Minutes of the Special Meeting of Board of Studies held on 23.12.2013

Minutes of the Special Meeting of Board of the Studies of the Department of Agricultural Microbiology held on December 23, 2013 at 11.30 a.m. in the chamber of the Chairman, Department of Agricultural Microbiology. The following were present:

1. Dr Iqbal Ahmad (In the Chair)
   Chairman
   Department of Agricultural Microbiology
   AMU., Aligarh

2. Professor Javed Musarrat
   Dean
   Faculty of Agricultural Sciences
   AMU, Aligarh

3. Professor Javed Musarrat
   Department of Agricultural Microbiology
   AMU., Aligarh

4. Prof. Bilqees Bano
   Department of Biochemistry
   Faculty of Life Sciences
   (Assigned Member)

5. Dr. Md. Saghir Khan
   Associate Professor
   Department of Agricultural Microbiology
   AMU., Aligarh

Before taking up the agenda, the Chairman welcomed all the members.

**Item # 1 :**

Considered and approved the Evaluative Report of the Department of Agricultural Microbiology for NAAC. Appendix-I

Then the meeting came to an end with vote of thanks to the members by the Chairman.

(Dr. Iqbal Ahmad)
Chairman
Department of Agricultural Microbiology
A.M.U., Aligarh
## Evaluative Report of the Department

1. Name of the Department: Agricultural Microbiology  
2. Year of establishment: 1995  
3. Is the Department part of a School/Faculty of the university?: Faculty of University  
4. Names of programmes offered: M.Sc. (Ag.) Microbiology, M.Phil (Ag.) Microbiology, Ph.D (Ag.) Microbiology  
5. Interdisciplinary programmes and departments involved: Nil  
6. Courses in collaboration with other universities, industries, foreign institutions, etc: Nil  
7. Details of programmes discontinued, if any, with reasons: Nil  
8. Examination System: Semester, credit based  
9. Participation of the department in the courses offered by other departments: Department of Biochemistry (M.Sc. in Enzyme & Fermentation Technology), Faculty of Life Sciences & University Polytechnic (Advance Diploma in Food Technology)  
10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

<table>
<thead>
<tr>
<th>Role</th>
<th>Sanctioned</th>
<th>Filled</th>
<th>Actual (including CAS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professor</td>
<td>01</td>
<td>01</td>
<td>01</td>
</tr>
<tr>
<td>Associate Professors</td>
<td>01</td>
<td>00</td>
<td>03 (CAS)</td>
</tr>
<tr>
<td>Asst. Professors</td>
<td>03</td>
<td>03</td>
<td>Nil</td>
</tr>
<tr>
<td>Others (Guest Faculty)</td>
<td>Sanctioned</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance

<table>
<thead>
<tr>
<th>Name</th>
<th>Qualification</th>
<th>Designation</th>
<th>Specialization</th>
<th>No. of Years of Experience</th>
<th>No. of Ph.D./M.Phil. students guided for the last 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof. Javed Musarrat</td>
<td>M.Sc. (Biochem), M.Phil Biochem, Ph.D. (Biochem)</td>
<td>Professor</td>
<td>Molecular Microbiology</td>
<td>28 Years</td>
<td>M.Phil : 01, Ph.D. : 01</td>
</tr>
<tr>
<td>Dr. Iqbal Ahmad</td>
<td>M.Sc. (Ag.) Micro., M.Phil (Ag.) Micro., Ph.D. (Ag.) Microbiology</td>
<td>Associate Professor</td>
<td>Microbiology</td>
<td>18 Years</td>
<td>M.Phil : Nil, Ph.D. : 04</td>
</tr>
<tr>
<td>Dr. Abdul Malik</td>
<td>M.Sc. (Ag.) Micro., M.Phil. (Ag.) Micro, Ph.D. (Ag.) Microbiology</td>
<td>Associate Professor</td>
<td>Microbiology</td>
<td>18 Years</td>
<td>M.Phil : 01, Ph.D. : 03</td>
</tr>
<tr>
<td>Dr. Md. Saghir Khan</td>
<td>M.Sc. (Ag.) Microbiology, Ph.D. (Microbiology)</td>
<td>Associate Professor</td>
<td>Microbiology</td>
<td>17 Years</td>
<td>M.Phil : Nil, Ph.D. : 02</td>
</tr>
<tr>
<td>Dr. Almas Zaidi</td>
<td>M.Sc. (Ag.) Microbiology, Ph.D. (Ag.) Microbiology</td>
<td>Guest Faculty</td>
<td>Microbiology</td>
<td>Current Session</td>
<td>Nil</td>
</tr>
</tbody>
</table>

12. List of senior Visiting Fellows, adjunct faculty, emeritus professors: Nil  
13. Percentage of classes taken by temporary faculty - programme-wise information: As per Time-Table (100%)
14. Programme-wise Student Teacher Ratio: M.Sc. = 5:1, Ph.D. = 4:1

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Designation</th>
<th>Sanctioned</th>
<th>Filled</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Technical Assistant</td>
<td>02</td>
<td>02</td>
<td>02</td>
</tr>
<tr>
<td>2.</td>
<td>UDC (Admin.)</td>
<td>01</td>
<td>01</td>
<td>01</td>
</tr>
<tr>
<td>3.</td>
<td>Junior Lab Assistant</td>
<td>01</td>
<td>01</td>
<td>01</td>
</tr>
</tbody>
</table>

16. Research thrust areas as recognized by major funding agencies:
   - Agricultural Microbiology
   - Applied Microbiology & Natural products
   - Environmental Microbiology

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Name of the funding Agency</th>
<th>Project Title</th>
<th>Grant Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>UGC Major Research Project</td>
<td>Screening and evaluation of potential plants and microbial products for their anti-quorum sensing activity: A novel approach in search of anti-infective compounds</td>
<td>Rs. 10,27,800.00</td>
</tr>
<tr>
<td>2.</td>
<td>UGC Major Research Project</td>
<td>PCR-based detection of Broad-Host-Range plasmids in pesticide tolerant bacteria and genotoxicity of wastewater and soil near pesticide industry</td>
<td>Rs. 11,64,000.00</td>
</tr>
<tr>
<td>3.</td>
<td>FCT (Portugal) and DST New Delhi under the Joint Project Programme</td>
<td>Biological treatment (anaerobic/ aerobic) of pulp and paper industry wastewater with special reference to genotoxicity of waste before and after treatment</td>
<td>Rs. 4,57,600.00 &amp; EURO 8,100.00</td>
</tr>
</tbody>
</table>

18. Inter-institutional collaborative projects and associated grants received:
   (i) National collaboration: Nil
   (ii) International collaboration: 01, Grant received: Rs. 4,57,600.00 & EURO 8,100.00

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received: Nil

20. Research facility / centre with: N.A.
   - state recognition
   - national recognition
   - international recognition

21. Special research laboratories sponsored by / created by industry or corporate bodies: Nil
22. Publications:

- Number of papers published in peer reviewed journals (national / international) : 122
- Monographs: Nil
- Chapters in Books: 37
- Edited Books: 16
- Books with ISBN with details of publishers:


- Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.)
  Scopus: 90 (Approx.)  
  Citation Index - range / average : 800
  SNIP : N.A.
  SJR : N.A.
  Impact Factor - range / average : 1.940
  h-index : 38

23. Details of patents and income generated : 01: Income generated: Nil
   Title : Methods For Producing Silver Nanoparticles
   Inventors : Abdulaziz A. Alkhedhairy and Javed Musarrat, KSU, Riyadh, SA
   Pub Date : Nov 10, 2011.

24. Areas of consultancy and income generated : Nil

25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad : 02

26. Faculty serving in
   (i) National committees : ARS, ICAR and other University bodies.
   (ii) International committees : NSW (VD) The Netherlands, Romanian Research Council, Welcome Trust, London & International grant Review Committee
   (iii) Editorial Boards : National & International (04 Faculty Members)
   (iv) any other (please specify) : Nil

27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs) : Nil

28. Student projects
   - percentage of students who have done in-house projects including inter-departmental projects : 100%
   - percentage of students doing projects in collaboration with other universities/industry/institute : 10%

29. Awards /recognitions received at the national and international level by
   Faculty : 05
   2. First Prize Award of SR 10,000 for the “Best Research in the Hub” in the area
of nanotechnology at the “25th Annual Meeting of Saudi Biological Sciences Title: Nanotechnology in the Life Sciences” on the work entitled “Biogenic synthesis of silver nanoparticles using an endophytic fungus Amylomyces rouxii strain KSU-09” during May 11-13, 2010 at King Faisal University, Al-Ahsa, Saudi Arabia.

3. Shared the Research Excellence Award of SR 100,000 for outstanding performance of the Al-Jeraisy Chair for DNA Research for the year 2011, King Saud University, Saudi Arabia.


5. DBT Crest Award 2012-13.

- Doctoral / post doctoral fellows : Nil
- Students : DST Inspire Fellowship, D.S. Kothari Post Doctorate Fellowship, Maulana Azad Fellowship, DAAD Fellowship, Germany for three months & Best Poster Award AMI, 2013.

30. Seminars/Conferences/Workshops organized and the source of funding (national/international) with details of outstanding participants, if any. : Nil

31. Code of ethics for research followed by the departments : As per University Policy

32. Student profile programme-wise:

<table>
<thead>
<tr>
<th>Name of the Programme (refer to question no. 4)</th>
<th>Applications received</th>
<th>Selected</th>
<th>Pass percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>M.Sc. (Ag.) Microbiology</td>
<td>833 (2009-13)</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>M.Phil/Ph.D. (Ag.) Microbiology</td>
<td>87 (2009-13)</td>
<td>07</td>
<td>04</td>
</tr>
</tbody>
</table>

*Percentage amongst students who submitted their Ph.D. thesis.

33. Diversity of students

<table>
<thead>
<tr>
<th>Name of the Programme (refer to question no. 4)</th>
<th>% of students from the same university</th>
<th>% of students from other universities within the State</th>
<th>% of students from universities outside the State</th>
<th>% of students from other countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.Sc. (Ag.) Microbiology</td>
<td>55%</td>
<td>32.5%</td>
<td>7.5%</td>
<td>5%</td>
</tr>
<tr>
<td>M.Phil/Ph.D. (Ag.) Microbiology</td>
<td>90%</td>
<td>Nil</td>
<td>10%</td>
<td>Nil</td>
</tr>
</tbody>
</table>

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Examinations</th>
<th>No. of candidates</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Civil Services</td>
<td>Nil</td>
</tr>
<tr>
<td>2.</td>
<td>Defense Services</td>
<td>Nil</td>
</tr>
</tbody>
</table>
3. NET: 02
4. SET: Nil
5. GATE: 10
6. ICAR, SRF: 02

35. Student progression

<table>
<thead>
<tr>
<th>Student progression</th>
<th>Percentage against enrolled</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG to PG</td>
<td>N.A.</td>
</tr>
<tr>
<td>PG to M.Phil.</td>
<td>Nil</td>
</tr>
<tr>
<td>PG to Ph.D.</td>
<td>09</td>
</tr>
<tr>
<td>Ph.D. to Post-Doctoral</td>
<td>01</td>
</tr>
<tr>
<td>Employed</td>
<td>Details are not available</td>
</tr>
<tr>
<td>• Campus selection</td>
<td></td>
</tr>
<tr>
<td>• Other than campus recruitment</td>
<td></td>
</tr>
<tr>
<td>Entrepreneurs</td>
<td></td>
</tr>
</tbody>
</table>

36. Diversity of staff

<table>
<thead>
<tr>
<th>Percentage of faculty who are graduates</th>
<th>Post Graduate</th>
<th>M.Phil/ Ph.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>of the same University</td>
<td>100%</td>
<td>75%</td>
</tr>
<tr>
<td>from other universities within the State</td>
<td>--</td>
<td>25%</td>
</tr>
<tr>
<td>from universities from other States</td>
<td>--</td>
<td>Nil</td>
</tr>
<tr>
<td>from universities outside the country</td>
<td>--</td>
<td>Nil</td>
</tr>
</tbody>
</table>

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: Nil (Already awarded Ph.D. before appointment)

38. Present details of departmental infrastructural facilities with regard to
   (i) Library: Yes (Combined Library for three Departments)
   (ii) Internet facilities for staff and students: Yes
   (iii) Total number of class rooms: 02
   (iv) Class room with ICT facility: 01
   (v) Students laboratories: 01
   (vi) Research laboratories: 01

39. List of doctoral, post-doctoral students and Research Associates
   (i) from the host institution/university

**Doctoral student**

**Passed out (12)**

Mr. Mohd. Imran
Mr. Mohd. Ikram Ansari
Mr. Munees Ahemad
Mr. Quaiser Saquib
Mr. Saurabh Dwivedi
Ms. Reshma Anjum
Ms. Farhana Masood
Ms. Maryam Zahin
Mr. Mohd. Sajjad Ahmad Khan
Mr. Javed Ahamad Khan
Ms. Nitika Goel
Mr. Mohd. Oves

**Working student (09)**

Mr. Fohad Mabood Husain  
Mr. Ees Ahmad  
Mr. Musheer Altaf  
Mr. Showkat Ahmad Lone  
Ms. Sana Khan  
Ms. Samira Umme Aiman  
Ms. Meenu Mahashwari  
Mr. Mohd. Shavez Khan  
Ms. Saima Saif

**Post-Doctoral student (02)**

Dr. Mohd. Yusuf (Completed)  
Dr. Nigar Fatima (Working)

**Research Associate (01)**

Dr. Farhana Masood

(ii) from other institutions/universities : Nil

40. Number of post graduate students getting financial assistance from the University : 02 (P.G. Merit Scholarship)

41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology. : Nil

42. Does the department obtain feedback from : **Policy matter to be included after getting information from the office of the Convener, NAAC 2013, A.M.U., Aligarh**
   (i) Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? : N.A.
   (ii) Students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? : N.A.
   (iii) Alumni and employers on the programmes offered and how does the department utilize the feedback? : N.A.

43. List the distinguished alumni of the department (maximum 10)
   i. Dr. Zafar Mehmood, HDCO, Dehradoon, Uttrakhand  
   ii. Dr. Jyoti Sharma, Joint Director, DST, New Delhi  
   iii. Dr. Riyazul Hasan Andrab, Scientist, Jammu  
   iv. Dr. Mohd. Aamil, India  
   v. Dr. Farrukh Aqil, USA  
   vi. Dr. Shams Tabrez Khan, KSU, Riyadh, KSA  
   vii. Mr. Shariq Sherwani, USA  
   viii. Dr. Parvez Ahmad Wani, Nigeria

44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts: Special lectures by the distinguished visiting faculty members are arranged annually.
45. List the teaching methods adopted by the faculty for different programs:
Teaching methods includes lectures, seminars, practical exercises, field based demonstration & Experimental Field work using classical & modern modes of presentation (Power point presentations, use of overhead projectors, use of videos and animations etc.).

46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

Policy matter to be included after getting information from the office of the Convener, NAAC 2013, A.M.U., Aligarh

To meet the objective of the programme and learning outcome, the department monitors at various level such as:
- Attendance requirements
- Teaching total no. of days required as per UGC rules
- Internal and external assessment/examination of student in the form of sessional, practicals, Seminar, project / dissertation etc.
- Timely completion and declaration of results.
- The above activity is monitored at the level of individual teacher, Chairman & Dean, Board of Studies and other University bodies relevant to teaching and examination.

47. Highlight the participation of students and faculty in extension activities:

Student and teachers are involved in demonstrating field experiments to local farmers during cropping season specially for biofertilizer application.

48. Give details of “beyond syllabus scholarly activities” of the department.
- The Department invites Eminent Teachers/Scientist for delivering lectures to M.Sc. and Research students each year on various topics.
- Participation in seminar/conference organized by the University/outside University.
- Writing reference books and research activities

49. State whether the programme/department is accredited/graded by other agencies?
If yes, give details. : No

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

Basic:
(i) The department of Agricultural Microbiology is continuously involved in mapping the microbial diversity of Aligarh soil and some of the microorganisms have been identified as pesticide degrader, plant growth regulators and metal detoxifier or metal biosorbent for future application.
(ii) Molecular biology of PGPR genes and conjugative plasmid of soil and water bacteria have been explored and characterized.
(iii) Impact of waste water on soil health, crop productivity has been conducted.

Applied:
(i) More than 150 medicinal plants have been screened for novel biological activities to be exploited in various diseases as anti-infective, anti-mutagenic and anti-oxidant agents.
(ii) Nanoparticles are synthesized using microbial system.
(iii) Role of nanoparticles in disease management of plant and human and its toxicity, is under evaluation.
(iv) New microbial inoculants have been developed to be used locally as biofertilizer/PGPR.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

**Major Strength:**
1. Qualified faculty with diverse expertise and their dedication towards teaching and research
2. Competitive and transparent admission policy
3. Well equipped laboratories and strong research publication track record
4. Computer lab and Internet connectivity both for students and teachers
5. Experimental fields to perform field based research

**Weakness:**
1. Insufficient teaching staff (due to which the Department is not eligible to apply for many Grants of UGC etc.)
2. Shortage of manpower mainly T.A. (Instrumentation) and TA (Store).
3. Limited space for chemical storage, washing and sterilization and other specific facilities needed for the Department.
4. Lack of smart classrooms, departmental library and green house and research lab to individual teacher/ research group.
5. Shortage of office space for faculty and staff

**Opportunity:**
1. To train student to meet requirement in Industry, self employment, academic and research.
2. To improve teaching and research skills
3. To help local people specially farmers through extension activities
4. To prepare student for nation building and for world academic market

**Challenges:**
1. To improve advanced skill of student and teachers and to enhance quality research through various efforts
2. To generate funds for maintenance of sophisticated instruments to remain functional
3. To develop various National and International Research Collaboration to improve the quality of research and advance training to student
4. To implement faculty development programme

52. **Future plans of the department.**
- To develop state-of-the art instrumentation facility for Master and Research students.
- Establishment of screening and evaluation laboratory for natural products for drug discovery through industry collaboration.
- Development of super effective microbial resource facility for solving problem of environmental degradation and crop productivity.
- Establishing centre of excellence in chosen area of research.

**Declaration by the Head of the Institution**

I certify that the data included in this Self-Study Report (SSR) are true to the best of my knowledge.

This SSR is prepared by the institution after internal discussions, and no part thereof has been outsourced.

I am aware that the Peer team will validate the information provided in this SSR during the peer team visit.

Signature of the Head of the institution

With seal:

Place:
Date:
Evaluative Report of the Department
for
National Assessment and Accreditation Council

Department of Agricultural Microbiology
Faculty of Agricultural Sciences
Aligarh Muslim University
Aligarh – 202 002
2013