

**MINUTES OF THE 49<sup>TH</sup> MEETING OF THE SCHOOL BOARD OF THE SCHOOL OF SCIENCES HELD ON 28<sup>TH</sup> APRIL, 2014 AT 11.00 A.M. IN THE CONFERENCE ROOM OF BLOCK D, IGNOU, MAIDAN GARHI, NEW DELHI – 110068.**

The following members were present:

1. Prof. Vijayshri, Director (SOS), Chairperson
2. Prof. Oommen V Oommen, Chairman, Kerala State Biodiversity Board, Govt. of Kerala
3. Prof. S.C. Garg, SOS, IGNOU
4. Prof. B.S. Saraswat, SOS, IGNOU
5. Prof. S.S. Hasan, SOS, IGNOU
6. Prof. D. Gopal, SOSS, IGNOU
7. Prof. M.K. Salooja, SOA, IGNOU
8. Dr. V. Venkat Ramanan, CSD, IGNOU
9. Prof. Poornima Mital, SOS, IGNOU
10. Prof. Sunita Malhotra, SOS, IGNOU
11. Prof. Sujatha Varma, SOS, IGNOU
12. Prof. Jaswant Sokhi, SOS, IGNOU
13. Prof. Neera Kapoor, SOS, IGNOU
14. Prof. Javed A. Farooqi
15. Prof. S.R. Jha, SOS, IGNOU
16. Prof. Amrita Nigam, SOS, IGNOU
17. Prof. M.S. Nathawat, SOS, IGNOU
18. Dr. Bano Saidullah, SOS, IGNOU
19. Dr. Sanjiv Kumar, SOS, IGNOU
20. Dr. Benidhar Deshmukh, SOS, IGNOU
21. Dr. Manish Trivedi, SOS, IGNOU
22. Dr. Subhakanta Mohapatra, SOS, IGNOU
23. Dr. Sanjay Gupta, SOS, IGNOU
24. Mr. Pawan Kumar, SOS, IGNOU

Prof. J.P. Shrivastava, Prof. S.K. Gakhar, Prof. J.M. Khurana, Prof. M.H. Qureshi, Sh. Shashi Bhushan, Prof. B. I. Fozdar and Dr. Arvind Kumar Shakya could not attend the meeting.

At the outset, the Chairperson welcomed the members of the School Board. Thereafter, the following items on the agenda were deliberated upon:

**Item No. 1: To confirm the minutes of the 48<sup>th</sup> meeting of the School Board of the School of Sciences held on 27<sup>th</sup> January, 2014 and to note the action taken.**

SB 49.1.1 The comments on the Minutes of the 48<sup>th</sup> meeting of the School Board of the School of Sciences held on 27<sup>th</sup> January, 2014 received in a joint communication from Prof. Poornima Mital, Prof. Sujatha Varma and Shri Pawan Kumar had been circulated as Annexure 2 in the agenda papers to members. These are placed at **Annexure 1** of the Minutes. The comments were discussed and it was decided that the recording of the Minutes at SB 48.5.1 be modified from

“With reference to agenda items 6, 8 and 9 of the Minutes, pertaining to the recommendations of Doctoral Committees of Mathematics, Life Sciences and Geography, the School Board decided that the Doctoral Committee does not have any statutory locus standi as on date. Therefore, the recommendations made by these be kept in abeyance. This was done in view of the School Board’s decision that the School should strictly adhere to the provisions of the Ordinance on IGNOU Research Degree Programmes notified as on date. Any recommendations emerging from the meetings of the Doctoral Committees should be placed in the School Board only if these were in accordance with the provisions of the existing Ordinance.”

to

“With reference to agenda items 6, 8 and 9 of the Minutes, pertaining to the recommendations of Doctoral Committees of Mathematics, Life Sciences and Geography, some members of the School Board pointed out that the Doctoral Committee does not have any statutory locus standi as on date. Therefore, the recommendations made by these may be kept in abeyance. This was in view of the School Board’s decision that the School should strictly adhere to the provisions of the Ordinance on IGNOU Research Degree Programmes notified as on date. Any recommendations emerging from the meetings of the Doctoral Committees should be placed in the School Board only if these were in accordance with the provisions of the existing Ordinance. Only such recommendations of these Doctoral Committees that were in accordance with the existing Research Ordinance were approved by the School Board.”

Two members, namely, Prof. B. S. Saraswat and Dr. Sanjiv Kumar, stated that the reasons for withdrawing Item No. 9 should have been recorded in the Minutes. The Board was informed that the Chair had withdrawn the agenda without stating any reasons. Therefore, the recording of the Minutes at SB 48.9.1 was correct. Prof. B. S. Saraswat gave a note of dissent on the matter, which is placed at **Annexure 2.**

SB 49.1.2      The Minutes were confirmed with the above modifications and the action taken on the Minutes was noted. A copy of the confirmed Minutes (without Appendices) and the Action Taken Report is placed at **Annexure 3.**

**Item No. 2:      Matters arising from the minutes.**

SB 49.2.1      The matter of withdrawal of Agenda Item 9 was raised again and it was suggested that the item be discussed. The Chair pointed out that the Board had confirmed the Minutes and the recording of the Minutes at SB 48.9.1 had remained the same. Therefore, the Board decided that the matter did not merit any further discussion.

**Item No. 3: To consider and confirm the minutes of the 10<sup>th</sup> meeting of the Standing Committee of the School Board of the School of Sciences held on April 2, 2014.**

SB 49.3.1 The Minutes of the 10<sup>th</sup> meeting of the Standing Committee of the School Board held on 2<sup>nd</sup> April, 2014 were placed before the School Board for confirmation.

SB 49.3.2 The Minutes of the 10<sup>th</sup> meeting of the School Board Standing Committee were considered and confirmed by the School Board. A copy of the confirmed Minutes (with its Appendices) is placed at **Annexure 4**.

**Item no. 4: To review the methodologies adopted for preparation of educational materials for courses and evaluation of educational material to make suitable recommendations to the Academic Council in pursuance of the powers and functions vested in the School Board vide Statute 10A (4) (viii).**

SB 49.4.1 In pursuance of the powers and functions vested in the School Board vide Statute 10A (4) (viii), the School Board reviewed the methodologies adopted for preparation of educational materials for courses and evaluation of educational material in the School. Reports were presented to the School Board by the Chemistry, Life Sciences, Mathematics and Physics disciplines and are placed at **Annexures 5a to d**.

SB 49.4.2 The Board discussed the reports and the following recommendations emerged on policy matters such as the parameters for identification of course writers, training of course writers or instructional material developers (for developing the multi-media components) and models for developing and evaluating course materials:

- Course writers for any course should be chosen from amongst the experts actually involved in the teaching of that course. Experts having at least 5 years of teaching that particular course should be given preference. The internal Faculty members must also develop SLMs for courses *ab initio*.
- Those experts should be preferred as Course writers who have demonstrated their writing skills through books or articles.
- Course writers should possess good oral as well as written communication skills.
- Once the first draft of at least one unit assigned to a course writer or the units of a block/course are developed by the course writers, intensive workshops should be held with the course writers by the Faculty to facilitate discussion and finalization of the SLMs.
- The internal Faculty must adopt the course team approach to finalize the course materials with at least two-three member course teams to take care of the responsibilities of course development collectively. Among other functions, the role of the Course Coordinator is also to make sure that the presentation of the course is uniform.
- Before being printed, pre-testing on distance learners and students from the conventional system as well as review workshops by subject Experts should be undertaken to make the course material more learner-friendly.

- Once the revised course is launched, a feedback register must be maintained for every course by the Course Coordinator who must also prepare the errata for the course. Feedback of learners and peer group as well as Experts must be collected using various methodologies available for course evaluation after a course has been put on offer. The feedback must be reviewed and courses must be revised periodically as per the time frames decided upon by the Academic Council.
- The credit page should indicate the actual amount of effort put in by every faculty member. The practice of indicating unit number with the name of faculty member who was assigned primary responsibility and saw it through should be continued.
- In case a unit is not substantially changed in the revised version or retained as it is, credit should be continued for the course writer and faculty member who created it in the unrevised version.

**Item no. 5: To consider and approve the minutes of the meeting of the Doctoral Committee for Chemistry held on 21.01. 2014.**

SB 49.5.1 The Board was informed that the Doctoral Committee had considered the presentations of 11 candidates and approved the proposals of two candidates, namely, Mr. Phool Hasan and Mr. Pankaj Kumar Mondal, subject to the provisions of the University Research Ordinance, as per the following details:

S.No.	Name	Topic	Supervisors	Remarks
1.	Mr. Phool Hasan	Synthesis and Evaluation of Anti-microbial Potential of Some Novel Heterocyclic Compounds	Prof. B. I. Fozdar, SOS, IGNOU and Dr. Mohammad Abid, Dept. of Biosciences, Jamia Millia Islamia, Delhi	NOC from place of work and consent letter of supervisor to be submitted
2.	Mr. Pankaj Kumar Mondal	A Search for Naturally Occurring Surface Active Organic Products: Opportunities in Petroleum Chemistry as Corrosion Inhibitors and Biocides for Microbial Initiated Prevention	Prof. B. S. Saraswat, SOS, IGNOU and Dr. S. K. Puri, DGM, (F&BT) R&D Centre, IOCL, Faridabad	Research work to be done without derivataives

The Doctoral Committee had also found the progress of Mrs. Sonia Tyagi registered with Prof. J. A. Farooqi to be satisfactory.

SB 49.5.2 The School Board approved the minutes of the meeting of the Doctoral Committee for Chemistry held on 21.01. 2014 with the direction that the registration of Mr. Phool Hasan and Mr. Pankaj Kumar Mondal, as per the details above, in the PhD (Chemistry) programme be made strictly in accordance with the provisions of the

Ordinance on IGNOU Research Degree Programmes notified as on date. A copy of the approved Minutes of the Doctoral Committee meeting is placed at **Annexure 6**.

**Item no. 6: To consider and approve the six monthly progress reports of Mr Debdas Bhowmik (Enrolment no. 122877697) and Mr Prateek Tyagi (Enrolment no. 118701648), Ph.D. scholars in Chemistry.**

SB 49.6.1 The School Board reviewed the six monthly progress reports of two Ph.D. scholars in Chemistry registered with Prof. B. S. Saraswat as internal supervisor, namely, Mr Debdas Bhowmik for the period July 2013 to Dec., 2013 and Mr Prateek Tyagi for the period Sept. 1, 2013 to Feb. 28, 2014. The details of the scholars are as follows:

S.No.	Name	Topic	Supervisors	Remarks
1.	Mr. Debdas Bhowmik  Enrolment no. 122877697	Studies on Advanced Energetic Solid Propellants having Improved Strain Capability for Low Temperature Applications	Prof. B. S. Saraswat, SOS, IGNOU and Dr. S. M. Pande, Scientist E, High Energy Materials Research Laboratory, DRDO, Pune	Very good progress
2.	Mr. Prateek Tyagi  Enrolment no. 118701648	Synthesis, Characterization and Theoretical Study of Some Transition Metal Complexes of Later 3-D Metals with Schiff Base Ligands	Prof. B. S. Saraswat, SOS, IGNOU and Dr. Sulekh Chandra, Zakir Husain College, University of Delhi	Very good progress

SB 49.6.2 The School Board noted the recommendations of the supervisors and approved their progress reports.

**Item no. 7: To consider and approve the minutes of the 6<sup>th</sup> meeting of the Doctoral Committee for Geology held on 16.01.2014.**

SB 49.7.1 The School Board was informed that the Doctoral Committee for Geology had considered and approved the six-monthly progress report (from July to December 2013) of Shri Ankit Shah (Enrolment no.131636648) on the topic '**Remote Sensing Based Depth Derivation of Shallow Inland Water Environment**' under the joint supervision of Dr. Benidhar Deshmukh (IGNOU) and Dr. L.K. Sinha (Defence Terrain Research Laboratory, DRDO, Delhi) and the progress report (from July to December 2013) of Shri Amit Kumar (Enrolment no. 127723726) on the topic '**Geocological Study in parts of Kangra Region, Himachal Himalaya using Geoinformatics**' under the joint supervision of Dr. Benidhar Deshmukh (IGNOU) and Dr. Paramvir Singh Ahuja (CSIR Institute of Himalayan Bioresource Technology, Palampur, H.P.). The

syllabus for the entrance examination for admission to Ph.D. Geology programme was also finalised by it along with the evaluation methodology for entrance examination for admission to the Ph.D. Geology programme. Minutes of the Doctoral Committee meeting are placed at **Annexure 7**.

SB 49.7.2 The School Board approved the progress reports of the PhD scholars Shri Ankit Shah (Enrolment no.131636648) and Shri Amit Kumar (Enrolment no. 127723726). The syllabus for the entrance examination for PhD Geology programme was approved as recommended by the Committee. The following recommendations for selection of candidates were approved by the Board:

- a) The respective weightages of the written examination and interview/presentation of the proposal in the overall score be 60% and 40%, respectively.
- b) All students in the general category scoring 51% and above and all students in the reserved category scoring 45% and above in the written entrance exam would be called for interview for admission to the Ph.D. Geology programme.
- c) Reserved category candidates scoring a cumulative percentage of 60% to 64% from both entrance exam and interview would qualify to be enrolled in the Ph.D. (Geology) programme subject to availability of seats and in order of merit.
- d) Reserved category candidates scoring cumulative percentage of 65% and above shall be treated as general category candidates. Candidates scoring a cumulative percentage of 65% and above from both entrance exam and interview would qualify to be enrolled in the Ph.D. Geology programme subject to availability of seats and in order of merit.
- e) General category candidates who clear the written examination and interview of Ph.D. Geology programme would be registered subject to availability of seats. In case the number of available seats is less than the number of candidates who qualify, candidates will be enrolled in the order of merit.

Admissions to the programme would be subject to the reservation policy of the Govt. of India.

The evaluation methodology for the entrance examination was also approved by the Board with the following modifications:

In Section B, the total number of questions from which the choice of 5 questions is to be given should be 8 instead of the proposed 10. In Section C, the total number of questions from which the choice of 2 questions is to be given should be 4. The modified evaluation methodology approved by the School Board is appended at **Annexure 8**.

**Item no. 8: To consider and approve the minutes of the meeting of the Expert Committee for Planning and Development of New Programmes in Geology held on 21.03.2014.**

SB 49.8.1 The School Board was informed that the Expert Committee for Planning and Development of New Programmes in Geology had made recommendations on developing need based futuristic programmes in Geology in IGNOU in the areas of

Geoinformatics, Environmental Geology, Hydrogeology, Fuel Geology and Exploration, Mineral Exploration and Agriculture Geology. The Expert Committee further recommended that an Integrated five year Programme in Geology based on a modular approach with the options of entry at the Bachelor's degree level (after +2) and Master's degree level (after Bachelor's degree in Geology) and exit at the Bachelor's degree level may be developed by IGNOU in a phased manner.

SB 49.8.2 The School Board deliberated on the matter and approved the Minutes of the Expert Committee with the advice that the programme planning, development and offerings in Geology may be prioritized so that the efforts of the Faculty remain focused. The expertise of in-house Faculty in other Disciplines may be taken advantage of while planning and developing Programmes in accordance with University procedures. A copy of the approved Minutes of the Expert Committee meeting is placed at **Annexure 9**.

**Item no. 9: To consider and approve the Phase 1 form in the revised format for P.G. Diploma in GIS and Geospatial Modelling.**

SB 49.9.1 The School Board was informed that Phase 1 Form for the P.G. Diploma programme in GIS and Geospatial Modelling was approved in the 43<sup>rd</sup> meeting of the School Board of the School of Sciences held on 16<sup>th</sup> September, 2011 vide SB 43.7.1 and 43.7.2 along with the list of experts for the Programme Expert Committee. Since the approval of the Planning Board had not been obtained for the Phase 1 Form of the programme, the Programme Coordinators were advised by the Director, School of Sciences to do so before proceeding with Programme development in a meeting held on Feb. 3, 2014. The Phase 1 form was forwarded to the Planning and Development Division on Feb. 7, 2014 for being placed before the Academic Programme Committee in its 44<sup>th</sup> meeting for its consideration. However, the School was informed by the Division that it had to be submitted in the revised format for the approval of the School Board and details regarding duplication, if any, with Post Graduate Certificate in Geoinformatics being developed by the School of Sciences needed to be mentioned at point nos. 8 (a) and 8 (b) of the Phase 1 form.

SB 49.9.2 While deliberating upon the Phase 1 form for the P.G. Diploma in GIS and Geospatial Modelling in the revised format, the School Board advised that as far as possible common programmes should be offered in overlapping domains of knowledge and areas of expertise. The Board noted that a PG Certificate in Geoinformatics, which contained a component on GIS, had already been launched by the School. Also while deliberating on the agenda item 8, the Board had approved the recommendation of the Expert Committee for Planning and Development of New Programmes in Geology that a PG Diploma in Geoinformatics be built upon the existing PG Certificate in Geoinformatics. The Board advised that duplication of content in programmes offerings from the School should be avoided. The Board was informed by the Programme Coordinator that GIS formed a relatively small component of the PG Diploma in GIS and Geospatial Modelling. After detailed deliberations, the Board advised that the title of the Programme be modified to reflect its emphasis and the term GIS be dropped from its title.

SB 49.9.3 The School Board approved the Phase 1 form for the programme in the revised format with the title **PG Diploma in Geospatial Modelling** with all other details remaining the same. The Phase 1 form for the PG Diploma in Geospatial Modelling approved by the School Board is placed at **Annexure 10**.

**Item no. 10: To consider and approve the minutes of the Expert Committee meeting held on 9<sup>th</sup> and 10<sup>th</sup> January, 2014 to design the pre-PhD courses in Biochemistry, their mode of transaction and evaluation methodology.**

SB 49.10.1 The School Board was informed of the following recommendations of the Expert Committee to design the pre-PhD courses in Biochemistry, as well as the mode of transaction and evaluation methodology for these courses:

- the pre-PhD course work for a maximum of 32 credits worth courses be offered in 2 semesters of which four core courses (of a total of sixteen credits) be offered in the first semester and **up to 16** credits worth of optional courses offered in the second semester. The course work for each candidate would be prescribed by the Doctoral Committee for Biochemistry in accordance with the University Research Ordinance.
- The transaction of the curriculum should be through study materials including recommended reading lists of books/chapters from books, research papers, etc. (given with the syllabi) along with extended contact programme and may also involve use of ICT for interaction. The extended contact programme of up to 21 working days for four courses in each semester shall be compulsory for all PhD students undergoing the prescribed course work. If required, additional contact programme for one week may be arranged in each semester. IGNOU could also make institutional arrangements with other reputed Universities in Delhi (JNU, DU, JMI, Jamia Hamdard, etc.) for transacting the course work.
- The assessment of each course would have two components: continuous assessment (in the form of seminars, term papers, review of research papers/books, articles, lab practical and assignments) and term end examination with weightages of 50% each. For successful completion of the courses, a student shall be required to obtain at least 50% of the maximum marks separately in each component – continuous assessment and term-end examination – of every course. The Continuous Assessment for each course will comprise the following components with the respective weightages:
  - a) Term paper based on review of research papers/books – 25%
  - b) Up to two Assignments and/or practical work in the Lab and/or tutorials – 50%



c) Up to two Seminars – 25%

The Minutes of the Expert Committee meeting for Biochemistry held on 9<sup>th</sup> and 10<sup>th</sup> January, 2014 are placed at **Annexure 11**.

SB 49.10.2 While deliberating on the recommendations of the Expert Committee, the Board desired to interact with Faculty members of the Biochemistry Discipline Group as the member of the Board from the Discipline was on leave. Dr. Seema Kalra reported to the Board and responded to its queries on various aspects of the recommendations. The Board was of the view that the methodology for transaction of the curriculum of pre-PhD courses must be developed for the University in a holistic perspective. Further, in respect of component (b) of the continuous assessment for the courses, the Board noted that in the syllabi of the courses brought before the Board, the list of experiments and practical activities had not been given for which the continuous assessment would take place. The Board also sought clarification on whether the courses on Biochemical and Molecular Biological Techniques and Biophysical Techniques would be theoretical courses or would involve hands-on training.

SB 49.10.3 The School Board decided to defer the item with the advice that recommendations of the Expert Committee be sought on various issues raised by it.

**Item no. 11: To consider and approve the minutes of the meeting of the Expert Committee in Biochemistry held on March 28, 2014 to design the syllabus for the entrance examination for admission to PhD programme in Biochemistry and its evaluation methodology.**

SB 49.11.1 The School Board was informed of the following recommendations of the Expert Committee in Biochemistry on the syllabi for the entrance examination for admission to PhD programme in Biochemistry and the evaluation methodology for the entrance test:

- Since research in Biochemistry involves an interdisciplinary approach and aspirants from diverse streams are eligible to apply for the PhD programme in Biochemistry, the entrance test must assess not only the candidate's basic knowledge of the subject, but also his/her general awareness in the current scenario, research aptitude and analytical skills. The syllabus has to be designed accordingly.
- In the light of the above stated objectives, the entrance test should be of 120 marks and of 3 hours duration. It should be divided into two Sections: Section A should include 30 multiple choice questions (MCQs) of 1 mark each and test the general knowledge of the candidates as well as their knowledge of basic science subjects. It would include questions from English, Physics, Chemistry, Mathematics and general reasoning and research aptitude. Section B would be

of 90 marks and have multiple choice questions (MCQs) of 1 mark each. Section B would test the knowledge, research aptitude, analytical abilities of the candidates in different areas of the subject spelt out in the syllabus.

- The respective weightages of the written examination and interview/presentation of the proposal in the overall score would be 60% and 40%, respectively.
- The minimum qualifying marks in the written test would be 40% for the general candidates and 35% for the reserved category, respectively.
- All students in the general category scoring 40% and above and all students in the reserved category scoring 35% and above in the written entrance examination would be called for interview for admission to the Ph.D. Biochemistry programme. However, in any case, candidates not more than five times the number of seats advertised for the PhD programme in the discipline should be called for the interview.
- Separate merit lists would be prepared for the candidates belonging to general and reserved category based on the reservation policy adopted by IGNOU.
- Candidates scoring cumulative percentage of 60% and above from both entrance exam and interview shall be treated as general category candidates. General category candidates scoring a cumulative percentage of 60% and above (55% and above in case of candidates of reserved category) from both entrance exam and interview would qualify to be enrolled in the Ph.D. programme and would be registered subject to availability of seats.

SB 49.11.2 While deliberating on the recommendations of the Expert Committee, the School Board observed that different evaluation methodologies were being followed by different Disciplines of the School for the entrance test for PhD programmes. The Board advised that these should be uniform for the PhD programmes being offered from the School and authorised the Chair to develop a policy for the same.

SB 49.11.3 The School Board approved the minutes of the meeting of the Expert Committee in Biochemistry held on March 28, 2014 subject to the advice at SB 49.11.2. A copy of the Minutes of the Expert Committee meeting approved by the School Board is placed at **Annexure 12**. The Board further recommended that the experience of those PhD programmes offered from the School which conduct entrance examinations be reviewed after one year. Simultaneously, the methodology for the transaction of curriculum of the pre-PhD courses may also be reviewed.

**Item no. 12: To consider and approve the minutes of the meeting of Doctoral Committee for Life Sciences held on 23<sup>rd</sup> and 24<sup>th</sup> January, 2014.**

SB 49.12.1 The School Board was informed that in its meeting held on 23<sup>rd</sup> and 24<sup>th</sup> January, 2014, the Doctoral Committee for Life Sciences had recommended three candidates for admission to the PhD (Life Sciences) programme in the Category A subject to the

University rules and regulations and subject to certain conditions as per the following details:

1. Ms. Sarika Rana, subject to completion of course work of 32 credits as advised by the internal supervisor,
2. Mr. Binish Jawed, subject to the condition of resubmission of synopsis and presentation before the Doctoral Committee. In case M.Phil (2009) from the Global Open University is not recognized by DEC then Course work of 32 credits as recommended by the internal supervisor will have to be successfully completed.
3. Ms. Swati Pandey, subject to completion of course work of 32 credits as advised by the internal supervisor.

The Doctoral Committee had found the work in progress seminar of six PhD scholars, namely, Vasu Arora (Enrl. 131637499, First Seminar), Anushrita (Enrl. 131637546, First Seminar), Nasreen Akhtar (Enrl. 131637553, First Seminar), Gurmeet Singh Malhotra (Enrl. 131637110, First Seminar), Sachin Kumar (Enrl. 122877862, Second Seminar), Sujata Sinha (Enrl. 112247180, Second Seminar) to be satisfactory.

The pre-PhD thesis submission seminar of two PhD scholars, namely, Raja Babu Singh Kushwah (Enrl: 122877783), Manoj Kumar Tiwary (Enrl: 122877902) was also found to be satisfactory by the Doctoral Committee.

The Doctoral Committee reviewed the progress reports of 29 PhD scholars enrolled in the Category 'A' of the programme, namely, Sajad Ul Haq Zargar (Enrl. 122877870), Manoj Kumar Tiwary (Enrl. 122877902), Emon Chatterjee (Enrl. 122878080), Vijay Kumar (Enrl. 122877848), N. Mallika Mahesh (Enrl. 122878072), Ravi Kant (Enrl. 122877744), Vasu Arora (Enrl. 131637499), Raja Babu Singh Kushwah (Enrl. 122877783), Anushrita (Enrl. 131637546), Nasreen Akhtar (Enrl. 131637553), Gurmeet Singh Malhotra (Enrl. 131637110), Baljinder Kaur Sandhu (Enrl. 122877790), Shakeel Ahmad (Enrl. 122877823), Virender Kumar Aggarwal (Enrl. 100165534), Sujata Sinha (Enrl. 112247180), Rekha Jaiswal (Enrl. 122877855), Vipin Tomar (Enrl. 131637474), Vivek Kumar Srivastava (Enrl. 122877830), Ashish Shukla (Enrl. 122877776), Rajiv Kumar Shukla (Enrl. 122877769), Anamika Tripathi (Enrl. 093575879), Sunil Kumar Vishwakarma (Enrl. 122877809), Prem Parkash Chauhan (Enrl. 122877894), R. Prasanna Srinivas (Enrl. 112247158), Aman Ullah Khan (Enrl. 112247387), Nongthombam Premananda Singh (Enrl. 122877910), Sachin Kumar (Enrl. 122877862), Pushpa Reddy R (Enrl. 122877816), Kavitha S. (Enrl. 100165542), and approved them. The Minutes of the Doctoral Committee meeting are placed at **Annexure 13**.

SB 49.12.2 While approving the Minutes of the meeting of the Doctoral Committee for Life Sciences held on 23<sup>rd</sup> and 24<sup>th</sup> January, 2014, the School Board reiterated that the registration of the candidates [recommended by the Doctoral Committee as per the details above and in Annexure 13], in the PhD (Life Sciences) programme be made strictly in accordance with the provisions of the Ordinance on IGNOU Research Degree Programmes notified as on date.

**Item no. 13: To consider and approve the minutes of the meeting of Doctoral Committee for Life Sciences held on 3<sup>rd</sup> April, 2014.**

SB 49.13.1 The School Board was informed that in its meeting held on 3<sup>rd</sup> April, 2014, the Doctoral Committee for Life Sciences had assessed the Pre-Ph.D. thesis submission Seminars of four Ph.D. (Life Sciences) students, namely, Mr. Vijay Kumar, Mrs. Sujata Sinha, Mrs. Meenakshi Thakur and Mr. Sajad Ul Haq Zargar for submission of thesis, reviewed the work in progress of the second mandatory presentation of two Ph.D. scholars, namely, Mr. N. Premananda Singh and Mr. Shakeel Ahmad registered in Ph.D. (Life Sciences) Programme, and assessed the progress report of Ms. Padmashree Kulkarni registered in Ph.D. (Life Sciences) Programme and found them to be satisfactory.

SB 49.13.2 The School Board approved the Minutes of the meeting of the Doctoral Committee for Life Sciences held on April 3, 2014. The approved Minutes are placed at **Annexure 14.**

**Item no. 14: To consider and approve the minutes of the meeting of Doctoral Committee for Life Sciences held on 4<sup>th</sup> April, 2014.**

SB 49.14.1 The School Board was informed that the Doctoral Committee for Life Sciences in its meeting held on 4<sup>th</sup> April, 2014 had made the following recommendations for the evaluation methodology for pre-PhD Courses in PhD (Life Sciences) Programme:

1. The continuous evaluation and term-end examination would be of equal weightage (50% each).
2. The continuous evaluation for all pre-PhD courses except the course RLS-003 entitled Biostatistics and Computer Applications in Biological Research would comprise the following:
  - (i) 1<sup>st</sup> Assessment (Internal Assessment I): One closed book test of **25 marks**
  - (ii) 2<sup>nd</sup> Assessment: (Internal Assessment II) would comprise two seminars for a total of 25 marks with the following distribution:

First Seminar of **15 marks** and

Second Seminar of **10 marks**

It would be desirable that the second seminar contained a presentation of annotated bibliography by the student.

3. For the pre-PhD course **RLS-003**, the continuous assessment would comprise **two tests of 25 marks each**.

The revised form for evaluation methodology for pre-PhD Courses in PhD (Life Sciences) Programme recommended by the Doctoral Committee was also placed before the School Board.

SB 49.14.2 The School Board approved the Minutes of the meeting of the Doctoral Committee for Life Sciences held on April 4, 2014 with the recommendation that the tests mentioned in point 3 in SB 49.14.1, should be **closed book** tests. The approved Minutes of the meeting of the Doctoral Committee for Life Sciences held on April 4, 2014 are placed at **Annexure 15**. The modified form for evaluation methodology for pre-PhD Courses in PhD (Life Sciences) Programme approved by the Board is placed at **Annexure 16**.

**Item no. 15: To consider and approve the phase zero forms for five revised elective courses in mathematics, namely, Calculus, Elementary Algebra, Analytical Geometry, Advanced Calculus and Differential Equations I, in the revised structure of the Mathematics component of Bachelor's Degree Programme.**

SB 49.15.1 The School Board was informed that the recommendations of the Expert Committee meeting of Mathematics for the overall review of the Mathematics elective courses of the Bachelor's Degree Programme were placed in the 41<sup>st</sup> meeting of the School Board of the School of Sciences held on 29<sup>th</sup> Nov., 2010. The Board approved the syllabi in principle suggesting a few modifications. The syllabi incorporating the modifications suggested by the School Board in its 41<sup>st</sup> meeting were discussed in two Expert Committee meetings and the recommendations were placed in the 44<sup>th</sup> meeting of the School Board of the School of Sciences held on 2<sup>nd</sup> March and 30<sup>th</sup> March, 2012.

The recommendations of the Expert Committee along with the overall syllabi approved by the School Board of the School of Sciences in its 44<sup>th</sup> meeting were placed before the Academic Council in its 61<sup>st</sup> meeting held on 19<sup>th</sup> Sept., 2013 for consideration and approval. The Academic Council while considering the agenda item took the decision that the proposal should be submitted in phase zero forms for each course for its consideration.

Accordingly, the phase zero forms for five elective courses in Mathematics for the BDP, namely, Calculus, Elementary Algebra, Analytical Geometry, Advanced Calculus and Differential Equations I, in the revised structure of Mathematics

component of the BDP were being placed before the School Board along with the revised structure for consideration and approval.

SB 49.15.2 The School Board considered and approved the phase zero forms for five elective courses in Mathematics for the BDP, namely, Calculus, Elementary Algebra, Analytical Geometry, Advanced Calculus and Differential Equations I, in the revised structure of Mathematics component of the BDP with the recommendation that the latest books be included in the recommended lists of books. The revised phase forms and the revised structure of the Mathematics component of the BDP as approved by the School Board are placed at **Annexures 17 to 22**.

**Item no. 16: Any other items, with the permission of the Chair.**

**Item no. 16 (i): To consider and approve the names of translators for Biochemistry courses being developed in the B.Sc. programme.**

SB 49.16.1(i) The School Board was informed that additional Experts were required to translate the Biochemistry courses being developed in the B. Sc. Programme into Hindi. The names of the following experts who have the experience of translating science course material as translators of course materials in Biochemistry from English to Hindi were placed before the Board.

1. **Dr. R. D. Shukla**

Assistant Director (OL), Central Silk Board, Bangalore-560064  
Phone No: 919886088096, Email: [rdshukla1962@gmail.com](mailto:rdshukla1962@gmail.com)

2. **Mr. Shakeel Ahmad**

Scientist-B, Central Sericulture Research and Training Institute, Govt. of India  
Ministry of Textiles, Pampore-192121 (J & K)  
Phone No: 09419007011 (O), 0194-2401133  
Email: [shakeel0410@hotmail.com](mailto:shakeel0410@hotmail.com)

SB 49.16.2(i) The Board considered and approved the names of the above Experts as translators of courses in Biochemistry, Life Sciences and Chemistry since these are allied Disciplines.

**Item no. 16 (ii): To consider and recommend the list of examiners for the thesis of Mrs. N. Mallika Mahesh (enrolment no. 122878072) enrolled in the PhD (Life Sciences) programme with Prof. S.S. Hasan, IGNOU and Dr. Anu Sharma, Mount Carmel College, Bangalore.**

SB 49.16.1(ii) The list of examiners was placed before the Board which recommended it with one change. The modified list of examiners for the thesis of Mrs. N. Mallika Mahesh (enrolment no. 122878072) enrolled in the PhD (Life Sciences) programme with Prof. S.S. Hasan, IGNOU and Dr. Anu Sharma, Mount Carmel College, Bangalore recommended by the Board is given at Annexure 23.

The meeting ended with a vote of thanks to the Chair.

  
(Vijayshri)  
Chairperson

**List of Annexures**

- Annexure 1:** Comments received on the Minutes of 48<sup>th</sup> meeting of the School Board from Prof. P. Mital, Prof. Sujatha Varma and Shri Pawan Kumar
- Annexure 2:** Comments from Prof. Saraswat
- Annexure 3:** Copy of confirmed Minutes of 48<sup>th</sup> meeting of the School Board (without Appendices) and the Action Taken Report
- Annexure 4:** Minutes of 10<sup>th</sup> meeting of SBSC confirmed by the School Board with its Appendices
- Annexure 5a to d:** Reports presented to the School Board by the Disciplines of Chemistry, Life Sciences, Mathematics and Physics
- Annexure 6:** Copy of the approved minutes of the meeting of the Doctoral Committee for Chemistry held on 21.01. 2014.
- Annexure 7:** Minutes of the 6<sup>th</sup> meeting of the Doctoral Committee for Geology held on 16.01.2014
- Annexure 8:** Modified evaluation methodology for entrance examination for admission to the Ph.D. Geology programme
- Annexure 9:** Minutes of the Expert Committee Meeting for Planning and Development of New Programmes in Geology held on 21<sup>st</sup> March, 2014
- Annexure 10:** Phase 1 form for the PG Diploma in Geospatial Modelling approved by the School Board
- Annexure 11:** Minutes of the Expert Committee meeting for Biochemistry held on 9<sup>th</sup> and 10<sup>th</sup> January, 2014
- Annexure 12:** Minutes of the meeting of the Expert Committee in Biochemistry held on March 28, 2014
- Annexure 13:** Minutes of the meeting of Doctoral Committee for Life Sciences held on 23<sup>rd</sup> and 24<sup>th</sup> January, 2014
- Annexure 14:** Minutes of the meeting of Doctoral Committee for Life Sciences held on 3<sup>rd</sup> April, 2014
- Annexure 15:** Minutes of the meeting of Doctoral Committee for Life Sciences held on 4<sup>th</sup> April, 2014
- Annexure 16:** Modified form for evaluation methodology for pre-PhD Courses in PhD (Life Sciences) Programme
- Annexure 17:** Phase zero form for the revised mathematics elective course entitled Calculus for BDP
- Annexure 18:** Phase zero form for the revised mathematics elective course entitled Elementary Algebra for BDP
- Annexure 19:** Phase zero form for the revised mathematics elective course entitled Analytical Geometry for BDP
- Annexure 20:** Phase zero form for the revised mathematics elective course entitled Advanced Calculus for BDP
- Annexure 21:** Phase zero form for the revised mathematics elective course entitled Differential Equations I for BDP
- Annexure 22:** Revised structure of the Mathematics component of Bachelor's Degree Programme
- Annexure 23:** List of examiners for the PhD thesis of Mrs. N. Mallika Mahesh (enrolment no. 122878072) enrolled in the PhD (Life Sciences) programme