

**APJ Abdul Kalam Technological University
Thiruvananthapuram**

Abstract

Research Section - Regulations for the award of the Degree of Doctor of Philosophy by the A P J Abdul Kalam Technological University, 2023 as per University Grants Commission (Minimum Standards and Procedures for Award of Ph.D. Degree) Regulations, 2022 - Implemented - Orders issued

RESEARCH SECTION

U.O.No. 1166/2023/KTU

Thiruvananthapuram, Dated: 16.05.2023

- Read:-*1. Circular No.KTU/RESEARCH 4/6429/2019 dated 02.12.2019 communicating Regulations for the award of the Degree of Doctor of Philosophy by APJ Abdul Kalam Technological University 2019.
2. Extraordinary Gazette Notification No.F.No.1-3/2021(QIP) dated 07.11.2022 notifying University Grants Commission (Minimum Standards and Procedures for Award of Ph.D. Degree) Regulations, 2022.
3. Item No. RC-14-01 in minutes of Special Meeting of the Research Council held on 31.12.2022.
4. Item No. S-041-004 in minutes of 41st meeting of the Syndicate held on 11.01.2023.
5. Item No.GB-019-OA1in minutes of 19th meeting of the Board of Governors held on 17.01.2023.

ORDER

Regulations for the award of the Degree of Doctor of Philosophy by APJ Abdul Kalam Technological University 2019 was communicated vide paper read as (1) above. University Grants Commission had notified its Minimum Standards and Procedures for Award of PhD Degree, Regulations, 2022 vide paper read as (2) above.

The Research Council of the University vide paper read as (3) above considered a draft of modified Research Regulations after incorporating modifications made in University Grants Commission (Minimum Standards and Procedures for Award of Ph.D. Degree) Regulations, 2022 had recommended for approval of modified Research Regulations after incorporating certain modifications. The draft of modified Research regulations of the University after incorporating modifications made in University Grants Commission (Minimum Standards and Procedures for Award of Ph.D. Degree) Regulations, 2022, and suggestions pointed out by the Research Council was then placed before 41st meeting of the Syndicate.

The Syndicate vide paper read as (4) above recommended to discuss the same in the Standing Committee of the Syndicate on Academics and Research and to present the same before the Board of Governors. The Standing Committee of the Syndicate on Academics and Research at its meeting held on 15.01.2023 considered the same and had suggested some modifications. The Board of Governors at its 19th meeting considered the same and vide paper read as (5) above had resolved to entrust the Hon.Vice-Chancellor to hold detailed discussion and to evolve APJ Abdul Kalam Technological University Research Regulations.

After considering the changes proposed to the draft of Research Regulations, Sanction is hereby accorded by the Hon.Vice-Chancellor approving '*Regulations for the award of the Degree of Doctor of Philosophy by the A P J Abdul Kalam Technological University, 2023*' (as attached with this University Order).

Orders are issued accordingly.

Sd/-

Dr. Shalij P.R *
DEAN (Research)

Copy to:-

1. All Research Centers / Places of Research
2. PS to VC / PA to Registrar / PA to Dean Academics



* This is a computer system (Digital File) generated letter. Hence there is no need for a physical signature.



Regulations for the award of the Degree of Doctor of Philosophy by the A P J Abdul Kalam Technological University 2023.

(Revised as per the University Grants Commission (Minimum Standards and Procedures for Award of Ph.D. Degree) Regulations, 2022)

1. Admission

1.1 Categories of Admission

1.1.1 There shall be TWO categories of Ph. D. admission as given below:

- (i) Full-time scholars with or without fellowship
- (ii) Part-time scholars in the following category admitted to pursue research towards Ph. D. degree while working.
 - a. Faculty members of the University Departments
 - b. Faculty members of affiliated colleges
 - c. Persons working with Organisations / Industries within the Country

1.2 Ph.D. through Part-time

1.2.1 Ph.D. programmes through part-time will be permitted, provided all the conditions stipulated in the Regulations are fulfilled.

1.2.3 The candidate shall produce a “No Objection Certificate” from the appointing authority in the organization where the candidate is employed, clearly stating that:

- (i) The candidate is permitted to pursue studies on a part-time basis.
- (ii) His/her official duties permit him/her to devote sufficient time for research.
- (iii) If required, he/she will be relieved from the duty to complete the academic requirements.

2. Eligibility for admission

2.1 Candidates with the following qualifications are eligible for admission to Ph. D.

- (i) Master’s Degree in Engineering/ Technology, Architecture or a Master’s Degree by research in Engineering/ Technology with a minimum CGPA of 5.75.
- (ii) Master’s Degree in Basic Sciences or Mathematics with a minimum CGPA of 5.75.
- (iii) Master’s Degree in Computer Applications with a minimum CGPA of 5.75.
- (iv) For Ph.D. in Management, Master’s degree in Management with a minimum CGPA of 5.75 or equivalent Master’s degree in Engineering/Technology in Management related streams with a minimum CGPA of 5.75.
- (v) Bachelor’s degree in Engineering / Architecture with a minimum of 7.75 CGPA.

2.2 Scheduled Caste / Scheduled Tribe / Other Backward Community (Non-Creamy Layers) / Differently-abled category candidates (with more than 40% disability) / EWS are eligible for admission with a minimum CGPA of 5.25 in all cases (i) to (iv) above and CGPA of 7.25 for case (v). Certificate of disability issued by District Medical Board is to be produced in the case of differently-abled candidates.

2.3 Basic Sciences candidates are allowed to pursue full-time as well as part-time research on the condition that for all streams other than Mathematics, a Co-guide is mandatory from a



sister institution / Research Organization which is willing to extend its research facilities/laboratories for the scholar.

- 2.4 The marks awarded by Higher Education Institutions / Universities in percentages and if no conversion criteria are mentioned by the respective institutions, percentage will be converted to CGPA, using the equation - $CGPA = \text{Percentage marks} \div 10 + 0.25$ for the purpose of assessing eligibility.
- 2.5 Admission to Ph.D. programmes of the University is open to International students and PIOs, fulfilling the prescribed eligibility criteria. They can seek admission for the full-time mode only. The admission of international students will be regulated by the guidelines/norms in this regard issued by statutory/regulatory bodies concerned from time to time.
- 2.6 All full-time/part-time/Open University PG programs from Universities enlisted in the Equivalency Handbook published by the Kerala State Higher Education Council, are approved for the purpose of admission to Ph.D. subject to fulfilling all eligibility criteria as mentioned in the Research Regulations.
- 2.7 Graduate and Post Graduates having the qualifying degree without CGPA or Percentage marks specified, shall be eligible for applying for the Ph.D. programme, if they have one paper published in SCI/SCIE/SSCI or Scopus (Unpaid) Journals as the first / corresponding author.

3. **Supervision of research**

3.1 **Eligibility**

- 3.1.1 Supervisor: **Permanent** faculty members working as Professor/ Associate Professor with a Ph.D. working with affiliated Colleges/ University Departments under this University, having **FIVE** research publications in peer-reviewed or refereed journals or patents granted, are eligible for Supervisorship. At least one of such journals shall be Science Citation (SCI) / Science Citation Index Expanded (SCIE) Social Sciences Citation Index (SSCI) or in SCOPUS indexed journals (Unpaid). Assistant Professors with a Ph.D. working with affiliated Colleges / University Departments under this University, and **THREE** research publications in peer-reviewed or refereed journals or patents granted, are eligible for Supervisorship. At least one of such journals shall be in Science Citation (SCI) / Science Citation Index Expanded (SCIE) or Social Sciences Citation Index (SSCI) or in SCOPUS indexed journals (Unpaid). Publication in journals with page/processing or publication charges will be accepted only if they are indexed in SCI/SCIE (or SSCI for Management).
- 3.1.2 Provided that in areas/disciplines where there is no, or only a limited number of peer-reviewed or refereed journals, the above condition for recognition of a person as Research Supervisor may be relaxed with reasons recorded in writing from an expert committee consisting of members of relevant National Institutions and approval of the recommendation by the Syndicate of the University.
- 3.1.3 For the purpose of awarding supervisorship, patents granted is considered as equivalent to publishing of a journal paper.
- 3.1.4 The recognized research supervisors shall not supervise research scholars in other institutions which are not affiliated to the University, where they can only act as co-supervisors.
- 3.1.5 Existing supervisors have to satisfy the above requirements to retain their supervisorship, for accepting new scholars. However, Research Scholars already registered under their



supervisorship will be allowed to continue.

- 3.1.6 Publications mentioned in the above paragraphs shall not be Review or Survey Publications unless the faculty has at least TWO publications other than a Review or a Survey Publication. Further, all publications mentioned in the aforesaid paragraphs shall be those published during or after Ph. D.
- 3.1.7 Faculty members of the Departments of Basic Sciences and Mathematics fulfilling the requirements to become a Supervisor are eligible to supervise doctoral research in their own areas or interdisciplinary areas.
- 3.1.8 Those with Ph.D. from Universities other than the State Universities in Kerala are required to produce an equivalency/recognition certificate obtained from any State University in Kerala or Association of Indian Universities. If the University / Institution which awarded the degree falls within the first 200 position in the latest NIRF ranking, the candidate is exempted from producing equivalency/recognition certificate. Ph.D. holders from Institutes of National importance and from foreign universities under 1500 QS global ranking (latest or at the time of awarding degree) are also exempted from producing equivalency/recognition certificate.
- 3.1.9 Professors and Associate Professors who do not have FIVE journal papers published for getting recognised as a supervisor, will be allowed to supervise as many numbers of scholars as permitted for an Assistant Professor, provided if they have THREE journal papers published, as required for an Assistant Professor for recognising as a supervisor.
- 3.1.10 A Supervisor who superannuates or accepts a permanent job in an institution which is not affiliated with the University shall become a co-supervisor to his / her research scholars. The research scholars registered with him / her shall identify a new supervisor. Ph.D. awarded under the supervision of a faculty member who is not an employee of the university or affiliated Colleges would be in violation of these Regulations.

3.2 Age Limit

- 3.2.1 Faculty members with less than three years of service before superannuation are not allowed to take new research scholars under their supervision. However, such faculty members can continue to supervise Ph.D. scholars who are already registered until superannuation and as a co-supervisor after superannuation, but not after attaining the age of 70 years.

3.3 Number of scholars

- 3.3.1 The number of research scholars that a Professor, Associate Professor and Assistant Professor shall supervise at any given time is 8, 6 and 4 respectively.
- 3.3.2 Out of the 8 scholars that a Professor supervises, at least 3 shall be full-time scholars with fellowship. Out of the 6 scholars that an Associate Professor supervises, at least 1 shall be a full-time scholar with fellowship.
- 3.3.3 Full-time scholars mentioned above are those scholars coming under University/ Government/ KSCSTE fellowship scheme/ AICTE–QIP/NDF scheme/ UGC-JRF scheme or Full-time scholars who are research fellows of a funded project (minimum 3 years duration) of the Research Supervisor with fellowship amount equivalent to the amount awarded as University/Government fellowship or higher. Assistant Professor shall enrol only 4 scholars. Those who are presently guiding more than what is mentioned are allowed to retain them till their completion of research.
- 3.3.4 The cadre to which a faculty belongs, will be decided by the qualifications as per AICTE



norms and their salary. The maximum number mandated above also includes the number of scholars co-supervised. Those Co-Supervisors, external to the University can co-supervise up to a maximum of 4 scholars under this University.

- 3.3.5 Submission of thesis by a Research Scholar could be marked as a vacancy for a supervisor for accepting a fresh scholar.

3.4 Transfer of Research Scholar

3.4.1 The transfer of registration to APJAKTU is allowed for female research scholars who have been relocated due to marriage and for any research scholars having valid reasons. Such relocation is permitted for research scholars from only Institutions of National importance, Kerala State Universities, Institutions / Universities having first 200 position in the latest NIRF ranking or foreign universities under 500 QS/THE/ARWU global ranking (latest).

3.4.2 The research scholar should satisfy all conditions as stipulated in the Research Regulations of the University. The research work shall not pertain to a project sanctioned to the parent Institution/ Supervisor by any funding agency. Such scholar shall, however give due credit to the parent institution and the supervisor for the part of research already undertaken.

3.4.2 Research Council of the University shall consider such applications on a case to case basis and recommend for admission to Ph.D. programmes of the University. The doctoral committee shall examine the quantum of work completed so far and recommend any requirements such as additional Course work, Conduct of Comprehensive Examinations, modifications in the research work, etc.

3.5 Interdisciplinary Research

3.5.1 Supervisors/Co-Supervisors from outside the Department/ School/ Centre/ College/ University will be allowed for carrying out interdisciplinary research subject to the relevant clauses in clause 8.

4. Place of Research / Centre of Research

4.1 Place of Research

4.1.1 Research Programmes can only be offered by Places of Research as approved by the University

4.1.2 Following category of institutions are eligible for recognizing as Place of research

- i Academic departments of the constituent colleges of the University,
- ii Affiliated Colleges, offering FOUR Undergraduate Programmes and/ or TWO Post-graduate Programmes, where at least two post graduate programs in Engineering are successfully carried out for at least two batches or Four Undergraduate programmes are successfully carried out for at least 4 years and having at least TWO faculty members who are approved research supervisors of the University.

4.1.3 Such departments/ colleges / institutions having Adequate infrastructure, administrative support, research facilities and library resources shall apply in the prescribed format for getting approved as place of research.

4.2 Centre of Research

4.2.1 Research institutions established by Central /State Government Departments / Public sector / Private sector Institutions will be recognized as Centre of Research of the University provided,



- i. At least two persons having Ph.D. are working in the in the institution.
 - ii. Adequate infrastructure, administrative support, research facilities and library resources.
- 4.2.2 Such institutions shall apply in the prescribed format for getting approval as Centre of Research.
- 4.2.3 Permanent employees of the Centre of research may conduct their research work at the respective Centre of Research. They shall satisfy the eligibility criteria and clear selection test and interview and get admission to any of the Places of Research.
- 4.3 Approval and Extension of approval for the Place of Research and Centre of Research shall be subject to verification of facilities by the university periodically.
- 4.4 Scientists in such research institutions who are equivalent to Professor/Associate Professor/Assistant Professor may be recognized as supervisors if they fulfil the eligibility requirements of supervisors. However, they can only act as co-supervisors for research scholars.

5. Selection Procedure

- 5.1 The application for admission to research programs shall be invited by the University, once a year. The selection of candidates shall also be conducted only once a year – in the even semester. Though selection is conducted in the even semester facilitating admission in the odd semester, admission for the candidates shall be permitted in the subsequent even semester also.
- 5.2 The University shall decide the selection procedure for admission. The selection shall be through discipline wise common written tests and/or personal interview as decided by the University from time to time. Selection of the candidate will be provisional until the final approval by the University.
- 5.3 AICTE QIP scholars are exempted from appearing for the test and interview.
- 5.4 Students who qualify for fellowship/scholarship in UGC-NET/UGC- CSIR NET/GATE/CEED and similar National level tests are admitted to Ph.D. Programme based on an interview.

6. Allotment of scholar to the Research Supervisor

- 6.1 Selected candidates shall place requests before the approved supervisors for guiding them for the Ph.D. Research, through their portal. Supervisors may accept or reject the Requests made by the candidates. The accepted requests will be approved by the academic Head of the College/University Department, taking into account the research goals of the Department and preferences of the Research Supervisor and the candidate. Approval of the academic head of the Place of Research shall be ratified by the Dean (Research) of the University.
- 6.2 In case of supervisors getting transferred, a faculty member from the Place of Research, with Ph. D. (not necessarily an approved supervisor of this University) shall be assigned by the Principal of the Place of Research for monitoring and approving the progress of the scholar as well as assisting the Convener in convening the Doctoral Committee meetings of the scholar.
- 6.3 Each supervisor can guide up to two international research scholars on a supernumerary basis over and above the permitted number of Ph.D. scholars.
- 6.4 Co-supervisor/ Supervisor with Science / Mathematics plus MCA qualification can Co-supervise / Supervise Engineering scholars with a Supervisor/Co-supervisor from the respective Engineering stream. Also, a scholar from MCA can accept



co-supervisor/supervisor from any Engineering stream with a supervisor/co-supervisor from MCA or Computer Science & Engineering.

- 6.5 Change of Supervisor/ Co-supervisor is permitted if a scholar/ guide opts for a change and the request or a complaint is received from the respective scholar / guide by the University.
- 6.5.1 The scholar/ guide is required to submit his/her explanation or comment based on the request/ complaint.
- 6.5.2 If there is consensus between guide and scholar, the change recommended by the Principal (convener of the DC) is accepted by the University. University will issue an order approving the change and the convener shall then inform the doctoral committee regarding the change.
- 6.5.3 If the change is not agreed upon, the issue is submitted to the Doctoral Committee for a report.
- 6.5.4 If the report is not agreeable to the complainant/ complaine, an external committee is constituted by the Hon'ble Vice-Chancellor, whose decision will be final and executed by the University.
- 6.6 The change in Doctoral committee members as recommended by the Principal/ Dean Research of the institution will be approved by the Dean Research and change will be effected in the University Portal.
- 6.7 Change of Place of Research is permitted if a scholar opts for a change and the request is received from the respective scholar by the University.
- 6.7.1 The scholar shall submit his/her the request for change of place of research, recommended by the supervisor. A NOC from the Place of Research to which the scholar wanted to shift shall also be included in the application.
- 6.7.2 If there is consensus between scholar and supervisor, the change as recommended by the Principal (convener of the DC) is accepted by the University. University will issue an order approving change of Place of Research. The convener shall then inform the doctoral committee regarding the change.
- 6.7.3 If the change of Place of Research is not agreed upon by the supervisor, the issue is submitted to the Doctoral Committee for a report.
- 6.7.4 If the report is not agreeable to the scholar, an external committee is constituted by the Hon'ble Vice-Chancellor, whose decision will be final and executed by the University.

7. Admission / Registration

7.1 Admission

- 7.1.1 Once the Academic head of the Place of research approves the request of the scholar, and on approval by the University, the candidates shall seek admission to the Ph. D. programme of the University at the respective Place of Research after payment of prescribed fee and verification of all records.
- 7.1.2 Date of remission of first fee at the respective Places of Research is considered as the date of Registration for research.

7.2 Registration

- 7.2.1 The Doctoral Committee in its first meeting shall fix/approve the proposed research topic and the date of registration for the Ph. D. program, considering the recommendation of the research supervisor.



8. Co-supervisor

- 8.1 A recognized supervisor can also act as a co-supervisor for research scholars. Depending on the nature of the research to be carried out and the preferences of the Research Supervisor and the Research Scholar, a Co-Supervisor may be co-opted. In any case, there shall not be more than ONE co-supervisor for a research scholar.
- 8.2 Co-Supervisors from within the same department or other departments of the same institution or other institutions is permitted with the approval of the Dean (Research) based on the recommendations of the Doctoral Committee in the prescribed format.
- 8.3 Co-supervisor may also be from a non-affiliated institution (educational/R&D) if the situation warrants. However, they should satisfy the eligibility criteria as given in section 3 of this document.
- 8.4 A faculty from a foreign university /research department can be a Co-supervisor with the concurrence of the Research Council, if he/she fulfils the criteria fixed by the University to be a Co- supervisor and in addition, the institution he/she belongs to shall be within the first 1500 positions in the latest QS global ranking. The supervisor shall place a request in the prescribed format with the recommendation of the Doctoral Committee to the Dean (Research) for assigning a Co-supervisor from other institutions.
- 8.5 Any person whatever academic qualification and publications he / she may have, without an affiliation with the University will NOT be permitted to be a Supervisor. However, he/she shall be permitted to be a Co-supervisor for a particular research scholar, if the situation warrants. The publication requirement and the number of scholars that can be guided by such Co-Supervisors will be the same as that stipulated for an Assistant Professor under the University.

9. Doctoral Committee (DC)

9.1 Composition of the Doctoral Committee

- 9.1.1 The University department/college shall recommend to the Dean (Research) of the University, a panel of experts for inclusion in the Doctoral Committee for each research scholar depending on the area of research. It is mandatory that the experts have a doctoral degree and sound knowledge in the area of research, which is to be ascertained by means of his/her research publications. Faculty members who have retired from service, persons from institutions other than affiliated institutions and persons having no affiliation may also be included in Doctoral Committee as external DC members.
- 9.1.2 Depending on the availability of experts and the area and nature of research, Dean (Research) of the University constitutes the Doctoral Committee, normally from the panel of names provided by the academic head of the college/the university department for individual research scholars. Dean (Research) can reconstitute the DC if required, at any stage of research.
- 9.1.3 The constitution of the DC will be as follows:
- (1) Dean (Research) of the University or his/her nominee, who shall be an Associate Professor or above and an approved supervisor of the University – **Chairman**
 - (2) Academic Head of the College/University Department – Member & Convenor Research Supervisor and Co-Supervisor (if any) – **Member/s**
 - (3) Two faculty members of the Department/College with Doctoral Degree – **Members (Internal members)**



- (4) Two faculty members or scientists with Doctoral Degree, from other organizations / Retired academicians / scientists having specialization and publications in the scholar's research topic. – **Members (External members)**

9.1.4 In case any member expresses his/her desire to relieve from DC the research Supervisor through the convener of DC shall nominate another suitable member.

9.2 Functions of the Doctoral Committee

9.2.1 Doctoral committee (DC) shall have the following responsibilities:

- i. To guide the Ph.D. scholar in developing the study design and methodology of research and identify the course(s) that he/she may have to do.
- ii. To review the research proposal and finalize the topic of research.
- iii. To periodically review and assist in the progress of the research work of the Ph.D. scholar.
- iv. Recommend co-supervisors having expertise in the relevant field, if required for the research scholar.

9.2.2 It is the responsibility of the convener of the DC to arrange for the DC meetings regularly and on time. Following Meeting of the Doctoral committee shall be convened for making decisions on the matters specified. The supervisor shall forward a brief report of the agenda items, progress of research, publications if any etc. to all DC members, one week before the meeting.

DC 1. Registration and Course Work DC

- First DC meeting shall normally be convened within a month of constitution, and not later than two months of admission of the candidate
- The DC shall approve the area of Research
- DC has to approve the Course work as per the recommendations of the Supervisor/s
- DC has to assess whether the facilities and expertise are available in the Place of Research for carrying out the work.
- DC has to recommend for registration of the candidate for Ph. D. program

DC 2. Pre-Comprehensive DC

- DC2 Can be conducted for the scholars who have appeared for the End Semester Examinations of all the courses opted for the course work.
- The DC has to approve the syllabus for Comprehensive Viva Examination
- DC has to approve two external examiners for the comprehensive viva examination. At least one of the examiners shall be from National institutes / University faculty.
- DC has to approve the Question paper setter and evaluator for the written part of the comprehensive viva examination.

DC 3. Comprehensive Viva Meeting

- The research scholar has to present the details of course work completed and area of research
- All DC members, External Examiners, Chairman and Convener shall be present in this meeting.



- Marks obtained in the written part of the comprehensive examinations shall be made available in the meeting.
- External examiners shall record the marks awarded by them separately. Average of marks shall be awarded to the scholar.

DC 4. Research Proposal Meeting

- The scholar shall present the Research proposal in the meeting.
- The DC has to approve (or approve with modifications) the Research Proposal

DC 5. Seminar I and

DC 6. Seminar II

- Both the Seminars shall be conducted internally, open to students, other research scholars, Faculty members, etc. through OFFLINE ONLY. Presence of Chairman of DC and External Members of DC is NOT mandatory for the same.
- The scholar should have at least one paper either published or accepted for publication in a journal before the presentation of seminar II.

DC 7. Synopsis Meeting

- Research scholar has to present his/her work before the DC
- Verification of conference publication, journal publication shall be done by the DC
- DC has to approve the synopsis and recommend submission of synopsis thesis.
- A Panel of 8 evaluators shall be nominated by DC for evaluating the thesis.

DC 8. Viva-voce meeting

DC X: Special DC Meeting

- Special meetings are conducted for specific purposes such as change in course work / change in Research supervisors, etc.
- Special DC Meetings shall be conducted in the beginning of every semesters after the completion of 3 years of registration.

9.2.3 All the meetings of the DC shall be conducted in the online mode. The supervisor, Convener, Internal DC Members and Research scholar shall be physically present at the Place of research during all DC Meetings. It is mandatory that the chairman, research supervisor/s and at least one internal member and one external member participate in the DC meetings.

10. Course Work

- 10.1 Doctoral Committee in its first meeting shall prescribe two compulsory courses and a basket of four electives to be undergone by the scholar. These courses shall be relevant to the proposed area of research of the scholar. The scholar has to undergo any two of the courses from the basket of elective courses of the PG programmes, prescribed by the DC. In addition to this, research scholars have to undergo the mandatory course on "Research and Publication Ethics".
- 10.2 Research Methodology is also a mandatory course, if it has not been undergone in the qualifying programme of study of the research scholar.
- 10.3 The number of courses to be undergone by the research scholar over and above the minimum prescribed is at the discretion of the Doctoral Committee. However, the research



scholar shall obtain a minimum of 12 credits from their course work. Those scholars admitted for research after 4-year / 5-year UG course shall earn 6 more credits in addition to the 12 credits.

- 10.4 All courses shall be at the Post Graduate level of the college. In case no suitable courses are available, the Chairman of the DC may allow courses of allied departments/ institutions. Offering of new courses by the Department suitable for the research may also be resorted to under exigencies of circumstances.
- 10.5 MOOC courses of duration 12 Weeks or above offered by NPTEL can also be taken for the course work for completing the minimum credit requirements. Such courses are considered as three credit courses. These courses shall be relevant to the proposed area of research of the scholar. The scholar has to appear for the examination conducted by the respective institutions offering such course and obtain grade. The Doctoral Committee shall prescribe the MOOC Course to be undergone by the scholar.
- 10.6 Scholars with MCA or MSc degree need to undergo TWO additional core courses from UG/PG Engineering Stream with a total of six credits (minimum) or MOOC courses of NPTEL to pursue research under a supervisor from Engineering/ Technology area.
- 10.7 The DC shall give credit to courses already undergone by the research scholar in the institution or in sister institutions in the past four years, or MOOC provided that the course contents and the evaluation pattern are similar. Credit to courses, other than Research Methodology, already undergone by a research scholar will not be considered if they were credited for the award of any previous degree.
- 10.8 UG courses, may be prescribed as additional courses.
- 10.9 For all prescribed courses including MOOC, the research scholar shall attain a minimum grade of D in a 10-point grading system or 55% of marks in percentage system.
- 10.10 Research Scholar shall attend regular classes of all course/s at the place of research or at the department / institution where he/she has enrolled for the course work.

11. Monitoring of Progress

- 11.1 A registered research scholar shall submit a written progress report in the prescribed format annually for the first three years, and every six months thereafter. Scholars should submit progress report through the research Supervisor to the academic head of the college/university department and to the chairman and members of Doctoral Committee every semester. This should be done well in advance of the Doctoral Committee meeting for reviewing the progress of the scholar. On review/evaluation of the progress, the Doctoral Committee makes appropriate recommendations with regard to the research program. Continuance of registration and award/continuance of scholarship/ research fellowship (if any) will be based on the recommendation of the doctoral committee. Inadequacy of effort/progress shall be a reason for cancellation of registration.
- 11.2 All Full time Ph.D. scholars shall be assigned 4 - 6 hours per week of teaching / research assistantship for conducting tutorial or laboratory work and evaluations.

12. Comprehensive examination

- 12.1 Every Ph. D. scholar shall appear for and perform satisfactorily in a Comprehensive Examination as evaluated by a duly appointed committee. The objective of the Comprehensive Examination is to test the general competence of the research scholar and the breadth of his/her knowledge in his/her discipline and areas related to his/her field of research.



- 12.2 The Comprehensive Examination shall be conducted by the Comprehensive Examination Committee, consisting of the Doctoral Committee members of the scholar and at least two other external members nominated by the doctoral committee. At least one of the external members shall be from institutions NOT affiliated to the University. The comprehensive examination shall consist of a written test and an oral examination.
- 12.3 If the performance of a research scholar in the Comprehensive Examination in the first attempt is not satisfactory, he/she will be given one more opportunity to appear for the comprehensive examination within six months of the first attempt. If a candidate fails to clear the comprehensive exam in two attempts, his/her registration shall be cancelled. A candidate will be given two chances for written part and two chances for viva part for passing the comprehensive written and viva examinations.
- 12.4 The Comprehensive Examination committee shall intimate to the research scholar sufficiently in advance, the scope of the Comprehensive Examination, so as to enable the scholar to adequately prepare for it.
- 12.5 Research scholars are normally expected to complete the Comprehensive Examination successfully within a year of his/her registration for the programme and in any case not later than three semesters after the registration.
- 12.6 For both written and oral components of the comprehensive examination, the DC shall decide the modalities subject to approval by the Dean (Research) of the University. However, the written examination shall be conducted for 100 marks and viva evaluated out of 100 marks. Candidates should score 50% separately for written examination and viva for a pass. Those candidates who have appeared for the End Semester examinations of the chosen courses for their course work, are eligible to appear for the comprehensive written examination. Only those candidates who secure a pass in the comprehensive written examination are eligible to appear for the comprehensive viva.

13. Research Proposal

- 13.1 After successful completion of the course work and comprehensive examination, there shall be a detailed presentation of the Research Proposal and progress report by the research scholar in the DC 4 : Research Proposal Meeting.
- 13.2 The research proposal shall contain the title (need not be exact) of the intended study, justification/motivation of the study, international and national status of the research topic, conceptual model/hypothesis, specific objectives, detailed methodology, proposed year wise time frame for the completion of the proposed research work (in a chart form), expected outcome/deliverables, and a brief bibliography. Research proposal shall be sent to all Members and Chairperson of DC by the Supervisor one week before the date of the meeting.
- 13.3 The research proposal meeting of the DC shall be conducted within TWO years of registration of the research scholar. Any delay in conducting the research proposal meeting shall be got approved by the DC Chairman and informed to the Dean (Research) of the University.
- 13.4 The research scholar shall make suitable modifications and corrections in the research work incorporating the suggestions of the DC in the research proposal meeting.

14. Enrolment

- 14.1 Enrolment in any semester defines the continuance of the research program by the scholar and should be done at the department/college where other mandatory requirements such



as payment of prescribed fee are also required to be fulfilled.

- 14.2 A semester wise progress report by the research scholar should be submitted to the supervisor/s and the Convenor of the DC and their recommendation is a precondition for enrolment. All research scholars are required to enroll each semester on the stipulated date till the submission of the thesis.
- 14.3 Research Scholar has to remit fee whenever he /she enrolls in the respective semester till the semester in which he/she submits the thesis.

15. Conversion of the mode of Research

- 15.1 Scholars will be permitted to convert from Full-time to Part-time PhD upon fulfilling the following conditions:
- i) They should have successfully completed comprehensive examination,
 - ii) Scholarships and other financial supports will be stopped from the date of conversion,
 - iii) NOC from the employer shall be produced within a period of 90 days from the date of conversion.
- 15.2 If the scholar fails to satisfy the stipulated conditions, the scholar shall re-register with a fresh doctoral committee and supervisor during the immediate next admission else which the registration will stand cancelled. The doctoral committee shall decide on further course works to be credited if required, based on the new area chosen.
- 15.3 Conversion from part time to full time mode is permitted as per the request of the scholar along with the recommendation of the Doctoral Committee. However, such scholars are not eligible for any fellowships from the University.

16. Duration of completion of research towards PhD.

- 16.1 The minimum period of study and research for full-time research scholars from the date of registration for the Ph.D. (date of commencement of research) to the date of submission of the thesis shall be 36 months.
- 16.2 The maximum duration of Ph.D. program is SIX years for both full time scholars and part time scholars.
- 16.3 A maximum of two (2) additional years may be given through re-registration according to the recommendation of the Doctoral Committee. The total period for completion of the Ph.D. programme should not exceed eight (8) years from the date of registration to the Ph.D. programme.
- 16.4 Provided further, An additional relaxation of 2 years is allowed to female and physically disabled persons (with disability more than 40%). However, the total period for completion of a Ph.D. programme in such cases should not exceed ten (10) years from the date of registration to the Ph.D. programme.
- 16.5 Female Ph.D. Scholars are eligible for Maternity Leave/Child Care Leave for up to 240 days in the entire duration of the Ph.D. programme.-The maximum period of PhD study is TEN years including maternity leave period.

17. Withdrawal and Leave

- 17.1 A scholar may be permitted by the Dean (Research) to withdraw from the program for a semester or longer for reasons of ill health or on other valid grounds duly recommended by the doctoral committee. Normally, a scholar will be permitted to discontinue from the



programme only for a maximum continuous period of two semesters.

- (i) A scholar during withdrawal period should keep his registration live by remitting the semester fee.
- (ii) Scholarships and other financial supports to the scholar will not be paid during withdrawal period.
- (iii) Maximum duration of Ph.D. study remains unchanged.
- (iv) Withdrawal is allowed only once during the programme of study.
- (v) Maternity Leave / Child care leave period as per university rules will not be considered as withdrawal.
- (vi) Research Scholars are entitled for a maximum period of 30 days of leave in a year in addition to public holidays.
- (vii) If the research scholar receives any funding from external agency, the rule of the funding agency shall be treated as leave rules.
- (viii) Research scholars are not entitled to any vacation.

18. Cancellation of Registrations

- (i) The registration of a research scholar will be suspended if he/she fails to remit the semester fee twice in succession. The registration will be resumed only with the recommendation of the DC and payment of the prescribed fee.
- (ii) Suspension due to failure in fee remission in subsequent semesters will be resumed only after the payment of the prescribed fee.
- (iii) The registration is liable to get cancelled if a scholar fails to remit semester fee thrice in succession and DC recommends cancellation of registration.
- (iv) The registration of a scholar gets cancelled if progress is not found to be satisfactory by the DC and the DC recommends cancellation of registration.
- (v) The registration of a scholar gets cancelled if he/she fails in all permissible attempts of Comprehensive examination.
- (vi) The registration of a scholar gets cancelled if he/she requests for cancellation.
- (vii) The registration of a scholar gets cancelled if the thesis gets rejected after all valuations.
- (viii) The registration of a scholar who fails to submit his/her thesis within the stipulated duration, gets cancelled. The candidate will be allowed to submit the thesis within a maximum period of six months from the date of cancellation, as per the recommendation of the Doctoral Committee and the remission of the prescribed fee.

19. Publication of Research Output

- 19.1 For a research scholar to submit the synopsis on completion of the research there must be visible research output by way of publications in reputed journals and conferences. Grant of patents shall also be taken as valid research output in lieu of publications. Any patent application made shall be with the consent of the University and shall be registered with the Registrar of the University as the assignee. The research scholars shall file patents provisionally and then proceed with publication.
- 19.2 A research scholar is required to publish (or obtain letter of acceptance)



- (i) One paper (other than a review or a survey paper) in SCI/SCIE/SSCI (for management)/SCOPUS indexed journals. Paid journals indexed in SCOPUS should also be those indexed in SCI/SCIE/SSCI (for management)
 - (ii) One paper in an international/ national conference conducted by registered societies of impeccable reputation.
- 19.3 Research Scholars shall include the name of the University as one of their affiliation along with the place of research and / or their working institute if any.
- 19.4 Research scholar shall be either the first author or the corresponding author of all publications he/she claims for satisfying the requirements for the award of Ph.D.
- 19.5 A publication which entitles a scholar for the award of Ph.D. cannot be used by another scholar even if the scholar is a co-author. If the work is the continuation of a project, the scholar may be permitted to include this paper as his/her contribution, but for meeting basic requirements, he/she should publish another paper/s as either first author or corresponding author.
- 19.6 Micro-articles would not qualify equivalent to the journal article requirement for Research Supervisor eligibility as well as research output.

20. Submission of Synopsis

- 20.1 On satisfactory completion of the prescribed courses, the comprehensive examination and the research work, the scholar shall submit the requisite copies of the synopsis of his/her research work in the prescribed format through the research supervisor/s and the academic head of the college/ department to the Dean(Research) of the University for consideration by the doctoral committee.
- 20.2 Research scholar shall present the synopsis before the Doctoral Committee. The Doctoral Committee on consideration of the work content and its quality decides on the acceptance or otherwise of the synopsis. On acceptance of the synopsis, the DC permits the research scholar to submit the thesis. DC recommends a panel of at least eight examiners to the Dean (Research) of the University, out of which not more than 3 shall be from within the State. They shall be from institutions not affiliated to KTU. It is mandatory that the examiners recommended in the panel should be of good research reputation and preferably be from National Institutes or Laboratories and may include those of good professional standing from foreign Universities. Examiners in the Panel should be at the level of Associate Professor in the University or higher and shall have at least one research publication in the relevant area of research among other publications.

21. Submission of Thesis

- 21.1 The scholars should submit the synopsis along with first draft of thesis in hard and soft copies at the synopsis meeting. However, a maximum of two months' time will be given to improve the thesis and to incorporate changes/suggestions made by the DC before the final submission. The research scholar shall within two months of acceptance of the Synopsis, submit requisite copies of the thesis. The Dean (Research) may in exceptional cases grant additional time beyond two months on request from the scholar for valid reasons.
- 21.2 The guidelines for use of anti-plagiarism software for the Ph.D. thesis are as follows:
- 21.2.1 The scholars have to certify that a standard software/platform was used for checking against plagiarism. The research supervisor has to ensure checking against plagiarism through any standard software before submission of the Ph.D. thesis and endorse the



undertaking of the scholar. As a general guideline, the maximum percentage of similarity may be limited to 20, excluding the bibliography and self plagiarism.

21.2.2 The research supervisor may obtain special relief from this checking from the Dean (Research) on grounds of IP implications or National Security, if applicable.

22. Thesis examiners

The thesis shall be referred to Three examiners chosen by the Vice Chancellor (VC) normally from among the panel of examiners recommended by the doctoral committee at the synopsis meeting. The VC, if deemed necessary may select examiners from even outside the Panel proposed by the DC.

23. Reports from examiners

23.1 The examiners are expected to send the report on the thesis within two months from the date of receiving the thesis. In case of undue delay in receiving the thesis report, the VC or his/her nominee shall appoint another examiner from the approved panel of examiners for evaluating the thesis.

23.2 If two examiners out of the three recommend the thesis for the award of Ph. D., the procedure for conduct of viva-voce shall be initiated.

23.3 If two of the three thesis examiners declare the thesis as not recommended, the registration of the scholar shall stand cancelled.

23.4 If the examiner/s suggest/s resubmission of the thesis after revision, the research scholar will be allowed to resubmit within the time stipulated by the doctoral committee.

23.5 In all other cases, not covered by the above regulations, the matter will be referred to the doctoral committee for consideration and it shall be up to the Syndicate to approve the recommendation of the doctoral committee.

24. Viva voce/Open defense

24.1 The viva voce shall be conducted normally after three weeks from the date of the constitution of the viva voce board.

24.2 The composition of the viva voce board, shall be as follows:

1. Dean (Research) of the University or nominee : Chairman
2. Academic Head of the College/ Department : Convenor/Member
3. One of the examiners of the thesis from within the country : Member
4. One subject expert from the same panel of 8 examiners forwarded by the DC, chosen by the VC or his/her nominee : Member
5. Research Supervisor(s) : Member

24.3 The standard operating procedure for the conduct of Ph.D. Viva-Voce is as follows:-

1. After the evaluation reports are received, the same to be forwarded to the student through the guide via the Institution Head, removing the names of examiners.
2. The student incorporates changes in thesis as required and prepares the rebuttal statements.
3. Hon'ble Vice Chancellor selects a thesis examiner and a subject expert from the same panel of 8 members submitted by the Doctoral Committee.
4. The details of experts are communicated to the Convener of Viva-Voce Board



(Principal /Dean Research of the place of research).

5. The convener schedules the viva-voce in consensus with all concerned.
 6. The viva-voce begins with a short welcome address, introducing the Chairman and other members, by the supervisor.
 7. The chairman invites the scholar to defend his/her thesis.
 8. After the presentation which shall last not more than 40 minutes, the audience poses questions and the scholar defends.
 9. After the defense, the chairman declares that the board decides to recommend/not recommend the scholar for award of PhD degree.
 10. After the viva-voce, the minutes in the prescribed format along with other documents indicated in the portal shall be uploaded.
- 24.4 The Doctoral Committee members of the research scholar concerned shall be invitees to the viva voce. e-copy of the thesis shall be circulated among the members and invitees prior to the viva voce examination. The rebuttal to the examiner's queries as well as the modified e-thesis shall be circulated prior to the viva voce meeting.
- 24.5 The viva voce board will examine the scholar on his/her thesis work and evaluate his/her performance as satisfactory or otherwise. The viva voce board will also assess whether the scholar answers satisfactorily to the questions raised by the thesis examiners(s).
- 24.6 The viva voce board shall also recommend revision to be made in the final version of the thesis after taking into consideration suggestions of the examiners who evaluated the thesis and the discussion at the viva voce.
- 24.7 If the performance of the research scholar in the viva voce is satisfactory, he/she will be recommended for the award of Ph. D degree with the approval of the competent authority of A P J Abdul Kalam Technological University.
- 24.8 The Convener of the viva voce board shall forward the thesis to the Dean (Research) of the University certifying that the revisions recommended by the viva-voce board, if any, have been incorporated in the copy of the thesis along with the report of the viva voce board (both hardcopy and softcopy).
- 24.9 If the report of the viva voce board declares the performance of the research scholar not satisfactory, he/she may be asked to reappear for viva voce at a later date (not earlier than a month and not later than six months from the date of the first viva voce). On the second occasion, the viva voce board will also include the members of the doctoral committee. If the viva voce board on the second occasion also evaluates the performance of the research scholar as not satisfactory, the matter will be referred to the VC for a decision.

25. Award of degree

- 25.1 Provisional Certificate will be issued to those scholars who successfully defend their thesis. Ph. D. degree will be awarded to the scholars who fulfil all the requirements for the award of Ph. D. degree as and when approved by the Board of Governors.

26. Residual powers

- 26.1 Anything that is not explicitly covered in Sections 1 to 26 above with regard to Ph. D. of KTU will be referred to the Syndicate and the decision of the Syndicate shall be final.

