

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
(Deemed to be University under the *de novo* Category)

REGULATIONS
(Applicable from 2018 batch)
for

Master's/Integrated Master's-PhD Program in the Schools of Applied & Interdisciplinary Sciences, Chemical Sciences, Materials Sciences, Mathematical & Computational Sciences, and Physical Sciences

General: The regulations herein shall apply to Master's/Integrated Master's-PhD Program in the Schools of Applied & Interdisciplinary Sciences, Chemical Sciences, Materials Sciences, Mathematical & Computational Sciences, and Physical Sciences at the Indian Association for the Cultivation of Science (IACS).¹ These regulations will come into effect from the Academic Year 2018-19. The Academic Council makes this Regulation in exercise of the power conferred upon it by the Governing Council of IACS.

Definitions of Terms used:

- *Institute* means Indian Association for the Cultivation of Science (IACS).
- *Academic Council* means the Academic Council of IACS.
- *Program* means the Master's/Integrated Master's-PhD Program under different schools of IACS.
- *Academic Year:* Two consecutive (one odd + one even) semesters constitute one academic year. The odd (autumn) semester may be scheduled from August to December and even (spring) semester from January to May. The Academic Council shall frame an academic calendar for the purpose. There will be a winter break for 20 days between odd and even semester and a summer break between May 15 and July 31.
- *Courses* indicate the subjects prescribed in each semester of the program.
- *Course Instructor* is A Faculty Member of IACS or any person engaged by IACS following the UGC guideline for teaching a Course.
- *L and T* mean contact hours for lectures and tutorial per week, respectively. “*P*” means contact hours for practical/laboratory per week.

¹ For Master's/Integrated Master's-PhD Program in Biological Sciences, separate regulations are in place as per the MOU with IIT-Kharagpur.

- *Credit* of a course is determined based on quantum of contents (syllabus) prescribed for a course and the number of hours of instruction required per week decide on the *Credit* of a course.
- *Degree* means Master's degree or Integrated Master's-PhD degree.

1. Admission:

1.1. The program will be run by the respective School and the Institute in consultation with School Chairs will decide each year on the number of seats to be allotted for different courses. Announcement for admission to the program shall be made by IACS in each year and the candidates are required to submit their applications in the prescribed application form on or before the dates specified in the announcement.

1.2. Minimum qualification and eligibility criteria for admission into various Programs shall be fixed each year by a **Central Admission Committee (CAC)** constituted by the Academic Council. The CAC shall have the following composition:

- (i) Chairs of all the Schools
- (ii) Academic Coordinator
- (iii) Dean (Academic Administration as the Chairman).

The committee shall look after the total admission process (setting minimum eligibility criteria in qualifying examination, preparing admission notice/advertisement and conducting admission test etc). The Committee shall ensure compliance of the national reservation policy as per prevailing rules of the country.

1.3. Candidates who have passed the three-year Bachelor's degree from the Universities recognized by UGC with the respective subject are eligible for admission to the program provided they have secured the minimum qualified marks/grade prescribed in the qualifying examination as prescribed by the CAC.

1.4. Relaxation of minimum marks in qualifying examination and reservation of seats for SC/ST/OBC/PD/KM will be as per the rules of the Government of India that are in force from time to time.

1.5. Candidates meeting the minimum criteria will be screened through a written test depending on the choice of the subjects. Selection will be made based on a final interview. Recipients of Fellowships like KVPY, INSPIRE or equivalent national eligibility tests etc may be given priority for admission. The respective School shall arrange interview for final selection and shall recommend the list of selected candidates to CAC for final approval.

1.6. In addition to satisfying the conditions given in the application form and other relevant information concerning the admissions, the selected candidates should also satisfy all the other admission requirements indicated in the offer of admission and then only they will be admitted to the program after complete payment of the prescribed fees. However, if at any time it is found that a candidate does not fulfill the requirements, her/his admission to the program will be cancelled.

1.7. The enrollment and admission of the selected students will be done by the Academic Office after being forwarded by the respective office of the School Chair. The final list of students admitted for a School shall be forwarded to the Chair by the Academic office at least two weeks before the start of a semester. Change of School shall not be generally encouraged once a student is given admission to a Master's program under a School. However, for special cases, a maximum of one time application for change of School may be considered purely on academic basis subject to the recommendation of the Dean (Academic Administration) and approval of the Academic Council.

1.8. Students coming from other Universities shall have to submit migration certificate.

1.9. The admitted candidates shall have to abide by all the rules of the Institute, including conduct rules and regulations of IACS, as applicable and as amended from time to time. Each student will be allotted a student's number after admission. **Each student will be allotted a student's identification number following the format "IACS-Course(BS/MS/PH)-Stream-Year of Admission-Four-digit Number". For example, a student joining the Integrated Master's program in Materials Sciences in 2018 may have the ID no "IACS-MS-MAS-2018-0001"**

1.10. Admitted students may be eligible to receive a stipend for the first two years as per Institute norms. The award of scholarships to the candidates admitted to the Master's program shall be in accordance with the Regulations of the Academic Council of IACS.

2. Structure of the Program

2.1. The duration of the course shall be two (2) academic years (four semesters) for Master's degree followed by research work for the Integrated Mater's-PhD degree with dissertation.

2.2. Each semester shall consist of 15 weeks of academic activity.

2.3. In each of the course, credits will be assigned on the basis of the number of lectures/ tutorials/ laboratory/project work and other course-related activity required to complete the course contents. One credit is equivalent to one hour of teaching (lecture or tutorial) or two hours of practical work/field work per week. The lecture sessions and tutorials shall not be normally substituted with any other activities like seminars, group discussions etc.

2.4. There shall be following categories of courses/papers in the program:

(a) **Core Courses:** Compulsory components of an Academic Program. These Courses are to be compulsorily studied as a core requirement for the program.

(b) **Elective Courses:** Elective courses shall be chosen by each student from a list of courses. These courses may be intra-school (Generic Elective/ Discipline Specific Elective (DSE)) as well as inter-school (Open Elective/Generic Elective (GE)). The students shall be allowed to choose a particular subject area of interest. These courses shall be: (i) supportive to the discipline of study, (ii) providing an expanded scope, (iii) enabling an exposure to some other discipline/ domain, (iv) nurturing student

proficiency/ skill. Elective Courses shall be of equal credits. A minimum of five (5) registered students shall be required to enroll for an optional/elective course.

2.5. The curricula, number and credits of the courses will be designed by the respective School following the basic course structure subject to the approval of the Academic Council from time to time. Details of the courses offered including the course contents shall be made available to the students by the School. **Each course shall have a character code indicating the subject/School, year of study, the semester and the course no. The course code shall follow a uniform pattern: "Subject code-Year of study-Semester (1 for odd/2 for even)-Subject number". The subject codes shall be:**

Chemical Sciences (CHS), Physical Sciences (PHS), Biological Sciences (BIS), Material Sciences (MAS), Mathematical and Computational Sciences (MCS), and Applied & Interdisciplinary Sciences (AIS).

For example: a course of Applied and Interdisciplinary Sciences offered to fifth year second semester students, the course code may be: AIS-5201

2.6 Each of the Core courses and DSE shall be of 4 credits. Credits under DSE may vary across the semesters but the total credits for core courses shall be of a minimum 64 and those of DSE shall be 16. A course may also take the form of a Dissertation/ Project work/ Practical etc. Each Generic Elective paper will be of 4 Credits and Students has the choice of taking 2 GE's across the 4 semesters. Each student has to take Generic Electives from a School other than the parent School. Core / DSE will not be offered as Generic Electives.

2.7. Additional Credits may be allowed under Mandatory Non-CGPA Credit Courses, as per following specifications:

(a) Compulsory Specified Courses shall will be of 2 / 4 credits each to be opted by the students of the Programs under the Ability Enhancement Courses (4 credit) and the Skill Enhancement Courses (2 credit). Ability Enhancement Courses (AEC): Communicative English/Writing & Ethics could be the Course for all AEC and will be offered in the 1st and the 3rd semester. Each AEC shall be of 2 credits.

ii. Skill Enhancement Courses (SEC): Seminar/Colloquium specific for the research-oriented courses shall be offered in the 2nd and the 4th semester. Each SEC shall be of 2 credits.

b. Elective Courses / Activities: These are part of Co/Extra-curricular Activities as defined by the Academic Council and must opt for a minimum of 2 Credits in entire duration of the program.

2.7. The minimum number of credits to be obtained for the award of the degree in a School shall be not less than 100.

2.8. The core subjects may include a minimum of two laboratory-based courses totaling up to a minimum of twelve credits and a research project over two semesters with 16 credits. For laboratory and tutorials, Postdoc/PhD students of the institute shall be Teaching Assistants.

2.9. The syllabus and the course content shall be monitored/reviewed by the Chair of each School in consultation with the faculty members of the School and shall strictly follow the UGC guidelines issued from time to time.

2.10. **A Course Instructor** shall perform the following functions:

- (i) Preparing and teaching a course alone or with other faculty members wherever necessary. Maximum two instructors may be allowed for a course.
- (ii) Maintaining attendance and performance records of all the students registered for the Course(s) he/she offers.
- (iii) Evaluating students' performance through continuous evaluation (internal evaluation).
- (iv) Conducting End-semester examination.
 - v) Involving him/herself in preparation and moderation of question papers, evaluation, scrutiny and finalization of results of the course(s) etc.
- vi) Every instructor shall have stipulated office hour to be displayed in front of her/his office.

2.11. **Student Advisory Committee (SAC):** Each School shall constitute a Student Advisory Committee from amongst the faculty members of the School concerned. SAC shall perform the following functions:

- i) Counseling the students in choosing Elective, Optional and Audit Courses.
- ii) Recommending students for course registration.
- iii) Offering all possible student support services relevant to the program of study including redressal of the grievances of the students.
- iv) Monitoring the performance of students.

2.12. Every student has to register for the courses s/he intends to undergo in a semester by applying in the prescribed form duly signed by the candidate and student advisor. For that purpose, a student may consult with SAC. The Academic Office shall enroll the student for the relevant course after duly forwarded by the Chair within the stipulated time notified by the Dean (Academic Administration) in consultation with the Academic Coordinator.

2.13. Late Registration may be permitted on recommendation of the Chair of the School up to two weeks after the commencement of the semester. Withdrawal and change from an Elective or an Optional course may be permitted up to two weeks from the date of commencement of classes. Withdrawal and change from a course shall not be permitted for those who take late registration.

2.14. The medium of instruction and examination shall be English.

Course structure for Mater's

First Year

Semester I (August - December)/Odd Semester

<i>Course</i>	<i>(L+T – P)</i>	<i>(Credit)</i>
Core	4 – 0	4
Core	4 – 0	4
Core	4 – 0	4
GE-I/Core	4 – 0	4
Laboratory (Core)	0 – 12	6
Communicative English	2 – 0	2*

Total Contact Hours per week 30/ Total Credits 24

Semester II (January - May)/Even Semester

<i>Course Number</i>	<i>(L+T – P)</i>	<i>(Credit)</i>
Core	4 – 0	4
Core	4 – 0	4
Core	4 – 0	4
DSE-I/Core	4 – 0	4
Laboratory	0 – 12	6
Seminar and Colloquium	2 – 0	2*

Total Contact Hours per week 30/ Total Credits 24

Second Year

Semester III (August-December)/Odd Semester

<i>Course</i>	<i>(L+T – P)</i>	<i>(Credit)</i>
Core	4 – 0	4
Core	4 – 0	4
Core/GE-I	4 – 0	4
GE-II	4 – 0	4
Research Project with Seminar	0 – 16	8
Scientific Writing and Ethics	2 – 0	2*

Total Contact Hours per week 34/Total Credits 26

Semester IV (January - May)/Even Semester

<i>Course</i>	<i>(L+T – P)</i>	<i>(Credit)</i>
Core/DSE-I	4 – 0	4
DSE-II	4 – 0	4
DSE-III	4 – 0	4
DSE-IV	4 – 0	4
Research Project Seminar and Comprehensive Examination	0 – 16	8
Seminar and Colloquium	2 – 0	2*

Total Contact Hours per week 34/ Total Credits 26

**Mandatory Non-CGPA Credit Courses*

Course Requirement: Core: 10 (40 credits); Core Lab: 2 (12 credits); Core Project: 2 (16 credits); DSE: 4 (16 credits) and GE: 2 (8 credits). Total Credit: 100 (92 + 8 non-CGPA Credits)

3. Attendance

- 3.1. The course teacher shall be responsible for maintaining a record of attendance of students who have registered for the course.
- 3.2. All course instructors shall intimate the Chair of the School at least fifteen calendar days before the last instruction day in a semester, the particulars of all students who have less than 85% attendance.
- 3.3. A student who has less than 85% attendance shall not be permitted to sit for the End-semester examination in the course in which the shortfall exists. The Academic Council/ Competent Authority may grant exemption to a student who has attended a minimum of 75% classes but failed to obtain the prescribed 85% attendance for valid reasons on recommendation of the Chair of the School.
- 3.4. The Chair of a School shall announce the names of all students who shall not be eligible owing to non-fulfilment of requisite attendance to take the End-semester examinations in the various courses and send a copy of the same to the Academic Coordinator. Registrations of such students for those courses shall be treated as cancelled and they shall have to repeat the course when it is offered next.

4. Examination

- 4.1. Examination and evaluation shall be done on a continuous basis, at least three times during each semester. For the purpose of uniformity, particularly for interschool transfer of credits, there shall be a uniform procedure of examination to be adopted by all Schools. The Examination of all courses shall have two parts: a) Internal Assessment b) End Semester Examinations.
- 4.2. There shall be at least two internal assessments and one End-semester examination in each course during every semester. The result of internal assessment shall be notified by the concerned course instructor(s) within seven days of the examination.
- 4.3. 50% of the total weightage/marks of each course shall be allotted for internal evaluations.
- 4.4. In internal assessments, one mid-semester examination may be conducted for each course, which shall carry 50% of the total weightage allotted for internal assessment. For the remaining 50% of total weightage for internal assessment, course instructors may employ two assessment tools such as, assignments, quiz etc. suitable to the courses. The students are to be informed in advance about the nature of assessment. Students shall have to attend the two internal examinations, failing which they will not be allowed to appear for the End-semester examination.

4.5. Ordinarily, a student cannot repeat internal assessment. However, the Course instructor may arrange for internal assessment beyond the regular schedule under special circumstances as may be deemed appropriate by the Course instructor. However, the internal assessment must be completed before the end-semester examinations.

4.6. There shall be one End semester final examination carrying 50% weightage/marks in each course covering the entire syllabus of the course. The End semester examination is normally a written/laboratory-based examination/Project Work/Dissertation.

4.7. The end-semester examination schedule shall be notified by the Academic Coordinator in consultation with the Dean (Academic Administration). The date and schedule shall be notified at least fifteen days in advance.

4.8. Course Instructor(s) for each of the theory courses will be the paper-setter and examiner. Question papers must be submitted in sealed envelope/soft copy to the Academic Coordinator within the stipulated date. In the process, confidentiality must be maintained.

4.9. Moderation of question papers will be done by a committee constituted by the Dean (Academic Administration) in consultation with Academic Coordinator.

4.10. At the end of a semester, each student shall fill-up a Course Evaluation Form for every course taught in that semester.

5. Evaluation

5.1. The Course instructor shall evaluate the answer scripts and submit the marks as well as letter grades to the Chair of the respective School within a maximum of two weeks from the date of examination.

5.2. Before submitting the results to the School, the students will be notified to check their evaluated answer script. Interested students may contact with the respective course instructor during a time window to be notified by the Chair of the School.

5.3. The School/Core Committee shall finalize the results of each examination/semester and notify the same before sending to the Office of the Academic Coordinator for preparation of Grade sheet and declaration of results.

5.4. Project report/ Dissertation shall be evaluated jointly by the supervisor and three examiners from within the School or from outside the School.

5.5. Before declaring the results of end semester examinations, the Academic Coordinator shall request a meeting of the Academic Council to scrutinize the results of both internal assessment and end-semester examinations. The Council may seek clarification or call for answer scripts if it feels necessary from the course Instructor(s) concerned in the matters of over marking or under marking during examination(s).

5.6. The Academic Council shall approve the results of the School and recommend for declaration of results by the Dean (Academic Administration) in consultation with the Academic Coordinator.

6. Grading:

6.1. The relative grading system shall be applied in evaluating performance of the students.

6.2. A candidate shall have to secure at least **P** grade to pass a course taking in and end semester marks together.

6.3. The marks of in-semester examinations obtained shall be carried over for evaluating the grade of a course.

6.4. The following scale of grading system shall be applied to indicate the performances of students in terms of letter grade and grade points as given below:

Grade Point Definition:

Classification	Letter Grade	Range of Marks (out of 100)	Grade Point	Remarks
Outstanding	O	91-100	10	CGPA multiplied by 10 will be the corresponding percentage of marks.
Excellent	A+	81-90	9	
Very Good	A	71-80	8	
Good	B+	61-70	7	
Above Average	B	51-60	6	
Average	C	46-50	5	
Pass	P	40-45	4	
Fail	F	<40	0	
Absent/Incomplete	Ab	-	0	

A **Semester Grade Point Average (SGPA)** will be computed for each Semester and will be calculated as follows:

$$SGPA = \frac{\sum_{i=1}^n c_i g_i}{\sum_{i=1}^n c_i}$$

Where 'n' is the number of courses in a semester, ' c_i ' is the number of credits for a particular subjects, and ' g_i ' is the grade-points carried by the letter corresponding to the grade awarded to the student for the subject.

Beginning semester II, at the end of each semester S, a **Cumulative Grade Point Average (CGPA)** will be computed as follows:

$$CGPA = \frac{\sum_{i=1}^m c_i g_i}{\sum_{i=1}^m c_i}$$

Where 'm' is the total number of subjects from semester I onwards up to and including the semester S, 'c_i' is the number of credits for a particular subject. 'g_i' is the grade-point carried by the letter corresponding to the grade awarded to the student for the subject.

SGPA and CGPA will be rounded off to the second decimal place.

The SGPA and CGPA are calculated in consideration of only the credits cleared, i.e. Grade F credit is not included for the calculation.

SGPA would indicate the performance of the student in the semester to which it refers. CGPA would indicate the cumulative performance of the student from the semester I up to the end of the semester to which it refers.

7. Result

7.1. The Academic Coordinator shall declare the results and issue Grade-cards with signatures of Dean (Academic Administration) and Academic Coordinator.

7.2. Based on the grades earned, a grade card shall be issued to all the registered students after every semester. The grade certificate will display the course details (code, title, number of credits, grade secured) along with SGPA of that semester and CGPA earned until that semester.

7.3. A student shall have to study the academic program as per the scheme of the program. Even if a candidate earns the required number of credits before completion of the full duration of the program, he/she shall not be entitled for the degree until the stipulated.

7.4. The Academic Council of IACS will award the MS degree.

7.5. Degree Certificates will be issued by the Academic Council with Signature of the Director and Dean (Academic/PG). duration of the program is completed.

7.6. Based on the results, rank certificates will be issued to the rank holders. Awards may be given to the best performer as decided by the Academic Council.

7.6. In order to qualify for the Master's degree, a student should complete the stipulated credits with at least a CGPA of 5.00. 1st class will be awarded to those who will have CGPA of 6.00 and above. However, a candidate, who obtains CGPA of 7.50 and above in the Master's Examination, will be allowed to continue for Ph.D. degree (Integrated Masters-PhD) in the related program under the guidance of particular supervisor/s. *Once enrolled for PhD program, each student will be guided by the regulation of PhD program of IACS.*

7.7. Transcript: IACS may issue consolidated Transcript on request to Academic Coordinator, which shall contain Letter grades, grade points and SGPA/ CCPA mentioning the Course Titles in details, medium of instruction and program duration.

7.8. A candidate who fails or up to the final Semester shall be provisionally promoted to the next semester with the failed course(s) as carry over course(s). Such candidates will be eligible to appear in the carry over course(s) in the next regular examinations of those courses. Maximum three such carry over courses may be allowed in a semester.

7.9. If a student gets 'F' in a particular course in a semester or does not appear (Ab) in one or more courses of any end semester examinations even for medical or other valid reason, s/he shall be deemed to have failed in that course only and shall be required to clear the course in a supplementary examination/make up examination within one month from the publication of the result. If a student gets 'F' in the supplementary examination, he/she has to repeat the course in a regular semester, as and when it is offered.

7.10. A student may be allowed to take the supplementary examination on the maximum three courses in a semester. students may be permitted to carry over the courses until the end of the program. A student can attempt a maximum one year of additional time to clear the carry over course failing which he/she shall be dropped from the course on the advice of the concerned authority.

7.11. If a candidate clears the final semester examination before clearing all the courses of the previous semesters, his/her grade card will be issues only after he/ she clears the courses of the previous semesters.

8. Review and Scrutiny

8.1. There shall be re-evaluation (review) of the answer scripts of theoretical papers of semester end examinations but not of internal assessment marks. However, for re-evaluation, the candidate has to apply through the concerned Chair to the Academic Coordinator. No application for revaluation of practical papers shall be entertained. The examiner of a paper shall not be the reviewer of the same paper.

8.2. Scrutiny of the theoretical answer scripts shall be done by the instructors of the Department before sending the marks to the Academic Coordinator.

8.3. The written answer scripts of each term end-semester examination will be preserved in the concerned School until review, if any, is completed. After that, the answer scripts shall be forwarded by the office of the School chair in confidence to the Academic Coordinator. Class test answer scripts or other records of Internal Assessment shall, however, be preserved in the School for three years from the date of commencement of the concerned Semester. After that period, the scripts will be disposed of as per rules of IACS.

9. Infrastructure: All classrooms, teaching labs and other infrastructural facilities assigned by the IACS administration for the teaching program shall be under the overall control of the Dean (Academic Administration) and Academic Coordinator. To accommodate all the theory courses in the

existing classrooms, class routine shall be prepared centrally by the Dean (Academic Administration) and the Academic Coordinator in consultation with the Chairs of all the Schools.

10. Ethical Guidelines

10.1. Officials engaged in the Central Academic Administration in any capacity or responsibility must officially sign a pledge for propriety and confidentiality with the Dean (Academic Administration) and the Academic Coordinator.

10.2. It must be ensured that IACS shall maintain fundamental code of professional ethics in implementing these Regulations. For any matter not covered under these Regulations for the Programs, the existing Rules of IACS shall be applicable.

Notwithstanding anything contained in the above regulations, the Chairman, Academic Council shall have the power to issue directions or orders to remove any difficulty.

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