

**Ordinances**  
**for**  
**Master of Technology (M.Tech.) and**  
**Doctor of Philosophy (Ph.D.) Programme**  
**in**  
**Nano Science and Technology**



**Aryabhatta Centre for Nanoscience & Nanotechnology**  
**School of Engineering & Technology**

**ARYABHATTA KNOWLEDGE UNIVERSITY,**  
**PATNA**

# ARYABHATTA KNOWLEDGE UNIVERSITY, PATNA

## Ordinance for Admission to M.Tech. (*Nano Science & Technology*) programme in the School of Engineering & Technology

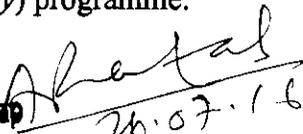
### Nomenclature:

This ordinance may be called as "Ordinance for Admission to M.Tech. (*Nano Science & Technology*) programme in the School of Engineering & Technology" of Aryabhata Knowledge University, Patna.

- O.1. Eligibility for admission, admission policy and procedure shall be decided from time to time by the Court of the Aryabhata Knowledge University, Patna (AKU Patna) hereafter mentioned as University.
- O.2. The normal duration of the M.Tech. (*Nano Science & Technology*) programme, including project work, shall be *four semesters* (two years). The duration can be extended to a maximum of six semesters (3 academic years). The maximum limit can be extended by 1 or 2 semester subject to the approval of university on case to case basis. Candidates may be permitted to do their project work in the industry and other approved organizations.
- O.3. Award of M.Tech. (*Nano Science & Technology*) shall be in accordance with the regulations of the University.
- O.4. The University will conduct this course at its headquarters and in any viable institutions affiliated to this University from the Session 2014-16.
- O.5. The Court of the University has the right to modify any regulations stated from time to time.

### O.6. Admission:

- a. A candidate seeking admission to M.Tech. (*Nano Science & Technology*) Semester-I must have:
  - i. Bachelor's degree in Nanotechnology/Electrical/Mechanical/Electronics/Instrumentation/Chemical/Biochemical Engineering/ Medical/Veterinary Sciences or equivalent, with not less than or 60% aggregate marks for General Category and 55% for all reserved categories in the absolute system or equivalent grade.
  - OR
  - ii. M.Sc. or equivalent degree in Physics/Chemistry/Electronics/Electronics Science/Material Science/ Nanoscience/Biotechnology/Agriculture, with not less than 55% aggregate marks for General Category and 50% for all reserved categories in the absolute system or equivalent grade.
- b. Candidates who have qualified for the award of the Bachelor's degree in Engineering / Technology or Master's degree in Science in above mentioned subjects through distance education/ correspondence mode are also eligible to apply for admission to the M.Tech. (*Nano Science & Technology*) programme.

  
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- c. Notwithstanding what has been stated in O.6a above, applications from *candidates sponsored* by organizations recognized by the Court, and applications from *foreign nationals* received through proper channel, may be considered for admission to the M.Tech. (*Nano Science & Technology*) programme without *University M.Tech. Entrance Test*. Their admission shall, however, be governed by the regulations prescribed by the Court.
- d. Candidates from Government / Public Sector Organizations with Associate Membership qualification (AMIE, AESI, AMIM, AMIChemE, AMIETE) and having two years of experience, can be permitted to apply for admission to M.Tech. (*Nano Science & Technology*) under sponsored programme without *University M.Tech. Entrance Test*.
- e. The reservation of the seats for this course shall be as per the reservation rules of the Govt. of Bihar.
- f. Seats left unfulfilled in any of the reserved category by reason of the fact that eligible candidates are not available shall be filled up admitting applicants from amongst candidates available in other categories in order of ascending categories.
- g. The total number of seats for the M.Tech. (*Nano Science & Technology*) shall be 20 (twenty).

**O.7. Disqualification:**

No applicant shall be admitted to this course who has not applied for admission within the notified time.

- a. The admitted students will have to get themselves registered within a specified time notified by the university.
- b. No such applicant shall be admitted who in the opinion of the Vice Chancellor is not a fit candidate to be admitted to guard the best interest of the University.
- c. The admission of any student admitted to M.Tech. (*Nano Science & Technology*) shall be cancelled if it is found at any later point of time that any document submitted or statement made by him/her in support of his/her admission is forge or false, the concern student will be solely liable for the act.
- d. No candidate shall be allowed to register as a student in any course during the academic years of his/her study for M.Tech. (*Nano Science & Technology*).

**O.8. Fee Structure:**

The fee structure for the M.Tech. (*Nano Science & Technology*) will be applicable as per the decision of the university from time to time.

Sl.No.	Description	Fee (Rs.)	Remarks
1.	Admission Fee	5000.00	One Time
2.	Development Fee	10000.00	One Time at the time of admission
3.	Tuition Fee	12000.00	Per Semester
4.	Student Activity Fee	500.00	Per Semester
5.	Caution Money (Refundable)	2000.00	One Time at the time of admission
6.	Registration Fee	2000.00	One Time at the time of admission
7.	Examination Fee	2000.00	Per Semester
8.	Thesis Evaluation Fee	5000.00	At the time of submission of Thesis
9.	Student Welfare Fund	1000.00	Per Annum

Arvabhata Knowledge University, Patna

*Ajay Prasad*  
 26.07.16  
 Prof. (Dr.) Ajay Prasad  
 Registrar  
 Arvabhata Knowledge University, Patna

- i. The excess fee realized/charged from the students of the above mentioned courses will be adjusted in the forthcoming (next) semesters.
- ii. The fee structure may be revised from time to time by the Vice-Chancellor with the prior permission of the Chancellor, Universities of Bihar.

**O.9. Special Provisions:**

The Vice chancellor shall have power to relax, with the approval of the Chancellor, Universities of Bihar and the State Govt., any criteria and increase seats beyond the usual number of seats.

*Abhaya*  
16.07.16  
Prof. (Dr.) Ajay Prasad  
Registrar  
Ananchand Knowledge University, Patna

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# ARYABHATTA KNOWLEDGE UNIVERSITY, PATNA

## Ordinance for Admission to Ph.D. (*Nano Science & Technology*) program in the School of Engineering & Technology

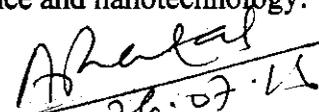
### Nomenclature:

This ordinance may be called as "Ordinance for Admission to Ph.D. (*Nano Science & Technology*) programme in the School of Engineering & Technology" of Aryabhata Knowledge University, Patna.

- O.1.** Eligibility for admission, admission policy and procedure shall be decided from time to time by the Court of the Aryabhata Knowledge University, Patna (AKU Patna) hereafter mentioned as University.
- O.2.** The normal duration of the Ph.D. (*Nano Science & Technology*) programme, including project work, shall be minimum *six semesters* (three years). The duration can be extended to a maximum of ten semesters (5 years). The maximum limit can be extended with the permission of competent authority on +1 and +1 year basis up to 7 years maximum. Candidates may be permitted to do their project work in the industry and other approved organizations.
- O.3.** Award of Ph.D. (*Nano Science & Technology*) shall be in accordance with the regulations of the University.
- O.4.** The University will conduct this course at its headquarters and in any viable institutions affiliated to this University from the Session 2014-16.
- O.5.** The Court of the University has the right to modify any regulations stated from time to time.

### O.6. Admission:

- a. There are two possible categories of admission in Ph.D. (*Nano Science & Technology*) programme:
- i. **Full-time doctoral students:** Such students are entirely focused on carrying out their coursework, research, and other requirements of the Ph.D. Program at the University or University recognized institutions.
  - ii. **Part-time doctoral students:** Such students are either full-time employees (*e.g.*, faculty, technical staff or project staff not covered under 'i' (see Rules in Annexure-I of the University), or employees of other organizations (such as Constituent Colleges, Universities, recognized R&D Centers, Industries, *etc.*). They will be exempted from PRT and will be permitted to proceed at a slower pace in their Ph.D. Program at the University.
- b. A candidate seeking admission to Ph.D. (*Nano Science & Technology*) should possess either i, ii or iii, to pursue research in nanoscience and nanotechnology:

  
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- i. M.E./ M.Tech./ M.S. or equivalent degree with a minimum of 55% marks in Nanotechnology/Electrical/Mechanical/Electronics/Instrumentation/ Chemical/Biochemical Engineering.
  - ii. M.Sc. (Nanoscience/Nanotechnology) or an equivalent degree in any branch of Physical/Chemical/Material Science/Biological/Agricultural sciences with a minimum of 55% marks.
  - iii. Master degree in any branch of Medical (Allopathic, Ayurveda, Homeopathy or Unani)/ Veterinary sciences or an equivalent degree with a minimum of 55% marks.
- b. Candidates who have qualified for the award of the M.Sc. degree in Science in above mentioned subjects through distance education/ correspondence mode are also eligible to apply for admission to the Ph.D. (*Nano Science & Technology*) programme.
  - c. M.Tech. (*Nano Science & Technology*) candidates from AKU with a minimum CGPA of 7.5 for General category, and 7 in case of SC/STs, are eligible for admission in Ph.D. (*Nano Science & Technology*) programme without appearing in the **University Ph.D. Entrance Test** and they will be exempted from the coursework if he/she wants to continue to the Ph.D. programme. Such case(s) will be considered as **Integrated M.Tech.-Ph.D. programme**.
  - d. Candidates having Master degree in Science/Engineering/Technology with a minimum of 55% marks and a valid UGC-NET or DST-INSPIRE score will be exempted from the **University Ph.D. Entrance Test**.
  - e. The reservation of the seats for this course shall be as per the reservation rules of the Govt. of Bihar.
  - f. Seats left unfulfilled in any of the reserved category by reason of the fact that eligible candidates are not available shall be filled up admitting applicants from amongst candidates available in other categories in order of ascending categories.
  - g. The total number of seats for the Ph.D. (*Nano Science & Technology*) shall be notified time-to-time (includes reservation as per Government of Bihar norms).

#### **O.7. Disqualification:**

- a. No applicant shall be admitted to this course who has not applied for admission within the notified time.
- b. The admitted students will have to get themselves registered within a specified time notified by the university.
- c. No such applicant shall be admitted who in the opinion of the Vice Chancellor is not a fit candidate to be admitted to guard the best interest of the University.
- d. The admission of any student admitted to Ph.D. (*Nano Science & Technology*) shall be cancelled if it is found at any later point of time that any document submitted or statement made by him/her in support of his/her admission is forge or false, the concern student will be solely liable for the act.

- e. No candidate shall be allowed to register as a student in any course during the academic years of his/her study for Ph.D. (*Nano Science & Technology*).

**O.8. Fee Structure:**

The fee structure for the Ph.D. (*Nano Science & Technology*) will be applicable as per the decision of the university from time to time.

Sl.No.	Description	Fee (Rs.)	Remarks
1.	Admission Fee	5000.00	One Time
2.	Development Fee	10000.00	One Time at the time of admission
3.	Tuition Fee	12000.00	Per Semester (1 <sup>st</sup> and 2 <sup>nd</sup> Semester)
		6000.00	Per Semester (3 <sup>rd</sup> Semester onwards)
4.	Student Activity Fee	500.00	Per Semester
5.	Caution Money (Refundable)	2000.00	One Time at the time of admission
6.	Registration Fee	2000.00	One Time at the time of admission
7.	Examination Fee	2000.00	Per Semester
8.	Thesis Evaluation Fee	5000.00	At the time of submission of Thesis
9.	Student Welfare Fund	1000.00	Per Annum

- i. The excess fee realized/charged from the students of the above mentioned courses will be adjusted in the forthcoming (next) semesters.
- ii. The fee structure may be revised from time to time by the Vice-Chancellor with the prior permission of the Chancellor, Universities of Bihar.

*Ajay Pratap*  
26.07.16

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Registrar  
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# ARYABHATTA KNOWLEDGE UNIVERSITY, PATNA

## Aryabhata Centre for Nanoscience & Nanotechnology

### Post-Graduate & Ph.D. Programme

#### Academic Vision

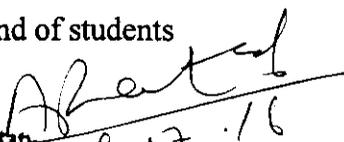
The challenges posed by nanoscience and nanotechnology cannot be answered solely by principles and techniques derived solely from a single science or a technology discipline. Instead, it requires the contributions of diverse inter-related fields, but is not limited to, physics, chemistry, biology and engineering. Potential applications at the nanoscale may well provide for unprecedented benefits, but will require an even more diverse set of methodologies, especially for applications in medicine, agriculture, environment and electronics. Keeping in view the prodigal potentials of this upcoming area, Aryabhata Knowledge University, Patna has initiated postgraduate (M.Tech. or M.S./M.Sc.) and research (Ph.D.) programmes in the area of nanoscience and nanotechnology. The rapid development and the exponential possibility of commercialization of the nano-based products warrants appropriate as well as acuminate development of human resource in this field. It is expected that this venture shall have major impact on the educational infrastructure as well as society too in the coming future.

**Academic Programme:** Aryabhata Centre for Nanoscience & Nanotechnology proposes following academic programmes:

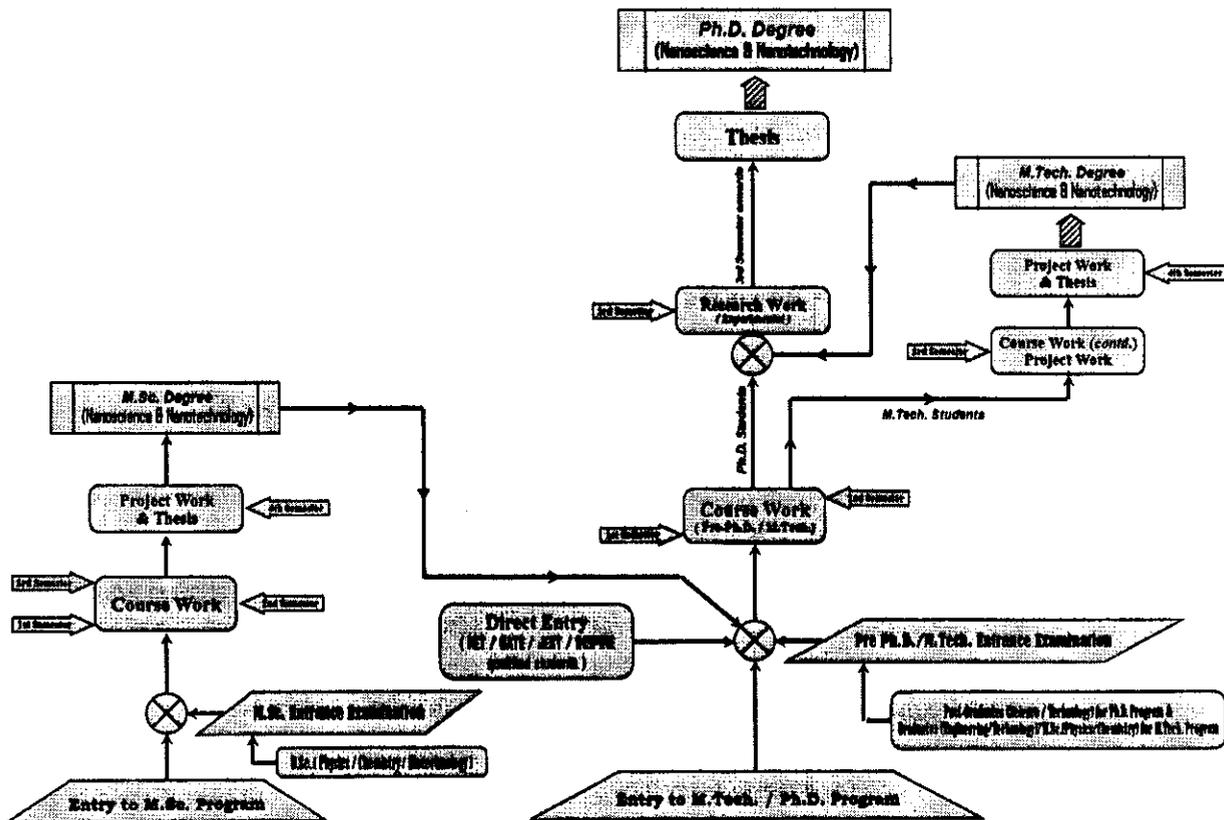
- M.Sc. in Nano Science & Technology.
- M.Tech. in Nano Science & Technology.
- Ph.D. in Nano Science & Technology.

The curricula are designed to ensure in-depth knowledge in the area of specialization together with breadth of exposure and intellectual enrichment and to prepare the students for high level professional research and development career in national laboratories, universities and industries. ACNN recognizes that modern scientific research is carried out in a domain without any boundaries. The postgraduate students and research scholars will flourish in the ambiance of this scientific culture. In this perspective, it is expected that faculty members would try to establish research laboratory in inter-disciplinary areas while discharging their teaching and other duties. ACNN will demand dedication and commitment from its students. They must be responsible for their performance and utilize their time at AKU. Their primary aim is to build them self to take up challenging research and teaching assignments in universities, R&D laboratories and various industries. They should be aware that their talent is recognized and totally supported by the society with resources. Therefore, they must develop a sense of indebtedness to the society at large. ACNN will consciously endeavor to create an atmosphere of fraternity, cooperation and a sense of social responsibility. A self-explanatory flowchart as shown under illustrates the details of different academic programmes and their implementation. The *benefits* of these programmes in Nanoscience & Nanotechnology to the university are many-fold:

- (i) It meets the challenge of devising educational infrastructure for a new brand of students whose training needs to go beyond traditional departmental boundaries.

  
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- (ii) It provides a natural mechanism for forging collaborative endeavors between faculty and labs of various distinct departments and schools, via shared supervision of the students and
- (iii) It provides a response to the recent rapid growth in national/international funding and employment opportunities in Nanoscience, Nanotechnology, and their applications.



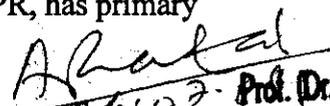
**Thrust Area of Research**

This major focus of this centre is to carry out researches in the frontier thrust areas of nanotechnology, which include:

- ☺ Biomedical sciences
- ☺ Agriculture sector
- ☺ Energy & Environment
- ☺ Healthcare & Cosmetology
- ☺ Nanoceramics and Nanocomposites
- ☺ Nanobiotechnology
- ☺ Food Technology
- ☺ Defence need
- ☺ Nanoelectronics
- ☺ Functional Nanomaterials

**Preamble**

1. The name "Aryabhata Knowledge University" will be abbreviated as "the University" in this document.
2. For the purpose of this document, Aryabhata Centre for Nanoscience & Nanotechnology (ACNN) shall be considered as equivalent to University Department, and Centre Head as equivalent to Department Chair.
3. The Chairman, University Level Committee for Post-Graduate Programmes and Research in Nano Science & Technology (or another title, as appointed by the Vice Chancellor with responsibilities stated herein), hereafter referred to as Dean, PGPR, has primary

  
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responsibility over all postgraduate (M.Tech. or M.S./M.Sc.) and research (Ph.D.) programs in Nano Science & Technology in the University.

4. The Dean, PGPR shall work closely with the Head, ACNN to ensure the successful conduct of all postgraduate and research programs, and shall report all major actions to the Vice Chancellor for approval.
5. The award of Master (M.Tech./M.S./M.Sc.) and/or Ph.D. Degree shall be in accordance with the Policies and Procedures of the University, as well as other Ordinances, Rules, and Regulations of the University.

**Policies**

1. Students have to complete a minimum post-graduate/doctoral level coursework of specified credits and independent dissertation and/or research leading up to a successful defense of a dissertation work for postgraduate programmes (M.Sc./M.Tech.) and Doctoral thesis are required for the award of the Ph.D. degree. However, the student having M.Tech. (*Nano Science & Technology*) from this university may be exempted from the coursework if he/she want to continue to the Ph.D. program.
2. The Doctoral Committee may prescribe more course work than the minimum credits prescribed whenever it is required. This is over and above the credits requirements specified above.
3. The University alone will have the power to add/make amendments to the Policies as deemed fit from time to time.
4. All students (M.Tech./M.S./M.Sc. and/or Ph.D. Courses) shall remain under the direct control and discipline of the Head/Chairman of ACNN.

**Admission Procedure (Ph.D. programme)**

Candidates have to choose any one of the following papers for admission to Ph.D. programme depending upon their choice.

- Physical sciences
- Chemical sciences
- Biological sciences
- Engineering streams

The question paper will be divided into two parts of 50 marks each. Part-A will consist of fifty multiple choice questions based on general/scientific awareness type and Part-B will fifty multiple choice/ten short answer type questions on the subject. The syllabus, model questions and suggested reference shall be provided in the Information Brochure/University website.

**No. of Seats:** Notify time-to-time (includes reservation as per Government of Bihar norms).

**1. Authorization to offer Ph.D.**

ACNN of the University, intending to offer a Ph.D. Program is required to make a Ph.D. approval application to the Dean, PGPR through the Head, ACNN. Such an application must include faculty who will be serving as Ph.D. advisors and their areas of specialization, suggested course work structure, and other faculty from within and outside the University who can assist with the Ph.D. program together with all of their specialties. The Dean, PGPR will forward the application with his or her recommendation to the Vice Chancellor for approval.

If approved, the Ph.D. Program will be known as: Ph.D. in Nano Science and Technology (Area of Specialization). For example, if the specialization in Ph.D. is being offered in Healthcare, it will be called Ph.D. in Nano Science and Technology (Healthcare). However, the Degree Certificate will mention only the title of the Thesis and the Aryabhata Centre for

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Nanoscience & Nanotechnology in which the student is registered. The University will encourage interdepartmental/interdisciplinary/inter-institutional/applied research.

## 2. Admission

### 2.1 Eligibility Criteria

The applicant should possess either (a), (b) or (c), to pursue research in nanoscience and nanotechnology (see the Thrust Area of Research):

- a. M.E./ M.Tech./ M.S. or equivalent degree with a minimum of 55% marks.
- b. M.Sc.(in Nanoscience/Nanotechnology) or an equivalent degree in any branch of Physical/Chemical/Biological/Agricultural sciences with a minimum of 55% marks.
- c. Master degree in any branch of Medical (Allopathic, Ayurveda, Homeopathy or Unani)/ Veterinary sciences or an equivalent degree with a minimum of 55% marks.

### 2.2 Application

The call for applications will generally be posted twice a year on the University website, accessible via <http://akubihar.org>. However, the University will accept applications throughout the year. Each Applicant should submit, in addition to his or her degree certificates, grade/ mark sheets and other documents mentioned in the application, a Statement of Purpose (describing his or her research interests) together with the completed application, and mention up to three areas of interest in the order of preference for Ph.D. programme. Incomplete application form will be rejected.

### 2.3 Entrance Test and Interview

The Dean, PGPR will screen the applications and call the selected applicants for Pre-Ph.D. entrance test followed by personal interview. The Selection Committee constituted by the Vice-Chancellor will examine the applicants' background and aptitude for research. Based upon the Pre-Ph.D. entrance test/fellowships like UGC/CSIR-NET JRF, DBT-JRF, ICMRJRF, INSPIRE or any other equivalent fellowships and interview performance and prior academic record, the Committee shall give its recommendation to the Dean, PGPR who will finalize the admission and notify (preferably in the university website) the selected applicants the date of joining. All prospective thesis advisors may be involved in the selection process and their consent obtained before being appointed as the Thesis Advisor for any applicant. Whenever required, the Committee may request additional evidence, such as letters of recommendation, copies of claimed publications, etc. The Institute shall not provide any TA/DA or accommodation for attending the interview. The selected candidates will receive the offer letter containing also the last date for joining shortly after the interview.

### 2.4 Categories of Admission

There are two possible categories of admission for any applicant:

- a. **Full-time doctoral students:** Such students are entirely focused on carrying out their coursework, research, and other requirements of the Ph.D. Program at the University or University recognized institutions. Students admitted under this category may be employed as project staff on a research project; however, the research project must have the student's thesis advisor as either a PI or a Co-PI, and the subject areas of the research project and the student's proposed doctoral research should overlap.
- b. **Part-time doctoral students:** Such students are either full-time employees (e.g., faculty, technical staff or project staff not covered under (a); see Rules in **Annexure-I**) of the University, or employees of other organizations (such as Constituent Colleges, Universities,

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recognized R&D Centers, Industries, *etc.*). They will be exempted from PRT and will be permitted to proceed at a slower pace in their Ph.D. Program at the University.

### 3. Degree Requirements

#### 3.1 Thesis Advisor and Doctoral Committee

Every doctoral student will be given a chance to give their preference, in a prescribed proforma (**Appendix-I**), for the Thesis Advisor/Supervisor and/or Co-Advisor/Supervisor. Accordingly, each of which will be assigned a Thesis Advisor/Supervisor and/or Co-Advisor/Supervisor and a Doctoral Committee by the Dean, PGPR at the beginning of Second Semester. The Thesis Advisor shall be a regular or emeritus faculty member of the University with a Ph.D. Degree and established research record. Adjunct faculty members or faculty members/scientists working in other organizations having requisite qualifications can be involved as Co-Advisors. If the faculty member from ACNN is without sufficient Post-Doctoral experience, a senior faculty member will be associated as a Co-Advisor. The Doctoral Committee will consist of the Thesis Advisor, a Convener to be appointed by the Dean, PGPR, and a faculty member from ACNN. In addition, if in case the Doctoral Student has been assigned a Co-Advisor, the Co-Advisor automatically becomes a member of the Doctoral Committee. Each member of the Doctoral Committee must necessarily have a Ph.D. degree. The Doctoral Committee will be responsible for all academic matters connected with the Ph.D. Program of the Doctoral Student, including prescribing the Course Work, monitoring the progress of the Doctoral Student, and suggesting the panel of examiners for Comprehensive Oral Examination/Thesis Evaluation *etc.* Generally, the number of doctoral students assigned to a faculty member according to the UGC norm. However, this number may be increased to eight at a time, under exceptional cases.

#### 3.2 Course Work

A doctoral student is expected to complete the prescribed courses (**Appendix-II**) as part of his or her doctoral program. The course work for a doctoral student is proposed by the Doctoral Student's Thesis Advisor, keeping in view the Doctoral Student's research interests, background and preparation needed to carry out the research. The course work so proposed will be submitted by the Doctoral Committee of the student to the Dean, PGPR for approval. All the courses shall be University approved courses. It is necessary that they earn a minimum of "C" Grade in all the courses within a year (two semesters) of Pre-Ph.D. coursework of 28 (twenty eight) credits.

#### 3.3 Attendance Requirement

1. All activities prescribed under these regulations and listed by the course faculty members in their respective course outlines are compulsory for all students pursuing the courses. No exemption will be given to any student from attendance except on account of serious personal illness or accident or family calamity that may genuinely prevent a student from attending a particular session or a few sessions. However, such unexpected absence from classes and other activities will be required to be condoned by the Dean, PGPR.
2. Student attendance in a course should be a minimum of 75%.
3. A student shall be entitled to the following types of leave during the academic year counted from the date of commencement of the session concerned as prescribed in the Academic Calendar of the University

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Registrar

Nature of Leave	Maximum number of Days	Sanctioning Authority
Casual leave	12	Head of the Centre
Medical leave*	10	Head of the Centre

\*Provided that the application is supported by a certificate from a Registered Medical Practitioner or recognized Hospital.

- N.B.** (i) Leave not availed of by a student in the first year shall not accumulate. The concerned Department/Centre will maintain the leave record.
- (ii) If a student is absent without permission for more than one month his/her name will be removed from the rolls.
- (iii) A student is not entitled to any vacation on account of inter-semester break, summer and winter vacations.

**3.4 Course Evaluation**

- The performance of every student in each course will be evaluated as follows:
  - Internal assessment (Mid-term evaluation) by the course faculty member(s) based on continuous assessment, for 50% of the marks for the course; and
  - End-Semester assessment (End-term examination) will be conducted by the University for 50% of the marks for the course.
  - All the examination (Mid- and End-terms) related works including setting of question papers, answer books evaluation, etc. shall be performed by the concerned faculty.
- Internal Assessment:**  
Mid-term evaluation will be based on the performances of a student in quiz, viva, seminar, assignment, class tests, mid-semester exams, etc., as prescribed by concerned faculty.
- Internal Assessment for Practical Subjects:**
  - One mid-term practical test/viva will be conducted per semester totaling to 50% internal marks for practical.
  - In "Continuous evaluation" students shall be evaluated in a continuous manner for their involvement in the practical, aptitude for learning, completion of practical related assignments, regularity in the practicals and record keeping.
- End-Semester Assessment:**
  - The end-term examination by the University for 50% of the evaluation for the course will be through written paper or practical test or oral test or presentation by the student or a combination of any two or more of these.
  - In order to earn the credit in a course a student has to obtain grade other than 'F'.
- Performance at Internal and End-Semester Examinations:**
  - Minimum performance with respect to mid-term marks as well as end-term examination will be an important consideration for passing a course. Details of minimum percentage of marks to be obtained in the examinations are as follows

Minimum marks in End-term Exam per subject	Minimum overall marks per subject
40%	50%

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- (ii) If a candidate obtains minimum required marks per subject but fails to obtain minimum required overall marks, he/she has to repeat the End-term examination till the minimum required overall marks are obtained.
- (iii) For theoretical subjects, the final grades will be awarded on the basis of Teacher's Assessment, Mid-Semester Examination and End-Semester Examination, according to the weightage given below:

Teacher's Assessment (Attendance, home assignment, assignments, class tests, tutorials, etc.)	Mid-Semester Examination	End-Semester Examination
20	30	50

### 3.5 Grading System

- (i) The total marks in each course will be converted to a seven-scale letter grade on a ten-point scale to assess the performance of students in the various categories (subject, project, etc.) as per the following scheme:

#### Grading Scheme:

Description	Letter grade	Grade points per Credit	Range of marks (%)
Excellent	A+	10	≥ 90
Very good	A	9	≥ 80 & < 90
Good	B	8	≥ 70 & < 80
Fair	C	7	≥ 60 & < 70
Pass	P	6	≥ 50 & < 60
Fail	F	0	< 50; for theory component < 50; for laboratory component

The exceptionally brilliant performance is to be assigned an 'A+' grade. Even the best student of any class needs to be good enough to be awarded the 'A+' grade. In addition, there shall be two transitional symbols used by Examiners.

- I - for Incomplete
- X - for Debarred.

- (ii) The student's performance in any semester will be assessed by the *Semester Grade Point Average (SGPA)*. Similarly, his performance at the end of two or more consecutive semesters will be denoted by the *Cumulative Grade Point Average (CGPA)*. The *SGPA* and *CGPA* are calculated as follows:

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

where  $c_i$  is the number of credits of course  $i$   
 $g_i$  is the Grade Point for the course  $i$   
 and  $n$  is the number of courses in a semester

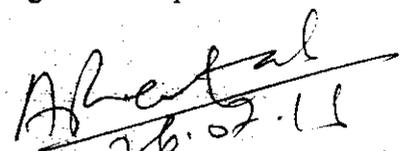
  
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$$CGPA = \frac{\sum_{i=1}^n c_i g_i}{\sum_{i=1}^n c_i}$$

where  $c_i$  is the number of credits of course  $i$   
 $g_i$  is the Grade Point for the course  $i$  and  $n$  is the number of courses of all semesters up to which  $CGPA$  is computed.

- (iii) No student will be allowed to move further if  $CGPA$  is less than 3 at the end of every academic year. Whenever these Grade Point Averages are to be used for the purpose of determining the inter-se-merit ranking of a group of students, only the rounded off values will be taken into account.
- (iv) When a student gets grade 'I' for any subject(s) during a semester, the  $SGPA$  for that semester and the  $CGPA$  will be tentatively calculated ignoring this subject. After the 'I' grade(s) has been replaced by an appropriate grade(s), the  $SGPA$  for that semester and the  $CGPA$  will finally be recalculated taking into account the performance in the subject(s) concerned. Further, a debarred grade "X" will be awarded if a student who:
- is absent for a major part of a semester, or
  - does not complete a major part of the laboratory/design/ workshop/seminar work *etc.* or
  - does not appear in the mid-semester examination without any acceptable ground, shall be awarded grade 'X' and he/she shall be debarred from appearing at the end semester examination of the corresponding subject(s). or
- A student who is debarred from appearing at an end-semester examination for reasons as specified by clause – (iv) will be required to re-register for the subject(s) in the next semester when they are offered by the Centre, subject to other conditions of the regulations.
- (v) When a student gets grade 'F' for any subject(s) during a semester, the  $SGPA$  and  $CGPA$  from that semester onwards will be tentatively calculated, taking only 'zero points' for each such 'F' grade. After the F grade(s) has been substituted by a higher grade in the supplementary examination or in a subsequent semester, the  $SGPA$  and  $CGPA$  of all the semesters, onwards from the semester in which 'F' grade was obtained earlier, will be suitably modified to take this change of grade into account.
- (vi) In the case of a relatively large class and/or classes where the performance level depicts more or less a normal distribution:
- The average performance (around mean value of marks) is to be assigned 'C' grade. However, if by teacher's/co-ordination committee's perception the general level of the class is considered to be appreciably high, the average performance may be assigned 'B' grade.
  - All other marks to grade conversion are to be done relatively with respect to the average performance in between (but excluding) the 'F' and 'A+' grades, which have already been assigned, by choosing appropriate boundary marks between grades.
  - Normally, in a reasonably large class of students distribution of grades is expected to be as follows:

A+	≤ 10 %
A	10 - 20 %
B, C, D	20 - 35 %

  
 26.07.11  
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 Registrar  
 Vignitoh Knowledge University, Patna

P	10 - 25 %
F	≤ 5 %

(d) In the case where a student appears in the supplementary examination the conversion from marks to grade would be done applying the same norm as was framed for the original class.

**3.6 Transcript**

The transcript issued to the student at the time of leaving the University will contain a consolidated record of all the courses taken, credits earned, grades obtained, SGPA, CGPA, etc.

**3.7 Residency Requirement**

Every research scholar has to have a minimum residency period of one academic year in the University including the time spent on coursework. For part-time students, minimum residency period should be six months to complete the course work and rest in contact with supervisor.

**3.8 Changes in Thesis Advisor and/or Doctoral Committee**

A doctoral student will have the option to request changes to his/her Thesis Advisor/CoAdvisor and/or Doctoral Committee (Appendix-III) under special circumstances. If the request is due to changes in his/her research topic/areas, it is the responsibility of the (new) Doctoral Committee to ensure that the research scholar acquires enough knowledge to proceed with the research programme. Such changes are to be approved by the Dean, PGPR.

**3.9 Independent Research**

A Doctoral Student is expected to carry out independent research work under his/her Thesis Advisor.

**3.10 Thesis Proposal and Advancement to Candidacy**

Within one year after the successful completion of the Course work, the Doctoral Student is required to present his/her thesis proposal to the Doctoral Committee for approval.

**3.11 Seminar**

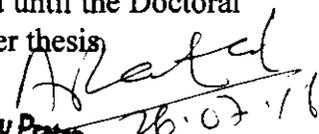
After advancement to candidacy, all research scholars are required to present two seminars (open to public) on their research. This will help in getting the feedback and comments on the research work which may be suitably incorporated in the thesis. The seminar notice will be displayed on the Centre's notice board at least a week in advance and a copy sent to the Dean, PGPR.

**3.12 Publication**

Every research scholar is expected to have at least two research papers in the area of doctoral research accepted for publication in SCI Journals. It is necessary that the affiliation is clearly mentioned as "Aryabhatta Centre for Nanoscience and Nanotechnology, Aryabhatta Knowledge University, Patna 800001, India".

**3.13 Thesis Synopsis and Pre-Defense**

Once the Thesis Advisor is satisfied that the caliber and quantum of the research work carried out by his/her research scholar is sufficient for the award of the Ph.D. degree by the University, the research scholar is required to submit a synopsis as well as present a seminar to the Doctoral Committee. The synopsis and the seminar presentation may both be repeated until the Doctoral Committee is satisfied that the research scholar is ready to start writing his/her thesis

  
 Prof. (Dr.) Ajay Pratap  
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### 3.14 Thesis Submission and Evaluation

The Research Scholar should submit five copies of his/her thesis to his/her Doctoral Committee, preferably within a period of ten weeks from the date of approval of the Doctoral Committee will then forward the same to the Dean, PGPR. Normally, from the list of Reviewers received from the Doctoral Committee, the Dean, PGPR forwards the Research Scholar's submitted Thesis to two Expert Reviewers who have agreed to evaluate the thesis.

Since the Thesis Advisor is also an examiner, a copy of the thesis is sent to him/her also. Each Reviewer can give one of three possible remarks based on the evaluation: (i) **Accept**, (ii) **Accept with Modifications**, or (iii) **Reject**.

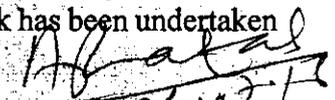
- If all the three Reviewers give "Accept", or if one/two of the Reviewers give "Accept" and the other(s) gives "Accept with Modifications", or if all the three Reviewers give "Accept with Modifications", the Research Scholar can proceed to Thesis Defense after incorporating the suggested modifications.
- If two of the Reviewers give "Reject", the Thesis is rejected, and the Research Scholar is required to exit the Ph.D. program.
- If one of the Reviewers gives "Reject", the Dean, PGPR will send the Thesis to a chosen fourth (external) Reviewer. If the fourth reviewer also rejects, the Research Scholar is required to exit the Ph.D. program. If the fourth reviewer gives "Accept" or "Accept with Modifications", the Research Scholar can proceed to Thesis Defense after incorporating the suggested modifications.
- If any of the Reviewers makes a qualified recommendation without suggesting specific revisions, the Dean, PGPR will consult an internal expert group to arrive at an appropriate solution for the problem.

The modifications include carrying out additional work to meet the required quantum of work in addition to quality. The Doctoral Committee has to ensure that the modifications suggested are carried out and the same is approved by the Dean, PGPR before proceeding to the Thesis Defense.

The Thesis should show evidence of critical evaluation and judgment and good mastery of the background literature of the subject of research, as well as the Research Scholar's capacity to relate his/her specialized research to the broader framework of the general discipline within which it falls. It should display a substantial, original and creative contribution to the advancement of knowledge, design or development, in the widest sense to include scientific/technological and applied work of an innovative nature. The exact format of the submission to be followed *etc.* will be available in the office of the Dean, PGPR.

### 3.15 Thesis Defense and Final Recommendation

The date, time, venue and title of the Thesis will be announced widely and well in advance to enable all those interested to participate. The Thesis Defense is a Seminar Presentation by the Research Scholar and he/she is required to give an account of the research work reported in the thesis highlighting the main contributions made which is open to all. Thesis Defense Committee consisting of the Doctoral Committee and one of the external experts who evaluated the thesis. The Convener of the Doctoral Committee serves as the Convenor of this Committee. If the external examiner could not be present, the Dean, PGPR can authorize Doctoral Committee to conduct viva-voce examination. The candidate has to answer the queries raised by the thesis examiners. For this purpose, the examiners reports will be made available to all the members of the Thesis Defense Committee. The examiners are free to cover the general background of the subject in the light of the requirements for the thesis. Where part of the work has been undertaken



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Registrar

Aravind Knowledge University, Patna

jointly with others, the examiner should satisfy him/her-self as to the adequacy of the candidate's own contribution.

A pass in the oral examination is compulsory. If a candidate fails in the oral examination in the first instance, he/she may be allowed to appear once again after a lapse of three months, but not later than six months from the date of first appearance. A candidate who fails once again in there-examination shall not be eligible for the award of the degree. If the candidate passes the oral examination, the Thesis Defense Committee shall consolidate the recommendation for the award of the Ph.D. Degree based on:

- i. Report of the examiners who evaluated the thesis and,
- ii. Evaluation of the candidate's performance in the oral examination.

The consolidated recommendation shall be forwarded by the Convener of the Thesis Defense Committee to the Dean, PGPR. The Dean, PGPR forwards the same with the required enclosures (**Appendix-IV**) to the Vice Chancellor for approval. After the Vice Chancellor's approval, the Dean, PGPR issues the Provisional Certificate to the Scholar. The candidate should submit one corrected hard copy of the Thesis(for the University library) as well as one soft copy of the thesis in a CD and one soft copy of the Synopsis in another CD (for UGC).

**3.16 Award of the Ph.D. (Doctor of Philosophy) Degree**

Upon approval by the Vice Chancellor, and subsequent ratification by the Academic Council, the Research Scholar will be awarded the Ph.D. in Nano Science & Technology (*Area of Specialization*) Degree at the next Convocation of the University.

**4. Progress Reports, Duration, Appeals and Amendments**

**4.1 Progress Reports**

Every six months, the progress report of the scholar along with the recommendation of Doctoral Committee should reach to the office of Dean, PGPR. The Dean, PGPR will also hold periodical reviews of all doctoral students in a meeting with all of the thesis advisors and selected additional members present. Continued absence of satisfactory progress, as determined by the Dean, PGPR, maybe sufficient grounds for (i) discontinuation of any fellowship or assistantship that has been previously awarded to the Doctoral Student or Research Scholar, or even (ii) dismissal from the Ph.D. program. The Office of the Dean, PGPR will maintain a specific format for the submission of the progress report (**Appendix-V**).

**4.2 Duration**

The normal period of completion for a full-time doctoral student with M.E./ M.Tech./ M.S./ M.Sc. or equivalent is 3 years; the minimum being 2 years and maximum being 5 years and can be extended with the permission of competent authority on +1 and +1 year basis up to 7 years maximum. In the case of part-time doctoral students (including external candidates) the corresponding periods are extended to 4years, 3 years and 6 years, respectively. Under special circumstances, the Dean, PGPR can approve deviations for which the Thesis Advisor has to make a written request, in time, enclosing a brief report of the work done and explaining the need for the deviation.

**4.3 Appeals**

A Doctoral Student or Research Scholar may appeal to the Dean, PGPR through the Thesis Advisor/ Chairman/Head of the Centre for a waiver/substitution of any requirements, rules, or regulations as they pertain to his or her specific situation. Escalation steps for such appeals consist of forwarding to the Dean, PGPR and if unresolved, thereafter to the Vice Chancellor, whose decision is final and binding.

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 Prof. (Dr.) Ajay Pratap  
 Registrar  
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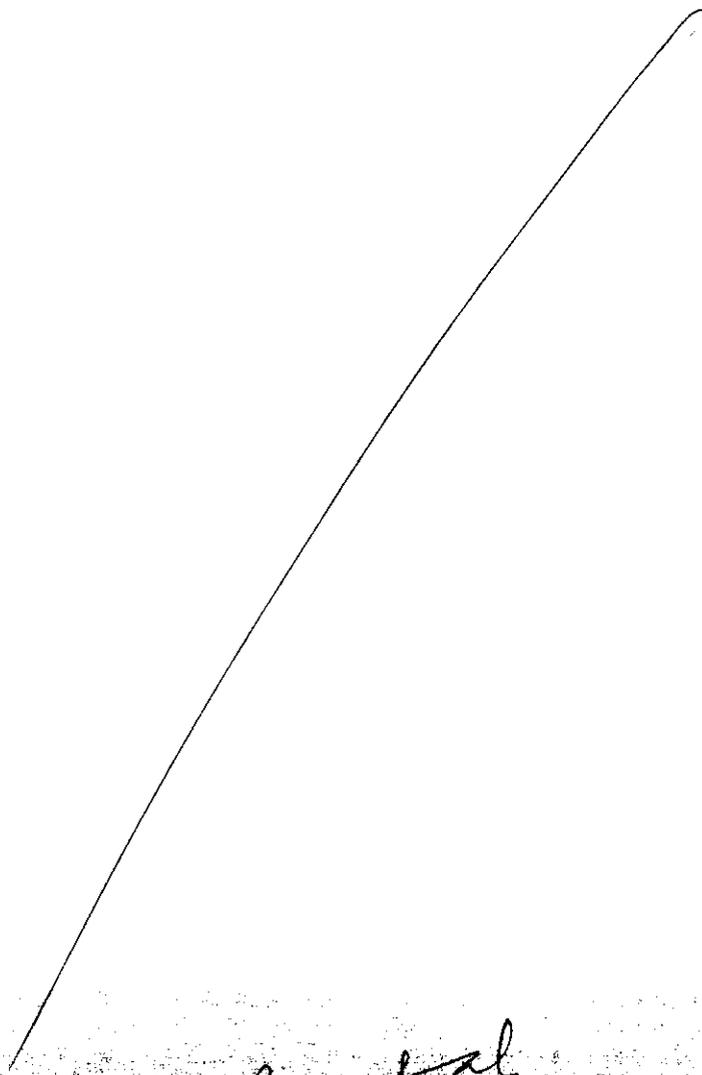
#### 4.4 Amendments

Amendments to these procedures may be made with the approval of the Vice Chancellor and subsequent ratification by the Academic Council.

#### 4.5 Conduct and Discipline

4.5.1 Students shall conduct themselves within and outside the precincts of the Institute in a manner befitting the students of an institution of national importance.

4.5.2 Detailed rules regarding conduct and discipline are given in Appendix-VI.



*Abhatal*  
26.07.11  
Prof. (Dr.) Abay Pratap  
Registrar  
Arachata Knowledge University, Palla

**Appendix - I**



**Aryabhata Centre for Nanoscience & Nanotechnology  
Aryabhata Knowledge University, Patna**

**Request for opting Supervisor(s)**

**Date : \_\_\_\_\_**

NAME:	REGISTRATION NO.:
PROGRAMME:	CATEGORY:
BASIC QUALIFICATION:	CREDITS COMPLETED:
DATE OF JOINING:	

**NAME OF THE PROPOSED SUPERVISOR (according to preference):**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**NAME OF THE PROPOSED CO-SUPERVISOR(s) INTERNAL / EXTERNAL (if any):**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

**REASON / JUSTIFICATION FOR OPTING CO-SUPERVISOR(s):**

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Enclosure(s):

Student's Signature with Date

RECOMMENDATION (Head of the Centre):

(Signature with Date)

RECOMMENDATION (Dean, PGPR):

(Signature with Date)

REMARKS OF APPROVING AUTHORITY:

(Signature with Date)

*Prof. (Dr.) Ajay Pratap*  
 Registrar  
 Aryabhata Knowledge University, Patna

*[Handwritten Signature]*  
 26.07.16  
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## Appendix-II

**Course Work:** The Research fellows shall have to do course work and laboratory work during first and second semesters depending on which stream they join. The course content will be decided as per the choice concerned for each student according to his/her need.

### Detailed Course Structure for Ph.D. (Nano Science & Technology) (Area of Specialization)

#### First Semester

Sr. No.	Course No.	Paper Code	Course Title	L	T	P	Cr
1.	PD101	602101	Introduction to Nanoscience & Nanotechnology	3	0	0	3
2.	PD102	602102	Synthesis of Nanomaterials	3	0	0	3
3.	PD103	602103	Characterization Techniques - I	3	0	0	3
4.	PD104	602104	Nanobiotechnology & Nanotechnology in Healthcare	3	0	0	3
5.	PD105	602105	Computational Methods, Research Methodology & Ethics	3	0	0	3
6.	PD111	602111	Laboratory work - I	0	0	4	2
<b>Total</b>				<b>15</b>	<b>0</b>	<b>4</b>	<b>17</b>

#### Second Semester

Sr. No.	Course No.	Paper Code	Course Title	L	T	P	Cr
1.	PD201	602201	Applied Nanotechnology	3	0	0	3
2.	PD202	602202	Characterization Techniques – II	3	0	0	3
3.	PD203	602203	Seminar & Presentations	-	-	-	3
4.	PD211	602211	Laboratory work - II	0	0	4	2
<b>Total</b>				<b>6</b>	<b>0</b>	<b>4</b>	<b>11</b>

#### Third Semester onwards: Research Work

**Total Number of Credits: 28**

*A. Prasad*  
26.07.11  
Prof. (Dr.) Ajay Pratap  
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Anabhatta Knowledge University, Patna

**Appendix - III**



**Aryabhata Centre for Nanoscience & Nanotechnology  
Aryabhata Knowledge University, Patna**

**Request for Change/Addition of Supervisor(s)**      **Date :** \_\_\_\_\_

<b>NAME:</b>	<b>REGISTRATION NO.:</b>
<b>PROGRAMME:</b>	<b>CATEGORY:</b>
<b>BASIC QUALIFICATION:</b>	<b>CREDITS COMPLETED:</b>
<b>DATE OF JOINING:</b>	
<b>NAME OF THE SUPERVISOR (Existing):</b> _____	<b>NAME OF THE CO-SUPERVISOR(s) (Existing):</b> 1. _____ 2. _____
<b>PROPOSED SUPERVISOR (New):</b> _____	<b>PROPOSED CO-SUPERVISOR(s) (New):</b> 3. _____ 4. _____

**NAME OF EXTERNAL SUPERVISOR (If applicable):**  
\_\_\_\_\_

**REASON / JUSTIFICATION:**  
\_\_\_\_\_  
\_\_\_\_\_

Student's Signature with Date

Enclosure(s):  
**RECOMMENDATION OF SUPERVISOR(s):** \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
**Existing Supervisor**  
(Signature with Date)

\_\_\_\_\_  
**Existing Co-Supervisor**  
(Signature with Date)

\_\_\_\_\_  
**Existing Co-Supervisor**  
(Signature with Date)

\_\_\_\_\_  
**Proposed Supervisor**  
(Signature with Date)

\_\_\_\_\_  
**Proposed Co-Supervisor**  
(Signature with Date)

\_\_\_\_\_  
**Proposed Co-Supervisor**  
(Signature with Date)

**RECOMMENDATION (Head of the Centre):** \_\_\_\_\_ (Signature with Date)

**RECOMMENDATION (Dean, PGPR):** \_\_\_\_\_ (Signature with Date)

**REMARKS OF APPROVING AUTHORITY:** \_\_\_\_\_ (Signature with Date)

*A Prasad*  
26.07.16  
**Prof. (Dr.) Ajay Pratap**  
Registrar  
Aryabhata Knowledge University, Patna

**Appendix - IV**

**For Vice Chancellor's Approval**

When the entire process for the award of Ph.D. is complete, the Dean, PGPR has to write to the Vice Chancellor enclosing the following:

**I. Oral Examination Report (Should contain)**

1. Main Contributions made by the Supplicant, limited to two pages
2. Summary of the Reviewers' Comments, Reviewer wise, limited to two pages
3. An account of the Open Oral Examination, limited to one page 4. Recommendation regarding the acceptability of the:
  - (a) Candidate's written replies to the Reviewer's comments, queries *etc.*, if any
  - (b) Status of corrections/ modifications made in the thesis, if any
5. One page Abstract of the Thesis
6. List of Corrections/ Modifications incorporated in the Thesis, if any
7. Completed Check List (format enclosed)
8. Final Recommendation\*

All the documents are to be signed by the Thesis Advisor. In addition, all the members of the Thesis Defense Committee (Members of the Doctoral Committee and the external expert) have to necessarily sign I.7 and I.8.

\*To read like this:

"Based on:

- i. The contributions made by the Supplicant as reported in the thesis entitled "-----",
- ii. Reports of the Reviewers who evaluated the thesis, and iii. Satisfactory performance of the Supplicant in the Open Oral Examination.

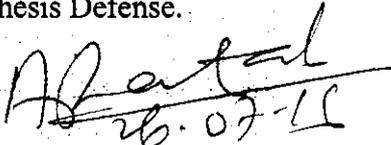
We recommend the acceptance of the thesis for the award of the Ph.D. Degree of Aryabhata Knowledge University to Mr./ Ms. -----"

**II. Enclosures to the Oral Examination Report**

In addition to the documents listed above, one hard copy and one soft copy (in a CD) of the (corrected/modified) Thesis are to be enclosed. Further, a soft copy of the Synopsis should be also submitted in a CD. It should mention the Title of the Thesis, Name of the Student, Year of Registration, Name of the Centre where Registered, Name(s) of the Thesis Advisor as well as the Co-Advisor if applicable, and Name and Address of the University.

**Note:**

The month and year in the thesis (to be lodged with the University) should be the month and year of the Thesis Defense. The date of declaration should be the date of the Thesis Defense.

  
 26.07-11  
 Prof. (Dr.) Ajay Pratap  
 Registrar  
 Aryabhata Knowledge University, Patna

**III. To be appended (in addition to the above, the following information should be also provided)**

1. Date of receipt of Application
2. Date of constituting the Selection Committee including the list of Members.
3. Date of Recommendation Letter from the Selection Committee
4. Date of Admission offer letter
5. Date of Admission (*i.e.* the date on which the required fees was paid)
6. Roll Number
7. Doctoral Committee Members list
8. Date of completion of course work
9. Date of successful completion of the Comprehensive Oral Examination including the list of Committee Members
10. Dates of Two Seminars
11. Details of Publication (Title of the paper, Name of the Journal and Publisher's address, Volume and Page number; in case of Conferences, in addition to the paper details, the details of the Professional Bodies sponsoring are to be given)
12. Date of Synopsis Submission
13. Date of Thesis Submission
14. Date of Thesis Defense

*Ajay Pratap*  
26.07.15  
Prof. (Dr.) Ajay Pratap  
Registrar  
Aryabhatta Knowledge University, Patna

**Check Sheet for the Oral Examination**

For use by the Thesis Defense Committee. To be returned to Dean, PGPR after completion.

Name of the Candidate :  
 Degree Registered : Ph.D. (*Nano Science & Technology*)  
 Register Number :  
 Date and Place of Oral Examination :

**We Certify that the Consolidated Report Contains the Following:**

1. Main Contributions made by the Supplicant.
2. Summary of Reviewers' Comments
3. An account of Open Oral Examination
4. Recommendation regarding the acceptability of the:
  - (a) Candidate's written replies to the examiners' comments, queries *etc.*, if any
  - (b) Status of corrections/ modifications made in the Thesis, if any
5. A FINAL RECOMMENDATION regarding the acceptability of the Thesis for the award of the Ph.D. Degree of the University
6. Enclosures:
  - (a) One page abstract of the Thesis
  - (b) Corrected/ modified copies of the Thesis (one hard copy and one soft copy in a CD)
  - (c) Soft Copy of the Synopsis (as explained under "Enclosures to the Oral Examination Report") in a CD
  - (d) List of corrections/ modifications incorporated in the Thesis, if any

Name of the External Examiner Signature

Name of the Member, Doctoral Committee Signature

Name of the Thesis Advisor Signature

Name of the Convener, Doctoral Committee Signature

*Ahataab*  
 26.07.12  
 Prof. (Dr.) Ajay Pratap  
 Registrar

**Appendix - V**



**Aryabhata Centre for Nanoscience & Nanotechnology  
Aryabhata Knowledge University, Patna**

**Ph.D. PROGRAMME STATUS**

(To be submitted at the end of the Semester)

Name (in full): Mr. / Ms. \_\_\_\_\_

Registration No.: \_\_\_\_\_

Category: \_\_\_\_\_ Date of Joining: \_\_\_\_\_

Names and signatures of :

Supervisor: \_\_\_\_\_

Co-supervisor: \_\_\_\_\_

External Supervisor: \_\_\_\_\_

Last progress seminar presented on: \_\_\_\_\_

Work completed till now: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Proposed schedule of work that remains to be completed, specifying time lines clearly:  
*Specify month and year for pre-synopsis and synopsis thesis submission.*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Number of publications / papers presented / submitted (attach separate sheet giving details as appropriate):

Prof. (Dr.) Ajay Pratap  
Registrar  
Aryabhata Knowledge University, Patna  
*Ajay Pratap*  
26.07.16  
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Number of papers published/accepted in journals / conference proceedings: \_\_\_\_\_

Number of papers presented in conferences / meetings / workshops (unpublished): \_\_\_\_\_

Number of papers submitted (under review): \_\_\_\_\_

Student's signature: \_\_\_\_\_

Names and signatures of Doctoral Committee members (include remarks; attach separate sheet if space insufficient):

\_\_\_\_\_  
( ) ( ) ( )

Remarks of Convener (*Doctoral Committee*)

Signature, date and stamp

Recommendations of Dean, PGPR with signature, date and stamp

*A. Pratah*  
*26.07.11*  
Prof. (Dr.) Ajay Pratap  
Registrar  
Anabala Knowledge University, Guntur  
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## Appendix-VI

### Rules Regarding Conduct and Discipline

Following rules shall be applicable to all students in the matters of conduct and discipline:

1. Students shall show due respect to the teachers and staffs of the Centre, and consideration should be extended to the employees of the University. They shall also pay due attention and courtesy to visitors.
2. Students are required to develop a friendly camaraderie with fellow students. In particular, they are expected to show kindness and consideration to the new students admitted to the Institute every year. Law bans ragging of new comers in any form. Acts of ragging will be considered as gross indiscipline and will be severely dealt with.
3. The following acts of omission and/or commission shall constitute gross violation of the code of conduct and are liable to invoke disciplinary measures ➤ Ragging.
  - Lack of courtesy and decorum; indecent behavior anywhere within or outside the campus.
  - Wilful damage or stealthy removal of any property/belongings of the Institute/ Hall or of fellow students.
  - Possession, consumption or distribution of alcoholic drinks or any kind of hallucinogenic drug.
  - Adoption of unfair means in the examinations.
  - Mutilation or unauthorized possession of library books.
  - Noisy and unseemly behavior, disturbing studies of fellow-students.

Commensurate with the gravity of the offence, the punishment may be reprimand, fine, debarment from an examination, rustication for a specified period or even outright expulsion from the Centre/University.

4. For an offence committed in:
  - (a) the University campus,
  - (b) the Centre or in a classroom, and
  - (c) elsewhere,
 the Head of the Centre and, the Dean of Students' Affairs, respectively, shall have the authority to reprimand or impose fine or take any other suitable measure.
5. All cases involving punishment other than reprimand shall be reported to the Chairman of the Disciplinary Committee. Recommendations of the committee, which include the suggested quantum of punishment in cases of proven guilt, will be submitted for approval of the Court.
6. Cases of adoption of unfair means in an examination shall be dealt with by the Head of the Centre in consultation with the Invigilators and the Paper-Setter. The Head of the Centre shall recommend appropriate measures in each case to the Vice Chancellor who as Chairman of the Court shall award the punishment and later report the matter to the Court.
7. (i) The Head of the Centre may debar a student from appearing in an examination on any of the following grounds, if the student's
  - (a) Attendance in the lecture/tutorial/practical/workshop/design/field visit/ project and seminar classes during the semester has been unsatisfactory;
  - (b) Performance in the laboratory/workshop/design *etc.* and work done during the semester/project has not been satisfactory;
  - (c) Conduct in the classes or in the Centre has been unsatisfactory or the student has attempted to adopt unfair means at the examination;
 (ii) A student may also be debarred from appearing at an examination if there is a written report from the University Official to the effect that the student:
  - (a) has not cleared the outstanding dues;
  - (b) has been involved in an act of misconduct or indiscipline;
  - (c) has been involved in any such activity, which is/amounts to detrimental towards reputation and interests of the Centre/University.

  
 26.02.16  
 Prof. (Dr.) Ajay Pratap

# Ph.D. (Nano Science & Technology) (Area of Specialization)

## SEMESTER - I

S.N.	Course No.	Subject	Period					Evaluation scheme				Credit	Hours
			Theory			TA	MSE	ESE	Sub Total				
			L	T	P								
<b>Theory</b>													
1	602101	Introduction to Nanoscience & Nanotechnology	3	0	0	20	30	50	100	3	3		
2	602102	Synthesis of Nanomaterials	3	0	0	20	30	50	100	3	3		
3	602103	Characterization Techniques - I	3	0	0	20	30	50	100	3	3		
4	602104	Nanobiotechnology & Nanotechnology in Healthcare	3	0	0	20	30	50	100	3	3		
5	602105	Computational Methods, Research Methodology & Ethics	3	0	0	20	30	50	100	3	3		
Total									500	15	15		
<b>Practical</b>													
1	602111	Laboratory work - I	0	0	4	-	25	25	50	2	8		
Total									50	2	8		

MSE - Mid Semester Examination (Internal Evaluation)  
 ESE - End Semester Examination.

Total Credits: 15 + 2 = 17

Total Marks: 500 + 50 = 550

Total Hours: 15 + 8 = 23

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**Ph.D. (Nano Science & Technology) (Area of Specialization)**  
**SEMESTER - II**

S.N.	Paper Code	Subject	Period			Evaluation scheme				Credit	Hours			
			L	T	P	TA	MSE	ESE	Sub Total					
<b>Theory</b>														
1	602201	Applied Nanotechnology	3	0	0	20	30	50	100	3	3			
2	602202	Characterization Techniques - II	3	0	0	20	30	50	100	3	3			
4	602203	Seminar & Presentations	-	-	-	10	20	20	50	3	-			
Total												250	09	06
<b>Practical</b>														
1	602211	Laboratory work - II	0	0	4	-	25	25	50	2	8			
Total												50	2	8

MSE - Mid Semester Examination (Internal Evaluation)

ESE - End Semester Examination.

Total Credits:  $9 + 2 = 11$

Total Marks:  $250 + 50 = 300$

Total Hours:  $6 + 8 = 14$

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# General Instructions for 4-Semester Postgraduate Programme Leading to the Degree of M.Tech. (*Nano Science & Technology*)

## 1 General Information

- 1.1 Provisions of these regulations shall come into force with immediate effect and shall be applicable to all Postgraduate courses leading to the degrees of Master of Technology (M.Tech.) in Nano Science and Technology.
- 1.2 The Centre shall offer the Master's degree programs under these regulations in such areas or specializations as the Court may decide from time-to-time.
- 1.3 The M.Tech. Course on is being conducted by the Aryabhata Centre for Nanoscience & Nanotechnology (ACNN), Aryabhata Knowledge University, Patna.
- 1.4 The Semester system of education shall be followed in ACNN at M.Tech. level. Each semester will be at least 90 working day duration. Every enrolled student will be required to do a specified course work and also complete a project/dissertation if any either in the ACNN or at other National Labs/Institutions. Medium of instruction will be English.
- 1.5 The duration of the course is of four semesters (2 academic years). The duration can be extended to a maximum of six semesters (3 academic years). The maximum limit can be extended by 1 or 2 semester subject to the approval of university on case to case basis.
- 1.6 The total number of seats for the course is **20** (twenty). Reservation of SC/ST/OBC/PH/ Women candidates will be done as per the University norms.

## 2 Minimum Eligibility for Admission

- 3.1 M.Sc. or equivalent degree in Physics/Chemistry/Electronics/Electronics Science/ Material Science/Biotechnology/Agriculture, with not less than 55% aggregate marks for General Category & 50% for all reserved categories in the absolute system or equivalent grade.

OR

- 3.2 Bachelor's degree in Electrical/Mechanical/Electronics & Communication/ Computer Engineering/Instrumentation/Computer Science/Chemical/Biochemical Engineering/ Medical/Veterinary Sciences or equivalent, with not less than or 60% aggregate marks for General Category & 55% for all reserved categories in the absolute system or equivalent grade.

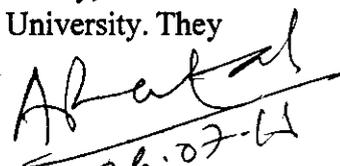
## 3 Mode of Admissions

Admission to M.Tech. programme will purely on the combined merit of the M.Tech. Admission Entrance Test conducted by Aryabhata Knowledge University and performance at qualifying examination.

## 4 Categories of Admission

There are two possible categories of admission for any applicant:

- a. **Full-time students:** Such students are entirely focused on carrying out their coursework, dissertation, project work and other requirements of the M.Tech. Program at the University or University recognized institutions.
- b. **Part-time students:** Such students are either full-time employees (e.g., faculty, technical staff or project staff not covered under (a); see Rules in Annexure-I) of the University. They

  
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will be exempted from M.Tech. and will be permitted to proceed at a slower pace in their M.Tech. Program at the University.

#### 4 Programme structure and Credits

A student admitted to a program should study the course and earn credits specified in the course structure (Appendix-VII).

#### 5 Attendance Requirement

5.1 All activities prescribed under these regulations and listed by the course faculty members in their respective course outlines are compulsory for all students pursuing the courses. No exemption will be given to any student from attendance except on account of serious personal illness or accident or family calamity that may genuinely prevent a student from attending a particular session or a few sessions. However, such unexpected absence from classes and other activities will be required to be condoned by the Dean, PGPR.

5.2 Student attendance in a course should be a minimum of 75%.

5.3 A student shall be entitled to the following types of leave during the academic year counted from the date of commencement of the session concerned as prescribed in the Academic Calendar of the University

Nature of Leave	Maximum number of Days	Sanctioning Authority
Casual leave	12	Head of the Centre
Medical leave*	10	Head of the Centre

\*Provided that the application is supported by a certificate from a Registered Medical Practitioner or recognized Hospital.

- N.B. (i) Leave not availed of by a student in the first year shall not accumulate. The concerned Department/Centre will maintain the leave record.
- (ii) If a student is absent without permission for more than one month his/her name will be removed from the rolls.
- (iii) A student is not entitled to any vacation on account of inter-semester break, summer and winter vacations.

#### 6 Conduct and Discipline

6.1 Students shall conduct themselves within and outside the precincts of the Institute in a manner befitting the students of an institution of national importance.

6.2 Detailed rules regarding conduct and discipline are given in Appendix-VI.

#### 7 Course Evaluation

7.1 The performance of every student in each course will be evaluated as follows:

- (i) Internal assessment (Mid-term evaluation) by the course faculty member(s) based on continuous assessment, for 50% of the marks for the course; and
- (ii) End-Semester assessment (End-term examination) will be conducted by the University for 50% of the marks for the course.
- (iii) All the examination (Mid- and End-terms) related works including setting of question papers, answer books evaluation, etc. shall be performed by the concerned faculty.

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Aryabhatta Knowledge University, Raigarh  
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**7.2 Internal Assessment:**

Mid-term evaluation will be based on the performances of a student in quiz, viva, seminar, assignment, class tests, mid-semester exams, etc., as prescribed by concerned faculty.

**7.3 Internal Assessment for Practical Subjects:**

- (i) One mid-term practical test/viva will be conducted per semester totaling to 50% internal marks for practical.
- (ii) In "Continuous evaluation" students shall be evaluated in a continuous manner for their involvement in the practical, aptitude for learning, completion of practical related assignments, regularity in the practicals and record keeping.

**7.4 End-Semester Assessment:**

- (i) The end-term examination by the University for 50% of the evaluation for the course will be through written paper or practical test or oral test or presentation by the student or a combination of any two or more of these.
- (ii) In order to earn the credit in a course a student has to obtain grade other than 'F'.

**7.5 Performance at Mid-term and End-term Examination:**

- (i) Minimum performance with respect to mid-term marks as well as end-term examination will be an important consideration for passing a course. Details of minimum percentage of marks to be obtained in the examinations are as follows

Minimum marks in End-term Exam per subject	Minimum overall marks per subject
40%	50%

- (ii) If a candidate obtains minimum required marks per subject but fails to obtain minimum required overall marks, he/she has to repeat the End-term examination till the minimum required overall marks are obtained.
- (iii) For theoretical subjects, the final grades will be awarded on the basis of Teacher's Assessment, Mid-Semester Examination and End-Semester Examination, according to the weightage given below:

Teacher's Assessment (Attendance, home assignment, assignments, class tests, tutorials, etc.)	Mid-Semester Examination	End-Semester Examination
20	30	50

**8 Grading System**

- (i) The total marks in each course will be converted to a seven-scale letter grade on a ten-point scale to assess the performance of students in the various categories (subject, project, etc.) as per the following scheme:

**Grading Scheme:**

Description	Letter grade	Grade points per Credit	Range of marks (%)
Excellent	A+	10	≥ 90

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Very good	A	9	≥ 80 & < 90
Good	B	8	≥ 70 & < 80
Fair	C	7	≥ 60 & < 70
Pass	P	6	≥ 50 & < 60
Fail	F	0	< 50; for theory component < 50; for laboratory component

The exceptionally brilliant performance is to be assigned an 'A+' grade. Even the best student of any class needs to be good enough to be awarded the 'A+' grade. In addition, there shall be two transitional symbols used by Examiners.

I - for Incomplete

X - for Debarred.

- (ii) The student's performance in any semester will be assessed by the *Semester Grade Point Average (SGPA)*. Similarly, his performance at the end of two or more consecutive semesters will be denoted by the *Cumulative Grade Point Average (CGPA)*. The *SGPA* and *CGPA* are calculated as follows:

$$SGPA = \frac{\sum c_i g_i}{\sum c_i}$$

where where  $c_i$  is the number of credits of course  $i$   
 $g_i$  is the Grade Point for the course  $i$  and  $n$  is

the number of courses in a semester

$$CGPA = \frac{\sum c_i g_i}{\sum c_i}$$

where  $c_i$  is the number of credits of course  $i$   
 $g_i$  is the Grade Point for the course  $i$  and  $n$  is the number of courses of all semesters up to which *CGPA* is computed.

- (iii) No student will be allowed to move further if *CGPA* is less than 3 at the end of every academic year. Whenever these Grade Point Averages are to be used for the purpose of determining the inter-se-merit ranking of a group of students, only the rounded off values will be taken into account.
- (iv) When a student gets grade 'I' for any subject(s) during a semester, the *SGPA* for that semester and the *CGPA* will be tentatively calculated ignoring this subject. After the 'I' grade(s) has been replaced by an appropriate grade(s), the *SGPA* for that semester and the *CGPA* will finally be recalculated taking into account the performance in the subject(s) concerned. Further, a debarred grade "X" will be awarded if a student who:
  - a) is absent for a major part of a semester, or
  - b) does not complete a major part of the laboratory/design/ workshop/seminar work etc. or
  - c) does not appear in the mid-semester examination without any acceptable ground, shall be awarded grade 'X' and he/she shall be debarred from appearing at the end semester examination of the corresponding subject(s). or

A student who is debarred from appearing at an end-semester examination for reasons as specified by clause – (iv) will be required to re-register for the subject(s) in the next

Prof. (Dr.) Ajay Prasad  
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Anggobala Knowledge University  
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semester when they are offered by the Centre, subject to other conditions of the regulations.

- (v) When a student gets grade 'F' for any subject(s) during a semester, the *SGPA* and *CGPA* from that semester onwards will be tentatively calculated, taking only 'zero points' for each such 'F' grade. After the F grade(s) has been substituted by a higher grade in the supplementary examination or in a subsequent semester, the *SGPA* and *CGPA* of all the semesters, onwards from the semester in which 'F' grade was obtained earlier, will be suitably modified to take this change of grade into account.
- (vi) In the case of a relatively large class and/or classes where the performance level depicts more or less a normal distribution:
- The average performance (around mean value of marks) is to be assigned 'C' grade. However, if by teacher's/co-ordination committee's perception the general level of the class is considered to be appreciably high, the average performance may be assigned 'B' grade.
  - All other marks to grade conversion are to be done relatively with respect to the average performance in between (but excluding) the 'F' and 'A+' grades, which have already been assigned, by choosing appropriate boundary marks between grades.
  - Normally, in a reasonably large class of students distribution of grades is expected to be as follows:

A+	□ 10 %
A	10 - 20 %
B, C, D	20 - 35 %
P	10 - 25 %
F	□ 5 %
  - In the case where a student appears in the supplementary examination the conversion from marks to grade would be done applying the same norm as was framed for the original class.

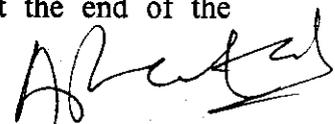
## 8. Thesis/Project report Submission and Evaluation

The student should submit five copies of his/her thesis/project report to the university and a Committee will then forward the same to the Dean, PGPR. The Dean, PGPR will then forwards the Thesis to two Expert Reviewers who have agreed to evaluate the thesis. Since the Thesis Advisor is also an examiner, a copy of the thesis is sent to him/her also. On the basis of the reports, the date, time will be announced. The Thesis Defense is a Seminar Presentation by the student and he/she is required to give an account of the project/research work reported in the thesis highlighting the main contributions made which is open to all. This will be followed by an in camera oral examination by the Thesis Defense Committee. Upon approval by the Vice Chancellor, and subsequent ratification by the Academic Council, the student will be awarded the M.Tech. degree at the next Convocation of the University.

## 9. Awards of Degree

9.1 Every student of the programme who fulfills the following criteria will be eligible for the award of the degree:

- He/she should have earned at least minimum required credits as prescribed in course structure; and
- He/she should have cleared all mid-term and end-term evaluation components in every course; and
- He/she should have secured a minimum *CGPA* of 5.0 at the end of the programme;

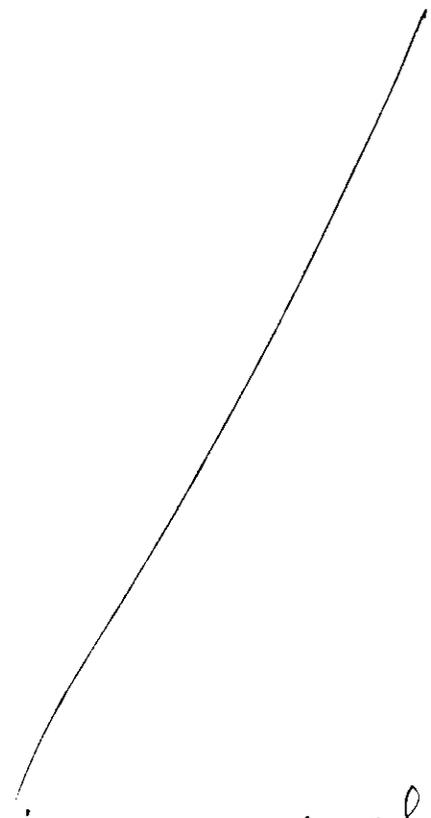


(ii) In addition to above, a positive recommendation on the thesis/project report defense shall be required and the student has to complete the required formalities as per the regulatory bodies.

9.2 The student who fails to satisfy minimum requirement of CGPA will be allowed to improve the grades so as to secure a minimum CGPA for award of degree. Only latest grade will be considered.

**10. Transcript**

The transcript issued to the student at the time of leaving the University will contain a consolidated record of all the courses taken, credits earned, grades obtained, SGPA, CGPA, class obtained, etc. The M.Tech. Program will be known as: M.Tech. in Nano Science and Technology (*Area of Specialization*).



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Aryabhatta Knowledge University, Patna

**Appendix - VII**

**Course Work:** The students shall have to do course work and laboratory work during first, second and third semesters depending on which stream they join. The course content will be decided as per the choice concerned for each student according to his/her need.

**Detailed Course Structure for  
M.Tech. (Nano Science & Technology) (Area of Specialization)**

**First Semester**

Sr. No.	Course No.	Course Title	L	T	P	Cr
1.	601101	Introduction to Nanoscience & Nanotechnology	3	0	0	3
2.	601102	Synthesis of Nanomaterials	3	0	0	3
3.	601103	Experimental Techniques - I	3	0	0	3
4.	601104	Nanobiotechnology & Nanomedicine	3	0	0	3
5.	601105	Computational Methods, Research Methodology & Ethics	3	0	0	3
6.	601111	Laboratory work - I	0	0	4	2
7.	601112	Laboratory work - II	0	0	4	2
<b>Total</b>			<b>15 0</b>	<b>8</b>	<b>19</b>	

**Second Semester**

Sr. No.	Course No.	Course Title	L	T	P	Cr
1.	601201	Properties of Nanomaterials	3	0	0	3
2.	601202	Experimental Techniques - II	3	0	0	3
3.	601203	Intellectual Properties Rights & Entrepreneurship Development Programme	3	0	0	3
4.		Elective-I	3	0	0	3
5.		Elective-II	3	0	0	3
6.	601211	Laboratory work - III	0	0	4	2
7.	601212	Laboratory work - IV	0	0	4	2
<b>Total</b>			<b>15 0</b>	<b>8</b>	<b>19</b>	

**Third Semester**

Sr. No.	Course No.	Course Title	L	T	P	Cr
1.	601331	Seminar & Presentations	-	-	-	5
2.	601341	Project work (to be continued to 4 <sup>th</sup> Sem.)	-	-	-	12
<b>Total</b>			<b>-</b>	<b>-</b>	<b>-</b>	<b>17</b>

**Fourth Semester**

Sr. No.	Course No.	Course Title	L	T	P	Cr
1.	601431	Seminar & Presentations	-	-	-	4
2.	601441	Project work (continued)	-	-	-	16
<b>Total</b>			<b>-</b>	<b>-</b>	<b>-</b>	<b>20</b>

**Total Number of Credits: 75**

*Ajay Pratan*

Prof. (Dr.) Ajay Pratan  
Registrar

## List of Electives

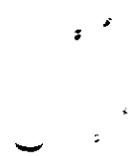
### Elective - I

Sr. No.	Course No.	Course Title	L	T	P	Cr
1.	601221	Nanoceramics & Nanocomposites	3	0	0	3
2.	601222	Functional Nanomaterials	3	0	0	3
3.	601223	Nanodevices	3	0	0	3
4.	601224	Advanced Nanobiotechnology	3	0	0	3
5.	601225	Soft Condensed Matter	3	0	0	3

### Elective - II

Sr. No.	Course No.	Course Title	L	T	P	Cr
1.	601226	Nanotechnology in Energy & Environment	3	0	0	3
2.	601227	Nanotechnology in Food & Agriculture	3	0	0	3
3.	601228	Nanotechnology in Healthcare & Medical Sciences	3	0	0	3
4.	601229	Nanotechnology in Defense & Electronics	3	0	0	3
5.	601230	Nanophotonics	3	0	0	3

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 Registrar  
 Arvabhata Knowledge University, Patna



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# M.Tech. (Nano Science & Technology) (Area of Specialization)

## SEMESTER - I

S.N.	Course No.	Subject	Period			Evaluation scheme				Credit	Hours
			L	T	P	TA	MSE	ESE	Sub Total		
<b>Theory</b>											
1	601101	Introduction to Nanoscience & Nanotechnology	3	0	0	20	30	50	100	3	3
2	601102	Synthesis of Nanomaterials	3	0	0	20	30	50	100	3	3
3	601103	Experimental Techniques - I	3	0	0	20	30	50	100	3	3
4	601104	Nanobiotechnology & Nanomedicine	3	0	0	20	30	50	100	3	3
5	601105	Computational Methods, Research Methodology & Ethics	3	0	0	20	30	50	100	3	3
Total									500	15	15
<b>Practical</b>											
1	601111	Laboratory work - I	0	0	4	-	25	25	50	2	4
2	601112	Laboratory work - II	0	0	4	-	25	25	50	2	4
Total									100	4	8

MSE - Mid Semester Examination (Internal Evaluation) ESE - End Semester Examination.

Total Credits: 15 + 4 = 19

Total Marks: 500 + 100 = 600

Total Hours: 15 + 8 = 23

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27.07.16

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Aryabhatta College of Engineering, Patna

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## M.Tech. (Nano Science & Technology) (Area of Specialization)

### SEMESTER - II

S.N.	Course No.	Subject	Period			Evaluation scheme					Credit	Hours
			L	T	P	TA	MSE	ESE	Sub Total			
<b>Theory</b>												
1	601201	Properties of Nanomaterials	3	0	0	20	30	50	100	3	3	
2	601202	Experimental Techniques - II	3	0	0	20	30	50	100	3	3	
3	601203	Intellectual Properties Rights & Entrepreneurship Development Programme	3	0	0	20	30	50	100	3	3	
4		Elective - I	3	0	0	20	30	50	100	3	3	
5		Elective - II	3	0	0	20	30	50	100	3	3	
Total									500	15	15	
<b>Practical</b>												
1	601211	Laboratory work - III	0	0	4	-	25	25	50	2	4	
2	601212	Laboratory work - IV	0	0	4	-	25	25	50	2	4	
Total									100	4	8	

MSE – Mid Semester Examination (Internal Evaluation)

ESE – End Semester Examination.

Total Credits: 15 + 4 = 19

Total Marks: 500 + 100 = 600

Total Hours: 15 + 8 = 23

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Prof. (Dr.) Ajay Pratar

Registrar

# M.Tech. (Nano Science & Technology) (Area of Specialization)

## SEMESTER - III

S.N.	Course No.	Subject	Period			Evaluation scheme				Credit	Hours
			L	T	P	TA	MSE	ESE	Sub Total		
<b>Theory</b>											
1	601331	Seminar & Presentations	-	-	-	-	25	25	50	5	-
Total									50	5	-
<b>Project</b>											
1	601341	Project work (to be continued to 4 <sup>th</sup> Sem.)	-	-	-	-	-	-	-	12	-
Total									-	12	-

MSE – Mid Semester Examination (Internal Evaluation)  
 ESE – End Semester Examination.

Total Credits: 5 + 12 = 17      Total Marks: 50

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 Aryabhatta Knowledge University, Patna

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## M.Tech. (Nano Science & Technology) (Area of Specialization)

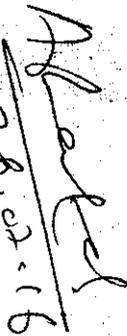
### SEMESTER - IV

S.N.	Course No.	Subject	Period				Evaluation scheme			Credit	Hours
			L	T	P	TA	MSE	ESE	Sub Total		
1	601431	Seminar & Presentations	-	-	-	-	25	25	50	4	-
Total									50	4	-
<b>Project</b>											
1	601441	Project work	-	-	-	-	-	-	-	16	-
Total									-	16	-

MSE – Mid Semester Examination (Internal Evaluation)  
 ESE – End Semester Examination.

Total Credits: 4 + 16 = 20

Total Marks: 50

  
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 Registrar  
 Aryabhatta Knowledge University, Patna

## Procedure for doing Project work in ACNN, AKU Patna

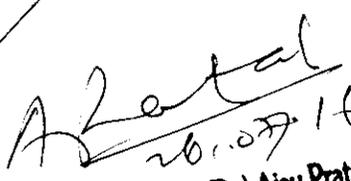
(Applicable only to the Indian nationals studying in India or abroad)

1. The student himself/herself has to find a Supervisor in ACNN, AKU Patna according to his/her field and the Supervisor's consent to supervise his/her project work is to be sought.
2. After the Supervisor agrees to supervise his/her project work, he/she can get the form from the ACNN, AKU Patna/download from the AKU Website. ([www.akubihar.org](http://www.akubihar.org))
3. The duly filled application form signed by the student, Principal/Director of the College, Guide & Head of the Department, ACNN, AKU Patna is to be submitted to the Office of ACNN along with the recommendation letter from his/her College Principal/Director and two recent photographs.
4. On receipt of the form, his/her request will be processed further for obtaining approval of the Competent Authority. After approval, he/she will be informed to make appropriate payment to the Office of ACNN, AKU Patna at the rates given below:
 

i)	Summer training (6 weeks)	Rs. 5,000/-
ii)	Degree project work (B.E./B.Tech./ M.Sc.) up to 6 months	Rs. 10,000/- for a period
iii)	Masters' project work (M.Tech.) for a period up to 6 months	Rs. 15,000/-
iv)	Masters' project work (M.Tech.) for more than 6 months and up to 1 year	Rs. 20,000/-

**Note:**

- The money received will be utilized for maintenance/repair of the laboratory equipment/instruments or towards the purchase of chemicals/consumables.
  - The said fee may be partially or fully waived in special case by the competent authority.
5. After paying the fees, the student has to submit the original form and original receipt of payment of fees to the ACNN Office. Accordingly, student shall be issued a temporary Identity Card.
  6. The student will be permitted to use the library facilities as per rules by using this temporary Identity Card.
  7. On completion of the project work, the student has to submit a copy of Application Form wherein the Guide certifies that he/she has completed his/her project work satisfactorily with relevant details.
  8. On receipt of the same, ACNN will issue a "Project Completion Certificate" to the concerned student.

  
 26.07.16  
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**Annexure - I**

**Rules Relating to Enrolment of Teaching/Non-Teaching Staff Members of the University to M.Tech./Ph.D. Program (Vide para 4 / 2.4(b) of the Regulation)**

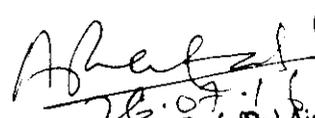
1. Permanent members of teaching/non-teaching staff of the Institute may be permitted to join the M.Tech./Ph.D. program of the University provided that prior permission has been obtained from competent authority before applying for admission to the program.
2. For admission to the program a member of staff must have obtained at least the percentage of marks/grade/CGPA as prescribed to be the minimum requirement.
3. All common rules laid down in the M.Tech./Ph.D. regulations relating to course work, project work/thesis under the supervision of a member of faculty, *etc.*, unless permitted otherwise, shall be applicable to such persons.
4. A member of staff enrolled for the M.Tech./Ph.D. degree shall be required to pay registration and examination fees only, as applicable from time to time. Members of staff permitted and enrolled for the degree shall not be entitled to any Assistantship.
5. The other conditions for granting permission to the teaching/non-teaching staff to enrol in the M.Tech./Ph.D. program shall be as follows.
  - (i) The applicant must hold a permanent (substantive) post in the University and must have a standing of at least 3 years of service on the post.
  - (ii) The application for administrative permission to join the M.Tech./Ph.D. program by a member of teaching/non-teaching staff must be submitted through the Head of the Centre/School or the Section In-charge, as the case may be. While submitting the application the applicant must give an undertaking in the form appended hereto (**Schedule A**) to the effect that the applicant will abide by all rules and regulations.
  - (iii) The maximum number of credits that can be taken by the employee in each semester shall be at the convenience of the Centre/School. If the exigencies of University work so require, the permission granted can be withdrawn by the University at any time.
  - (iv) All applications under this category shall be examined by the Dean (PGPR) taking into account whether the proposal for joining the program for which permission is sought for arises out of genuine interest and ability. After the permission is granted the person will submit application for admission together with the prescribed fee.
  - (v) The minimum period to be spent for completion of the course work and submission of the dissertation/thesis by the candidate shall be 3 years from the date of registration. The maximum period however remain to be 5 years.
  - (vi) A member of the teaching/non-teaching staff who has obtained a M.Tech./Ph.D. degree from the University under this clause shall have to serve the University for a period of 3 years after obtaining the degree.

**SCHEDULE-A**

**UNDERTAKING**

I, Mr./Ms..... member of the teaching/non-teaching staff holding a permanent post of ..... in the Centre/School ..... at the Aryabhatta Knowledge University, Patnado hereby give the undertaking that I shall abide by the rules and regulations as may be laid down by the Court of the University from time-to-time for undergoing the M.Tech./Ph.D. program. I also undertake hereby that since I shall be on duty while undergoing the program of study, I shall ensure that all normal official duties assigned to me are executed without any handicap. I further understand that the permission granted to me for joining the program can be withdrawn at any time if the exigencies of official duties so require or if I cause breach of any of the provisions of rules and regulations.

Date:.....

(Signature)  
  
 26.07.16  
 Prof. (Dr.) Ajay Pratap  
 Registrar  
 Aryabhatta Knowledge University, Patna