [Mol] Standl. Indian J. Applied and Pure Biol. 23[2]. 285-294
8. Singh L. **Raghav N. Raghav R.P.**2009. Allelopathic substances of *Parthenium* weed and interaction of *Solanum melongena*. Bioscience, Biotechnology Research. Asia. 6[2]. 855-862
9. Tillotama, **N Raghava**, **RP Raghava**. 2010. Effects of Miraculan on seed germination parameters in cowpea under water stress. Biosciences, Biotechnology Research, Asia. 353-358

**Dr. Subhas Chandra**

Plant cell tissue culture, microbial genetics, biotechnology

**12. Placement record-** The students passed out from this department are working in different fields of the country and abroad. A list of some of the alumni is given below-

Dr HK Srivastava	- Scientist
Dr GC Srivastava	- Head ,Dept of Plant Physiology, IARI
Dr SK Srivastava	- Assoc. Professor, St Louise, USA
Dr BP Verma	-Sr Scientist, Canada
Dr Saukat Ali	- Scientist, New York
Dr Sanjay Misra	-Scientist, Indiana University
Dr VS Pandey	- IAS
Dr VC Srivastava	-IPS

**13. Plan of action of the department for the next five years:**

**A. Teaching:** We plan to improve our Post Graduate teaching by further augmenting the facilities in our departmental library and laboratory. We are likely to start a Diploma in Crop Management.

### **UGC Sponsored Full Term PG Diploma in Crop Management**

Because of lack of proper practical training and knowledge, the agriculture has become the last priority of the educated persons. In Uttar Pradesh mainly low input agriculture is in practice in which fertilizer, pesticides and agrochemical machinery are scarce. The financial resources of the individual farmer in a family farm system are small and about 80% agricultural land is owned, rented and worked by poor families. Due to the adverse environmental effects of agrochemical and fertilizers which create health hazard to human and other non target organisms including pests and natural enemies of crop pathogens and its effect on microenvironment and soil fertility, these chemicals have been objects of substantial criticism in recent years. Now, priorities are given to development of safer alternatives for improved crop productions by use of biological materials.

- The course is helpful to reduce health hazards and environmental pollutions due to un controlled use of toxic chemicals, fertilizers etc. in crop production.
- The course generates trained HR for organized and hi-tech crop production and its management.