



K.R. MANGALAM UNIVERSITY

EDUCATION FOR LIFE

(Recognized by UGC and a member of AIU)

Ref.: KRMU/Admin/ O.O./ 2024-25/ 3984(A)

Dated: 15.07.2024

OFFICE ORDER

Subject: Standard Operating Procedures (SOPs) for PhD-Programme, K.R. Mangalam University

Standard Operating Procedures (SOPs) for PhD-Programme for the smooth functioning of Ph.D Programme at K.R. Mangalam University. SOPs and relevant annexure (as annexed) will help Research and Development Cell, Admission Team, Office of the Registrar, Exam Cell, Supervisors, School Research Committee and Research Scholars at each level for a successful completion of Ph.D. Programme of a Research Scholars.

Standard Operating Procedures (SOPs) for PhD to be implemented from the Academic Session 2024-25 is hereby notified for information (as annexed).

This is issued with the approval of the competent authority.


Registrar

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)

Encl:

- As above

Copy to:

- Vice Chancellor : For kind information
- Dean (Academics Affairs)
- Controller of Examinations
- Dean- Research
- Finance Officer
- Admissions Cell
- All Deans/ School Coordinators
- All Chairperson/s of SRCs
- All Faculty members
- Website Developer
- Office Copy

K.R. Mangalam University (KRMU), Gurugram
Research and Development Cell (RDC)
Standard Operating Procedures (SOPs) for PhD Programme

Standard Operating Procedures (SOPs) for a PhD Programme, covering the process from admission to the award of the PhD degree:

1. Admission Process:

a) PhD Entrance Examination dates approval:

The RDC Decides the PhD Entrance Examination dates for each semester and takes approval of the same from the Vice-Chancellor.

b) Supervisor's Eligibility & Approval:

i). *School Research Committee (SRC) Chairpersons will prepare the proposed list of eligible supervisors and share with Research & Development Cell (RDC) from time to time as and when someone is found eligible.*

ii). *After verification, RDC will share the final list of eligible supervisors with Registrar office within four days.*

iii). *Registrar will take the approval of final list of eligible supervisors from the Vice-Chancellor and same will be ratified by Academic Council in next immediate meeting.*

c) Call for Submission of PhD Applications:

i). *The RDC will prepare the PhD matrix which indicates seats available in each discipline.*

ii). *The RDC will prepare and share the PhD admission brochure with admission team, in the odd and even semester on the basis of vacant seats according to PhD disciplines at KRMU, two months prior to the entrance exam/interview dates.*

iii). *The Admission team will advertise the call for PhD admission on different platforms (like, local newspapers, national newspapers, university website, social media etc.) within one week after receiving PhD admission brochure from RDC essentially mentioning the inclusion of NET entrance exam for PhD admissions.*

iv). *Prospective candidates will fill and submit the applications through the designated portal of KRMU, along with requisite entrance fee.*

v). *Applicants are required to submit their academic transcripts on online portal of KRMU.*

vi). *Admission team will share the list of applicants and print out of applications and transcripts with RDC on every Friday after start of application process.*

d) Application Review:

The RDC will review applications and check the minimum eligibility and authenticity of documents of the candidates in terms of percentage/grade at post graduate level. Candidates will be short listed as per the eligibility criteria within three days from the date of receipt of applications and transcripts, from admission team.

Registrar
K.R. Mangalam University
Sohna Road, Gurugram (Haryana)

R3

e) Selection Process (Entrance Exam/Interview):

- i). Entrance exam will be of 70 Marks, there are two Question Papers of 35 Marks each (Part-A: Research Aptitude & Research Methodology, Part-B: Discipline Specific).
- ii). The RDC will prepare Part-A and schools will prepare Part-B as per the instructions given by the RDC, both the question papers must be ready and submitted to RDC before seven days from the exam.
- iii). The RDC will inform the date of KRMU-PET and Interview to eligible candidates and NET/GATE/SLET/GPAT/MPHIL/OTHER EQUIVALENT EXAM, qualified candidates will be exempted from KRMU-PET, however they have to appear for the Interview. RDC will intimate the KRMU-PET exempt candidates about the Interview date through mail one week in advance. **It is essential to acknowledge the applications of the exempt candidates within the three days from receiving the date of applications.**
- iv). All applicants will appear for the interview before the respective school Panel of Experts, constituted by RDC and approved by Vice-Chancellor, on the day of KRMU-PET & Interview. Panel of Experts will share the interview marks with RDC on same day of Interview.
- v). The RDC will prepare the consolidated list of marks obtained by candidates in KRMU-PET & Interview/Interview within three days from the date of KRMU-PET & Interview/Interview.
- vi). Final selection will be on the basis of marks obtained in entrance examination as well as in the Interview.

Note: A candidate needs to score minimum 50% marks in KRMU-PET & Interview separately to qualify the entrance test. For SC/ST/OBC (Non-creamy layer)/Physically Disabled (having more than 40% disability) candidates, the minimum passing marks is 45% in KRMU-PET & Interview separately.

- vii). The RDC will obtain approval of PhD result from Vice-chancellor within three days after the exam and share it with Office of the Registrar for notification. The same notification shall be sent to the admission office for issue of Offer letters **(Annexure-1)**.

f) Admission Offer and Registration:

- i). Successful candidates will receive an Offer letter from the admission office through email for admission with details of fees to be paid and self-attested documents to be submitted within three days from the date of receiving notification.
- ii). The Admission team will issue the Provisional Admission Letters **(Annexure-2)** to candidates who have paid 1st Semester Fee and submitted self-attested documents. The office of the registrar will send document submission letters **(Annexure-3)** to candidates who paid the 1st semester fee and submitted self-attested documents to present themselves in the RDC office for the verification

Registrar
K.R. Mangalam University
Sohna Road, Gurugram (Haryana)

R3

- of original documents mentioned in Provisional Admission Letters within one week from the date of receiving of Provisional Admission Letters.
- iii). The RDC will verify the original documents of provisionally admitted candidates and share the verified list with Office of the Registrar and admission team.
 - iv). The Office of the Registrar will generate roll number, serosoft account, Outlook email ID and issue the ID cards within three days after receiving the list from RDC and communicate credential letters to candidates (**Annexure-4**).
 - v). The Office of Registrar will issue the Admission Letters (**Annexure-5**) to candidates within one week as per the prescribed format by RDC.
 - vi). The Office of the Registrar will share the list of finally admitted candidates (known as Research Scholars) with SRC Chairpersons, RDC, Accounts, and Library, at-least one week before the Orientation Day.

2. Orientation Programme:

- i). There will be an Orientation Programme through which newly admitted PhD scholars will be exposed to various aspects of the PhD programme of the University such as about the Schools, about Supervisors, about existing research facilities, and campus resources. RDC is the Nodal to conduct this programme.
- ii). The RDC will design and share the schedule of orientation programme with registered research scholars before one week of the orientation day.

3. Allocation of Supervisors & Coursework:

- i). The SRC chairpersons will conduct the first SRC meeting for the Allocation of appropriate supervisor(s) and co-supervisor(s) (if any) based on the area of the interest of the research scholar(s) and share the minutes of meeting with RDC on the date as communicated by RDC. The RDC will prepare and issue, "Approval of Supervisor certificate" and "Approval of Co-supervisor certificate" to Supervisor(s) and Co-Supervisor(s) (**Annexure-6 & Annexure-7 respectively**).
- ii). Supervisors will constitute Research Advisory Committee (RAC) (**Annexure-8**), as prescribed for each and every assigned Research Scholars and share with the SRC Chairperson and RDC on the date as communicated by RDC.
- iii). Supervisors should hold the first meeting of RAC with the research scholar within one week of the RAC constitution. In this meeting RAC should advise the research scholar based on his/her interest a "working title" of the PhD thesis (**Annexure-9**) so that the research scholars start working on his/her literature survey.
- iv). Coursework registration form (**Annexure-10**) will be shared by RDC to all SRC Chairpersons on the day of first SRC meeting.
- v). SRC Chairpersons will ensure the registration of the research scholars for mandatory courses on the day of first SRC meeting. SRC Chairpersons should also ensure the registration in the recommended additional courses (**Annexure-10A**) to be completed within 10 days of the first SRC meeting.
- vi). SRC Chairpersons will share the coursework registration forms of all research scholars with RDC within 10 days of the first SRC meeting.
- vii). RDC will share the schedule of coursework with research scholars and SRC on the day of the first SRC meeting.

viii). Coursework will be held on every Saturday & Sunday as per the schedule.

Research Synopsis Time Line for Research Scholars Exempted from Coursework:

- i). Research scholars with MPhil degree and if already completed the coursework from any other University will apply to RDC for the exemption of coursework.
- ii). RDC will take the approval of Vice-Chancellor for such research scholars and will report the matter as agenda point in subsequent URC meeting.
- iii). Research scholars who are exempted from the coursework may submit the Research Synopsis (**Annexure-11**) based on "working title" of PhD thesis advised by RAC and will give a presentation to SRC within six months from date of registration.
- iv). Research scholars may submit the research synopsis to SRC after incorporating the suggestions of SRC (if any) in consultation with RAC within fifteen days.
- v). SRC will approve the research synopsis within fifteen days.
- vi). SRC Chairperson will share the list of approved with RDC within seven days of the meeting for the research synopsis approval.
- vii). Maximum Time Duration for the submission of research synopsis for such research scholars will be one year from the date of registration. In exceptional cases. Extension of six months is given by the Vice Chancellor on recommendation of SRC and RDC.

4. Course Completion:

- i). The SRC shall review and approve the Literature Survey Progress of research scholars during the semester progress meetings. **The approval of Research Plan/Synopsis is subjected to satisfactory completion of literature survey as approved by SRC.** The maximum allowable time for completing literature survey within first two semesters. SRC shall submit the completed literature survey to the RDC for examination by panel of experts drawn from within the concerned department.
- ii). The RDC will conduct the End term examinations of mandatory courses, Research Methodology (RM), Research Publication & Ethics (RPE), Quantitative Techniques (QT), Introduction to Pedagogy & Teaching (IPT) and online modules as per course work schedule. The eligibility to appear for the course work examination is 75% attendance (In special conditions, the requirement of minimum attendance may be relaxed by the Chairperson URC).
- iii). All course coordinators, who are teaching the respective courses, as appointed by RDC from time to time will submit the marks to RDC within seven days from the coursework examination.
- iv). Research scholars will submit the certificate for the, "The Primer on Intellectual Property (by WIPO: Self-Paced)", to RDC as per course work schedule.
- v). Qualifying marks of Course Work is 55% (Grade C).
- vi). The RDC will share the result of coursework to CoE Office within seven days from end term exam.
- vii). The CoE office will declare the final result within 14 days from end term exam.

viii). The CoE office will prepare and issue grade sheet of coursework examination to research scholars within one month from end term exam.

5. Research Synopsis:

- i). The minimum time period for submission of research synopsis (**Annexure-11**) for approval from SRC is one year and maximum duration for the approval of research synopsis is one and half year from Date of registration. In exceptional cases extension of six months (for maximum duration upto two years) may be given by the Vice Chancellor on recommendation of SRC.
- ii). Research scholars will submit the research synopsis and "working title" of research synopsis as approved by the RAC and give a presentation to SRC on the date as communicated by RDC.
- iii). Research scholars will incorporate the suggestions (if any) given by SRC in research synopsis in consultation with RAC within fifteen days from the research synopsis presentation.
- iv). The SRC will approve the research synopsis and "working title", after assuring that proposed corrections have been incorporated, within fifteen days from the final submission of research synopsis.
- v). SRC will assure that the "working title" is based on interdisciplinary research work and it shall be finally approved by Chairperson SRC.
- vi). The SRC Chairperson will submit the approved research synopsis and working title to RDC within seven days.

6. Monitoring Research Progress of a Research Scholar:

a) Registration of Research Scholar in each semester:

- i) RDC shall notify the start and end of every semester in the academic calendar of the PhD programme.
- ii) Research scholar will fill up the "Semester No Dues cum Registration Form" (**Annexure-12**) in each semester from second semester onwards and submit to RDC.
- iii) RDC will prepare the list of registered and non-registered research scholars and share with respective schools, accounts department, and registrar office for further action as instructed by RDC.
- iv) Respective SRCs are to assure that only formally registered research scholars are allowed to meet their respective Research Supervisors and assessed during the semester progress meetings.

b) Research Work Progress:

- (i) RAC will monitor the research scholar's semester progress report (**Annexure-13A**) on regular basis and submit the satisfactory progress report to SRC Chairperson one week before the semester progress meeting.
- (ii) Research scholar must comply with the RAC's suggestions within two weeks from the date of RAC meeting.

c) Regular Progress Reports:

- i). RDC to notify in the academic calendar the period within which SRCs have to conduct semester progress evaluations.

- ii). SRC will conduct the semester progress evaluation only for re-registered research scholars in the given semester.
- iii). Research scholars will submit the six monthly progress reports (Annexure-13B) and give the presentation to SRC in the months of July and January. In exceptional cases (i.e. absence of students and large no. of students) SRC meetings may be extended by one month with prior approval of the Chairperson-URC.
- iv). SRC will give their remarks as "Satisfactory (S)/Unsatisfactory (U)" on the six monthly progress report submitted by the research scholars.
- v). Two unsatisfactory remarks in six monthly progress reports will lead to cancellation of research scholar from the rolls of the University. However research scholar may write an application to SRC chairperson with appropriate reasons for getting unsatisfactory remarks if he/she wants to continue in the PhD programme. In such cases Vice-Chancellor may give approval on the recommendation of SRC Chairperson.
- vi). In case a research scholar has been taken off from the rolls of the university and if he/she wants to continue it will be mandatory for him/her to re-register (maximum within one year) for the PhD programme by paying the required fee.
- vii). SRC Chairperson will submit hard and soft copies of every six monthly progress reports along with recommendation for research scholars to CoE Office & RDC, till pre-thesis presentation.

d) Research Scholars who have completed 32 months:

- (i) SRC chairperson will share the list of research scholars with RDC who have completed the minimum 32 months. All those research scholars who have completed their research work and intends to present it shall submit the prescribed format of "Pre-thesis submission presentation" (Annexure-14) to the Chairperson SRC.
- (ii) SRC shall examine the contents of the submitted format (Annexure-14) and if found satisfactory, it will intimate the date and venue of the presentation to the research scholars and RDC through an official circular.
- (iii) The chairperson RDC shall ensure the presence of the external expert in the SRC and at-least one nominee of the URC during the Pre-thesis submission presentation.
- (iv) The SRC shall provide the remarks

e) Research Scholars who have completed the maximum duration:

- i). Research scholar will apply for the extension to SRC Chairperson through supervisor (If research work is not completed in six years).
- ii). SRC Chairperson will apply for the extension of PhD duration of a Research Scholar to Chairperson Academic Council through RDC.
- iii). RDC will share the approval of extension, if granted, with office of the Registrar for issuance of Office Order and the office of the Registrar will circulate the Office Order as per standard list.

f) Verification of Publications by RDC:

- i). Supervisors will share the list of publications of research scholars (at-least two as a first author) and certificates for presentation in conferences/seminars by the research scholars to RDC for verification.
- ii). RDC will verify publications and certificates and intimate to Supervisor.

g) Pre-Thesis Presentation of Research Scholars:

- i). Supervisor will request to SRC for conducting Pre-PhD Thesis Presentation of research scholar who has completed all requirements as prescribed for the Pre-PhD thesis presentation (Annexure-14).
- ii). Research Scholar will submit all requirements as prescribed for the Pre-PhD thesis presentation (Annexure-14) and No Dues form (Annexure-15) to SRC Chairperson.
- iii). SRC Chairperson will conduct the Pre-thesis presentation after verifying no pendency as prescribed in Annexure-14 and Annexure-15.

h) Pre-Thesis Presentation approval/not-approval:

- i). If SRC will approve the Pre-Thesis submission presentation of a research scholar. The research scholar should submit the draft PhD thesis (Annexure-16) & summary of research work (Annexure-17) within three months to CoE. If research scholar will not submit within three months he/she should apply for the, extension of next three months from SRC.
- ii). If SRC will not approve the Pre-Thesis submission presentation of a research scholar, a second chance will be permitted by SRC. In second chance, if SRC will approve the Pre-dissertation presentation then research scholar should submit the draft thesis & Research Summary within three months to CoE. If research scholar will not submit within three months he/she should apply for the, extension of next three months from SRC.
- iii). If SRC will not approve the Pre-Thesis submission presentation in second chance. The third chance may be granted by the Vice Chancellor on the recommendation of the SRC/RDC (In exceptional cases). In third chance, if SRC will approve the Pre-dissertation presentation then research scholar should submit the draft thesis & research summary within three months to CoE. If research scholar will not submit within three months he/she should apply for the, extension of next three months from SRC.
- iv). If SRC will not approve Pre-dissertation submission presentation in third chance then the case will be submitted to URC for further action.

7. PhD Thesis Submission:

- i). Research scholar should submit a draft PhD thesis (Annexure-16) and a summary of research work (Annexure-17) to supervisor for review within 45 days from approval of pre-thesis presentation.
 - ii). Supervisor will review the draft PhD thesis, final title and summary of research work. After verification Supervisor will submit to RDC for cross verification within one week.
 - iii). The RDC will verify all fees and fine, if any paid, draft PhD thesis and summary of research work of research scholar and can give suggestions, if any, to supervisor within one week.
 - iv). Supervisor will communicate suggestions of RDC, if any, to research scholar. Research scholar will submit the hard copies of three spiral bound draft PhD thesis and five copies of final summary of research work to Supervisor after incorporating all suggestions of RDC, if any.
- 8. Final Evaluation and Award of PhD:**
- a) PhD Thesis & External Reviewer's Name Submission to CoE:**
- i). Research Scholar along with Supervisor will submit three spiral bound copies of draft PhD thesis (Annexure-16) and five spiral bound copies of summary of research work (Annexure-17) with soft copies of thesis and summary of research work in a pendrive to CoE within 3 days after receiving approval from SRC Chairperson.
 - ii). Supervisor will submit the names of six external examiners (Annexure-18) (at least four Professors and two Associate Professors working in the related research area. Wherever possible, three of the external examiners should be chosen from outside India.) to CoE through SRC Chairperson.
 - iii). CoE will take the approval of two external Examiners from the Vice Chancellor as per rules.
 - iv). CoE will send the submitted thesis to approved External Examiner within two weeks of submission of thesis.
- b) Final Evaluation of PhD Thesis by External Reviewers:**
- i). PhD thesis submission certificate (Annexure-19) will be issued to research scholar by CoE office within three days from date of submission. CoE office will send one copy of thesis submission certificate to SRC Chairperson and RDC.
 - ii). RDC will take follow-ups from CoE office regarding Evaluation reports (Annexure-20) of the external examiners. CoE office must ensure that the evaluation report from both the external examiners should reach within 45 days from date of dispatch of thesis.
 - iii). If both the thesis evaluation reports will not receive within 45 days, CoE will send reminder to external examiners.
- c) Evaluation Report of the Thesis:**
- i). After receiving both thesis evaluation reports from two External Examiners, CoE will share the reports with URC Chairperson if reports are favourable.
 - ii). Constitution of Oral Defence Committee (ODC) by Vice-Chancellor. (To be obtained by CoE if both the reports are favourable). ODC members are Supervisor,

External Examiner, SRC Chairperson and One member nominated by Vice-Chancellor.

iii). If external examiners given some suggestions in the reports then CoE will share the reports with SRC Chairperson, Supervisor and RDC.

vi). SRC Chairperson and Supervisors will check the Compliance of Observation/comments of external examiner if any, before Oral Defence and RDC will verify the compliance as per the reports shared by the CoE.

v). CoE will confirm the availability of one external examiner for the Oral Defense and will inform to SRC Chairperson and Supervisor.

vi). SRC Chairperson will convene the Oral Defense of research scholar as per the availability of external examiner and other members of ODC.

vii). Respective ODC will submit the report **(Annexure-21)** of Oral Defense to CoE.

viii). Research scholar will submit two hard bound copies and one soft copy of final thesis to KRMU-Library and one hard bound copy to CoE Office as per the checklist for final thesis submission **(Annexure-22)**.

ix). Librarian will issue a final thesis submission certificate **(Annexure-23)** to research scholar.

x). Librarian will upload the soft copies on INFLIBNET within 30 days of receiving the soft copy of Thesis.

xi). CoE will take the approval for the award of degree from Vice Chancellor after 21 days of upload of PhD thesis on INFLIBNET.

xii). CoE will notify the PhD result and issue a provisional degree within 15 days after approval from the Vice Chancellor.

9. Convocation Ceremony:

a) Participation in Convocation Ceremony:

i). CoE will inform to eligible research scholars about convocation ceremony.

ii). Research scholars will submit required Photo and fee (if any) to CoE office and accounts department.

iii). Research scholars will attend the convocation ceremony.

b) Issuance of Degree Certificate:

The PhD degree certificate will be awarded to research scholars during the Convocation ceremony.

Note:

i). PhD Semester fee will be paid by the research scholars till the time of PhD thesis submission.

ii). Semester fee payment last dates are 30 June and 31 December of a calendar year.

iii). Throughout the PhD programme, research scholar will be encouraged to participate in seminars, conferences, and other academic activities to enhance their research skills and knowledge. They are also encouraged to publish their research outcomes in quality journals indexed in SCOPUS/Web of Science.

- iv). A best thesis Award, to be evaluated based on certain parameters, will be given to research scholar and his supervisor (s) on the recommendation/approval of competent authority on Teacher's Day.
- v). These SOPs provide a structured framework for the successful completion of a PhD programme, ensuring that research scholars receive comprehensive guidance and support throughout their research journey.
- vi). These SOPs will be applicable to all existing PhD students.

All correspondences with regard to Ph.D. should be addressed at:

dean.research@krmangalam.edu.in

associate.deanresearch@krmangalam.edu.in

phdadmissions@krmangalam.edu.in



K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

Offer Letter NPF – Stage – Both Test & Interview Done – Automatically mark – Offer Letter Shared

REF/ADM/<Application Number>

Date: [DD/MM/YYYY]

NAME: <Student Name-Application Form>

<Course Name>

Address: <Address Line 1>

Place: <City>, <State> - <Pin>

Registered Number: <Registered Mobile Number>

Subject: PhD Admission Offer Letter for Academic Year 2024-25 (Odd Semester).

Congratulations!

We are pleased to inform you that based on your Ph.D. Admission Entrance process results, you are found eligible for admission to **Doctoral Programme: <Ph.D. in Dicipline>** at **K.R. Mangalam University**.

In order to confirm your seat and get provisional offer letter of admission, you are required to pay your First Semester Fee along with security deposit (Refundable) within one week of issuance of this letter. As seats are limited & admission is processed on a first-come, first-served basis, if you do not accept the offer the same will be offered to next wait listed applicant.

Account and amount details for making the payment are provided in **Annexure-A**. Required essential documents to be submitted at the admission office please refer to **Annexure-B**.

After you submit the first semester fee, you will be issued the Provisional Admission Letter. If needed, you may use the Provisional Admission Letter to apply for an educational loan.

Kindly go through the following information carefully:

- The programme is set to commence in the month of **August 2024**. Information regarding the same will be shared on the registered email-Id, about 2 weeks before the session's commencement.
- Kindly go through the **Admission & Migration policy** carefully.
- You must agree to abide by the rules, regulations or standing orders issued by K.R. Mangalam University, which are subject to change from time to time.
- The admission will be confirmed only after verification of your credentials with original documents. Any discrepancy found in the details submitted may lead to the cancellation of the offer and forfeiture of the total fee paid.
- All admissions are given on a provisional basis subject to the verification of original documents and eligibility criteria for the programme as laid down by the University.
- If you have any queries or require further information, please do not hesitate to contact the Admissions Office at 9289143055/ 8800697009.

Disclaimer: The University reserves the right to offer or/and cancel any course/programme subject to the minimum acceptable number of admissions in each course/programme.

We congratulate you once again on receiving this offer and are looking forward to welcoming you.

<Authorized Signatory>

Admission Department

K.R. Mangalam University

Sohna Road, Gurugram, Delhi-NCR, PIN-122103. 8192 888 444

www.krmangalam.edu.in

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)



K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

Provisional Admission Letter NPF – Stage – Admission Approved - Registration Done

REF/ADM/<Application Number>

Date: [DD/MM/YYYY]

Name: <Student Name-Application Form>
[Programme Name]

Address: <Address Line 1>

Place: <City>, <State> - <Pin>

Registered Number: <Registered mobile Number>

Subject: PhD Provisional Admission Letter, Academic Year 2024-25 (Odd Semester)

Dear [NAME],

Congratulations! We are delighted to inform you that you have been provisionally admitted to K.R. Mangalam University for the [Ph.D. in Discipline] Programme.

We are glad to receive your acceptance of the offer letter, along with all the specifications mentioned therein. Your prompt response is highly appreciated. The K.R. Mangalam community is confident that your academic journey at K.R. Mangalam University will be both rewarding and enriching.

Please carefully review the following information:

1. If your self attested documents are found to be false or untrue the provisional or/and final admission may be cancelled at any time during the programme without any refund of the fee paid till that date.
2. Students are advised to pay the total applicable fees at the earliest and confirm their provisional admission, as there are limited seats available. Account details for making payments are provided in **Annexure-A**.
3. Students are required to bring original documents as per **Annexure-B** (PhD programme) on or before the Induction programme day. Failure to do so may result in the cancellation of Provisional Admission.
4. All admissions are given on a provisional basis subject to the verification of original documents & eligibility criteria for the programme as laid down by the University.
5. The admission will be confirmed only after verification of your credentials with original documents. Any discrepancy found in the details submitted may lead to the **cancellation of the Provisional Admission and forfeiture of the total fee paid.**



K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

6. If a student has either compartment/ supplement in Class XII or any backlogs in the undergraduate programme then he/ she is required to fill the undertaking to submit the passing result by **31st October 2024** (Link attached in Annexure 2 for UG programme or Annexure 3 for PG programme). Failing which university may cancel the provisional admission of the student without any intimation.
7. The programme is set to commence in **August 2024**. Information regarding the same will be shared on the registered email-Id, about 2 weeks before the session's commencement.
8. Kindly go through the **Admission & Migration policy** carefully.
9. If you have any queries or require further information, please do not hesitate to contact the Admissions Office at 8192 888 444.
10. You must agree to abide by the rules, regulations or standing orders issued by K.R. Mangalam University, which are subject to change from time to time.

Disclaimer: The University reserves the right to run any course/ programme subject to a minimum acceptable number of admissions in each course/programme.

Once again, congratulations on your admission. We look forward to welcoming you to K.R. Mangalam University amidst esteemed faculty, state-of-the-art facilities and a vibrant campus life, and wish you a successful and fulfilling learning experience.

Registrar
K.R. Mangalam University
Gurugram-122103



Annexure-A

The details of applicable fees are as follows:

Particulars	Fee for Semester I (in Rs.)	Fee for Semester II (in Rs.)	Total Annual fee
[Programme Name]	[Sem 1 Fee] *Inclusive of one time security deposit of Rs. 10000/-	[Sem 2 Fee]	[Total Fee]
Alumni Fee (Non-Refundable)	-	2000	2000
Other Facilities (if applicable)			
Hostel			
Fee	154000		154000
Security Deposit (Refundable)	20000	-	20000
Transportation			
Transport Fee	24000	24000	48000
Shuttle Service (from Millennium City Centre Gurugram /Rajeev Chowk Gurugram)	12000	12000	24000

Note: - If you're willing to avail hostel accommodation, we advise you to pay the total amount of the hostel fee at the earliest to avoid any last-minute rush, as the same is strictly available on a first-come first-serve basis.

The Fee can be paid offline or online

- For Offline, Fee Payment Option:
Debit/Credit Card swipe at Cash counter, Cash at Cash counters located at University Campus, Demand Draft/Cheque - Please draw the DD/Cheque in favour of "K R Mangalam University". In case of DD, it should be payable at Gurgaon. Please mention your name, Roll No / Application No and contact number on the backside.
- For Online, Fee Payment Option:
University Official website www.krmangalam.edu.in/payment-procedure
Fees can also be paid using the following link: <https://bit.ly/4c5LEY6>
- FEES in Easy Monthly Instalments** - In case a parent wants to pay fees in instalments, they can now pay fees in easy monthly instalments through GrayQuest.
For more details visit: <https://grayquest.com/institute/krmu>
- After you deposit the total fee for semester 1 and complete the enrollment process, you will be issued an Identity card and the University Roll Number
- The fee for the year will be payable in two instalments as schedule:
 - 1st Instalment: At the time of admission
 - 2nd Instalment: On or before 31st December
 - Second year onwards, semester fees shall be paid on or before 30th June (Odd Semester) and 31st Dec (Even Semester) through the student academia ERP portal (**Serosoft**).
- The programme fee payable in subsequent years may increase up to 10% per annum. The Hostel fee and Transport Fee payable in subsequent years may increase up to 20% per annum.



Annexure-B

The documents listed below must be brought in original to be verified by the Registrar's office on or before the Orientation programme day.

Student applying for Ph.D. Programme:

Required Documents	Original/ Photocopy	Link
8 Colour Photographs (2X2 Inch with White Background)	Original	
Mark Sheet of 10 th	Original & Photocopy (Self-attested)	
Mark Sheet of 12th / 10+2 or equivalent.	Original & Photocopy (Self-attested)	
Mark Sheet of UG Degree (All semester Mark Sheets or Transcript)	Original & Photocopy (Self-attested)	
UG Degree	Original & Photocopy (Self-attested)	
Marksheet of PG Degree (All semester Mark sheets or transcript)	Original & Photocopy (Self-attested)	
PG degree/ Provisional PG degree (in the absence of degree)	Original & Photocopy (Self-attested)	
Migration Certificate	Original & Photocopy (Self-attested)	
Character Certificate	Original & Photocopy (Self-attested)	
Aadhaar Card	Photocopy (Self-attested)	
Medical Certificate by Registered Doctor	Original	
Caste Certificate (In case of SC/ST/OBC)	Photocopy (Self-attested)	
Family Certificate (Parivar Pehchan Patra). (In case of Pharmacy Programmes)	Photocopy (Self-attested)	
Domicile Certificate for Haryana State residence only.	Photocopy (Self-attested)	
Students to submit Notarized Gap Certificate on Rs. 100 stamp paper, if there is any academic year gap. (If PG programme is passed on or before academic year 2023).	Hard copy of Original document as per the link	https://bit.ly/backyearphd
PG Backlog Pass Marks Sheet (If applicable).	Original/Photocopy (Self-attested)	
NOC (No objection certificate) (Applicable for Part Time candidates only)	Hard copy of Original document as per the link	https://bit.ly/NOctoPhd
Anti-Ragging Undertaking – Student	Hard copy of Original document as per the link	https://bi.ly/4ageMdr
Anti-Ragging Undertaking – Parent	Hard copy of Original document as per the link	https://bit.ly/4ageMdr
Undertaking of All the unavailable Essential Documents	Hard copy of Original document as per the link	https://bit.ly/3TcscjG



K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

KRMU/2024-25/<Application Number>

Date: [DD/MM/YYYY]

Name: <Student Name>

[Programme Name]

Mobile Number: <Registered Mobile Number>

Subject: Letter of Invitation for document submission, Academic Year 2024-25 (Odd Semester)

Dear <Student Name>

I am delighted to inform you that your document submission process is scheduled for 29 June 2024 (Saturday) at 10:00 AM onwards. We would like to invite all first-year students of K. R. Mangalam University for the document submission process as per the schedule.

You are required to visit the Research & Development Cell of University, 408, 4th Floor, A-Block with all the original and photocopies of documents as mentioned in your Provisional Admission Letter Annexure 2 for Ph. D. admission.

Hostel Facility:

There are separate university Hostels available for Boys and Girls. Rooms are allotted on "First Come First Served" basis.

The room is already equipped with a cot, mattress, study table, chair, bed sheet, pillow, pillow cover, door mat, wardrobe closet, geyser, bucket, mug, mirror, tube lights, LED bulbs, ceiling fan, and AC.

For Booking Hostels:

For more information regarding hostel, students can write to us at:

chief.warden@krmangalam.edu.in

warden.girls@krmangalam.edu.in

warden.boys@krmangalam.edu.in

Alternatively contact us at +91-8800697006/+91-8800697005.

Bus Facility:

Air-conditioned University buses are operated from various routes in Bahadurgarh, Bhiwadi, Delhi, Farukh Nagar, Faridabad, Gurugram, Manesar, Noida, Palwal and Rewari. Shuttle services are available from Rajiv Chowk & Huda City Centre.

For more information regarding Transportation, students can write to us at:

transport@krmangalam.edu.in

Alternatively contact us at +91-8800176543/+91-8800697024/+91-8800697030.

The fee can be paid offline or online



K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

- a) For Offline, Fee Payment Option:
Debit/Credit Card swipe at Cash counter, Cash at Cash counters located at University Campus, Demand Draft/Cheque - Please draw the DD/Cheque in favour of "K R Mangalam University". In case of DD, it should be payable at Gurugram. Please mention your name, application no, programme name and contact number on the backside.
- b) For Online, Fee Payment Option:
University Official website www.krmangalam.edu.in/payment-procedure
Fees can also be paid using the following link: <https://bit.ly/4c5LEY6>
- c) **Fees in Easy Monthly Instalment** - In case a parent wants to pay fees in instalment, they can now pay fees in easy monthly instalment through GrayQuest.
For more details visit: <https://grayquest.com/institute/krmu>

Accounts:

For any information regarding Fee payment/Fee receipts please speak to accounts department +91-8192888444 or Email : accounts@krmangalam.edu.in.

For more information contact us at Admissions Helpline: +91-8192888444.

Registrar
K.R. Mangalam University
Gurugram-122103


Annexure-A

The documents listed below must be brought in original to be verified by the PhD Cell on or before the Orientation programme day.

Student applying for Ph.D. Programme:

Required Documents	Original/ Photocopy	Link
8 Colour Photographs (2X2 Inch with White Background)	Original	
Mark Sheet of 10 th	Original & Photocopy (Self-attested)	
Mark Sheet of 12 th / 10+2 or equivalent.	Original & Photocopy (Self-attested)	
Mark Sheet of UG Degree (All semester Mark Sheets or Transcript)	Original & Photocopy (Self-attested)	
UG Degree	Original & Photocopy (Self-attested)	
Marksheet of PG Degree (All semester Mark sheets or transcript)	Original & Photocopy (Self-attested)	
PG degree/ Provisional PG degree (in the absence of degree)	Original & Photocopy (Self-attested)	
Migration Certificate	Original & Photocopy (Self-attested)	
Character Certificate	Original & Photocopy (Self-attested)	
Aadhaar Card	Photocopy (Self-attested)	
Medical Certificate by Registered Doctor	Original	
Caste Certificate (In case of SC/ST/OBC)	Photocopy (Self-attested)	
Family Certificate (Parivar Pehchan Patra). (In case of Pharmacy Programmes)	Photocopy (Self-attested)	
Domicile Certificate for Haryana State residence only.	Photocopy (Self-attested)	
Students to submit Notarized Gap Certificate on Rs. 100 stamp paper, if there is any academic year gap. (If PG programme is passed on or before academic year 2023).	Hard copy of Original document as per the link	https://bit.ly/backyearphd
PG Backlog Pass Marks Sheet (If applicable).	Original/Photocopy (Self-attested)	
NOC (No objection certificate) (Applicable for Part Time candidates only)	Hard copy of Original document as per the link	https://bit.ly/NOCToPhd
Anti-Ragging Undertaking – Student	Hard copy of Original document as per the link	https://bi.ly/4ageMdr
Anti-Ragging Undertaking – Parent	Hard copy of Original document as per the link	https://bit.ly/4ageMdr
Undertaking of All the unavailable Essential Documents	Hard copy of Original document as per the link	https://bit.ly/3TescjG



K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

KRMU/_____2024-25/<Application Number>

Date: [DD/MM/YYYY]

Name: <Student Name-Application Form>

[Programme Name]

Address: <Address Line 1>

Place: <City>, <State> - <Pin>

Registered Number: <Registered Mobile Number>

Subject: Credential Letter, Academic Year 2024-25

Dear [Applicant Name],

We are pleased to inform you that you have been admitted to the [Programme : Ph.D] programme, [School Name] for the 1st Semester of the 2024-2025 academic year.

Please find your important credentials:

- Roll No.
- Outlook Email A/C
- Serosoft A/C
- Moodle A/C
- ID Card

: To be collected from Registrar office (in person) after orientation.

Warm regards,

Registrar
K.R. Mangalam University
Gurugram-122103



K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

Admission Letter

Ref: KRMU/_____2024-25/<Application Number>

Date: [DD/MM/YYYY]

Name: <Student Name-Application Form>

[Programme Name]

Address: <Address Line 1>

Place: <City>, <State> - <Pin>

Registered Number: <Registered Mobile Number>

Subject: Admission Letter, Academic Year 2024-25

Congratulations!

We are delighted to inform you that you have been admitted to K.R. Mangalam University in [Programme : Ph.D] Programme, [School Name] for the Semester 1 of Academic Year 2024-25, after a successful verification of your original documents submitted by you.

We believe that your potential for success is significant, and we are excited to see the contributions you will make both in and out of the classroom.

We wish to confirm with this letter that you are a bonafide student of this institution and your Roll number with this university is <Roll Number>. By this, we mean that you have agreed to abide by all the rules and regulations laid by the university and will observe all the directions released by the authorities from time to time.

Once again, congratulations on your admission to K.R. Mangalam University. We look forward to witnessing your academic and personal growth over the coming years.

To ensure a smooth and successful academic experience, it is mandatory to follow these essential guidelines:

- To maintain minimum 75% academic attendance to be eligible to appear in examinations.
- Pay Fees as per fee schedule.
- No involvement of any indiscipline/ misconduct in the University premises.
- Wear Identity Card.
- The programme fee payable in subsequent years may increase up to 10% per annum. The Hostel fee and Transport Fee payable in subsequent years may increase up to 20% per annum.

Warm regards,

Registrar
K.R. Mangalam University
Gurugram-122103

Ref. No.: KRMU/Admin./O.O/2024-25/_____

Dated: _____

To,

<Faculty Name>

<Designation>

<School Name>

K.R. Mangalam University, Gurugram

Subject: Approval of Supervisor for <Name of Research Scholar> <(Roll No: _____)>.

Dear Madam/Sir,

I am pleased to inform you that you are approved as Supervisor of <Name of Research Scholar><Roll No: _____> registered for Ph.D. degree in <Discipline Name> at K.R. Mangalam University, Gurugram as per the minutes of meeting of <Name of School>-School Research Committee dated _____.

In case if you leave the KRMU, you may not be continued as Supervisor.

Your Sincerely

Registrar

CC:

1. Chairperson-SRC <(School Name)> : For information
2. Office of the Dean (For Research Scholar's file)
3. PhD Cell
4. Research Scholar
5. Office of the Registrar

Registrar
K.R. Mangalam University
Sohna Road, Gurugram (Haryana)

Ref. No.: KRMU/Admin./O.O/2024-25/_____

Dated:_____

To,

<Faculty Name>

<Designation>

<Affiliation of Co-Supervisor>

Subject: Approval of Co-Supervisor for <Name of Research Scholar> <(Roll No:_____)>.

Dear Madam/Sir,

I am pleased to inform you that you are approved as Co-Supervisor of <Name of Research Scholar><Roll No:_____> registered for Ph.D. degree in <Discipline Name> at K.R. Mangalam University, Gurugram as per the minutes of meeting of <Name of School>-School Research Committee dated _____.

Your Sincerely

Registrar

CC:

- 1. Chairperson-SRC <(School Name)> : For information**
- 2. Office of the Dean (For Research Scholar's file)**
- 3. PhD Cell**
- 4. Research Scholar**
- 5. Office of the Registrar**

Registrar
K R Mangalam University
Gohna Road, Gurugram (Haryana)

K.R. MANGALAM UNIVERSITY

Gurugram

Ph.D. Programme

Constitution of Research Advisory Committee (RAC)

Date:

Name of Research Scholar:

Roll No.:

School:

PhD Discipline:

The composition of the RAC is as follows:

1. Supervisor Name (Convener): _____
2. Faculty Name-1 (Related Research Area): _____
3. Faculty Name-2 (Related Research Area/Interdisciplinary Research Area if needed): _____

Signature of Faculty Name-1:

Signature of Faculty Name-2:

Signature of Supervisor:

Approved by

SRC-Chairperson

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)



K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

Ph.D. Programme

Part A. Working Title for Research

The working Title _____
_____ for the research work by _____
for approval.

Sign. of Research Scholar
any)
(Roll. No.: _____)

Co-supervisor (if

Name and Sign Supervisor

SCR-Chairperson

Vice-Chancellor

Ph.D. Cell

Part B. Thesis Title Approval

The thesis Title _____
_____ prepared and submitted by _____ in Partial
fulfilment of the requirement of thesis submission for the degree
of _____ has been thoroughly examined and is
recommended for approval and acceptance.

Put up for kind approval Pls.

Sign. of Research Scholar
(Roll. No.: _____)

Co-supervisor (if any)

Name and Sign Supervisor

SCR-Chairperson

Vice-Chancellor

Ph.D. Cell

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)



PhD Coursework Registration Form

Academic Session: 2024-25 (Odd Semester)

School:

Discipline:

Part Time/Full Time:

Roll No:

Name of Research Scholar:

S.No.	Course Code	Course Name	Credits
1	PPHD113	Research Methodology	4
2	PPHD117	Introduction to Pedagogy and Teaching	2
3	PPHD115	Quantitative Techniques	3
4	PPHD907A	Research and Publication Ethics	2
5		Discipline Specific Course (DSC)	2
6		World Intellectual Property Organisation (WIPO) Certification	1
Total Credits			14

I am registering in above courses and undertake that I will attend all the classes, appear for all the examinations and submit the assignments etc. in time. I understand that failing to satisfy these norms can lead to situation where I will be debarred from appearing in the end term examination. I agree to follow all the rules regarding code of conduct and discipline, mentioned for the students.

Sign. of Research Scholar

Sign. of SRC Chairperson

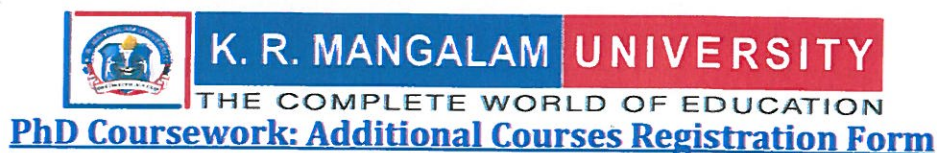
Sign. of Associate Dean-PhD Programme

Date:.....

Date:.....

Date:.....

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)



Academic Session: 2024-25 (Odd Semester)

School:

Discipline:

Part Time/Full Time:

Roll No:

Name of Research Scholar:

S.No.	Course Code	Course Name	Credits
1			
2			
3			
4			
Total Credits			

I am registering in above additional courses recommended by research advisory committee (RAC) and undertake that I will attend all the classes, appear for all the examinations and submit the assignments etc. in time. I understand that failing to satisfy these norms can lead to situation where I will be debarred from appearing in the end term examination. I agree to follow all the rules regarding code of conduct and discipline, mentioned for the students.

Name & Sign. of Research Scholar

Recommended by RAC:

Name & Sign. of Supervisor

Name & Sign of RAC member-1

Name & Sign of RAC member-2

Approved by

Name & Sign of SRC Chairperson

Registrar
K R Mangalam University
Gurgaon Road, Gurugram (Haryana)



K.R. Mangalam University Guidelines

For

Research Synopsis

WRITING RESEARCH SYNOPSIS FOR A Ph.D. PROGRAMME

This document will give you guidance for preparing a Research Synopsis. The Research Synopsis is the plan of research work and will elaborate on research objectives, proposed methods of data collection/ methodology adopted for carrying out research and future plan of action to achieve the objectives of research project. A Research Synopsis for Ph.D. in natural sciences, social sciences, languages, law, pharmacy or engineering, should include certain basic components, in which a number of questions need to be addressed. Before submitting the research synopsis the research supervisor and scholar must identify facilities/instruments/processes etc. are available in the University or in any other University/Institute/Industry etc. for the research work being undertaken.

- Why should proposed topic be chosen?
- What research has already been done on the proposed topic?
- What are the objectives of this study and how these will be attained?

An elaborate and exhaustive initial study in designing a sound research project is likely to make a significant impact in successful completion of Ph.D. research.

Components of a Research Synopsis

The following components must be included in a Research Synopsis of a Ph.D. research project. The details may be different depending on the field of study.

1. Title

Title should be brief, accurate and self-explanatory. It should relate directly to the main objective of proposed research and introduce the main problem. Title of the research project, name of the student (with roll no), name of the supervisor(s), and date (month and year) of submission/presentation must be mentioned on the title page of the Research Synopsis.

2. Introduction

It should provide a brief description of the proposed research work. Technological / engineering / scientific / Socio – economic relevance or significance of the research work must be reported and set into context.

3. Review of Literature

A review of the relevant, recent literature showing the work done previously in the area of proposed research is indispensable to plan further research effectively. The data given in the review should be supported by references and should be manageable. Review of literature must critically synthesize knowledge with in the subject being addressed rather than merely describing it.

4. Research Gaps:

It is important to provide justification for undertaking the proposed research in the light of previous work done. In most cases, specific and general objectives are likely to be achieved on the completion of the proposed research work.

5. Research Questions:

A research question is a clear, focused, and concise question that guides a research. It defines the specific issue or problem the researcher aims to address, shaping the study's goals and methodology. Effective research questions are:

- Specific: Narrow enough to be manageable.
- Focused: Targets a particular aspect of a broader topic.
- Researchable: Can be answered through data collection and analysis.

6. Statement of Problem:

A Statement of the Problem is a clear and concise description of an issue that needs to be addressed or investigated. It outlines the gap in knowledge, understanding, or practice that the research aims to fill. The statement defines the context, importance, and relevance of the issue, and it typically includes:

- Current situation: A brief overview of the existing knowledge or conditions.
- Gap or issue: What is missing, misunderstood, or problematic.
- Significance: Why addressing the issue is important.

7. Objectives

Broad objectives must be identified on the basis of problem analysis. The objectives should address the problems mentioned in the problem analysis. Each Research Synopsis should mention one overall objective describing the general contribution that research project would make to the subject area as well as one or more specific objectives focusing on discrete tasks that will be achieved during the research.

8. Plan of Work and Methodology

A plan of work shows different aspects of the study in a logical sequence along with the methodologies to be employed, which are the most important aspects of any research plan.

It should be mentioned as to which equipment and experimental procedures will be adopted for research work, what resource materials are likely to be employed. It is also expected from the research scholar to mention the source of information, whether it is collected from primary or secondary sources etc. along with time schedule for carrying out research.

Accurate and precise data collection methods should always be used as far as possible. It should be mentioned that the chosen methods are appropriate and suitable for achieving the objective. The Research Synopsis must specify how the collected data will be analyzed to answer the research objectives. Dependent and independent parameters for analysis should be clear as well as the type of statistical analysis, the number of observations needed, etc.

- (a) Research Design
- (b) In case of experimental design, describe the experiment in detail.
- (c) Hypothesis Formulation (if any)
- (d) Data collection and scaling technique
- (e) Data Analysis

- (f) Expected Results
- (g) Expected contributions

9. Place of Work

It is important to identify the place where the research work will be carried out and whether the resources and facilities required for doing the research are available.

10. References and Bibliography

Research Synopsis should contain at the end a list of references, and a bibliography in a standard pattern. Full reference in the reference list, including author, publication year, title, title of journal/series, volume of journal/series contribution, publisher (omitted for journal), location (omitted for journal), page numbers must be written. For chapters in books and contributions to conference proceedings the editors and title of the book/proceedings must be added. A standard format may be adopted and it should be followed consistently. All references in the text must be in the list of references and vice versa.

It will be difficult to define an overall length for a Research Synopsis for Ph.D. research. It should be concise as far as possible and avoid repetitions but provide sufficient details on the various aspects mentioned above to show that the research involved has been well understood and planned, and it is of an acceptable academic merit. The total length of Research Synopsis should be maximum 30 pages.

Arrangement of Research Synopsis

1. Cover Page: A Sample sheet is enclosed (Annexure 11A)
2. Title: Should be as short as possible and accurate (around 16 words)
3. Candidate's Declaration (Annexure 11B)
4. Content of the Research Synopsis:
 - i). Introduction: Outline briefly the technological / engineering / scientific / Socio – economic relevance or significance of the research work is being reported.
 - ii). Review of Literature: Important word in the relevant field, latest developments in the area, to emphasize the current status and importance of the research problem identified.
 - iii). Research Gaps
 - iv). Objective(s) and Scope: State clearly the questions for which answers are sought through this research. Define the conceptual, analytical, experimental and / or methodological boundaries of the research.
 - v). Research Work Plan Submission: Give brief, but sufficient details regarding

Annexure-11

Coursework	Research Synopsis Submission	Research Design & Questionnaire	Data Collection	Data & Result Analysis	Pre-Thesis Presentation	Thesis Submission for evaluation
6 Months	12 Months	18 Months	24 Months	30 Months	32 Months	36 Months

- a. The research problems
- b. Methodologies
- c. Interpretation of the results / output

6. Limitations: Highlight major (and not all) limitations.

7. Conclusions

8. References: List them according to the given format. All these must have been referred to in the text of the Research Synopsis. (Annexure II)

- Tables and figures: All these must be captioned, serially numbered and referred in the text.
- List of publications, if any, based on the research work.
- The style of presentation (fonts, chapter no., margins, section and sub section no., equation number, figures, tables, etc.) as described in Annexure III.
- The Research Synopsis must be presented within a maximum of 30 pages (15 sheets back to back), excluding the cover page.

Annexure 11A

<TITLE OF THE RESEARCH SYNOPSIS>

Research synopsis submitted in the partial fulfillment of the requirements
for the award of the degree of

DOCTOR OF PHILOSOPHY

in

<Name of Discipline>

by

<NAME OF THE SCHOLAR>

<Roll No.>

Under the supervision of

<Name of the Supervisor>

and

<Name of the Co-supervisor (if any)>



<Name of School>

**K.R. MANGALAM UNIVERSITY
SOHNA ROAD, GURUGRAM-122103, HARYANA, INDIA**

Month, Year

CANDIDATE'S DECLARATION (Annexure 11B)

I hereby declare that the work which is being presented here entitled, "<Title of Research Synopsis> by <Name of Scholar> in partial fulfillment of requirements for the award of the degree of Ph.D. in <Name of subject> submitted in the <Name of School> at K. R. Mangalam University, Gurugram, is an authentic record of my own work under the supervision of <Name of Supervisor/s>. The matter presented in this synopsis has not been submitted by me (in any form) to any other University / Institute for the award of Ph.D. degree.

I/We hereby further declare that in case of any legal dispute in my research synopsis, I/We will be solely responsible for the same.

Signature of the Student

Date:

Name of the Student

Roll No.

This is to certify that the above statement made by the candidate is correct to the best of my/our knowledge.

Signature of the Supervisor(s)

Name of the Supervisor

Signature of the Co-Supervisor(s)

Name of the Supervisor

Signature of SRC-Chairperson

Name of SRC-Chairperson

References (Annexure 11C)

- All the references listed in the **References** should be mentioned in text of dissertation.
- In-text references numbering should be in sequence.
- In text references shall be cited in square brackets e.g. [2]
- Uniformity of reference format is maintained in dissertation and references are formatted as per guidelines.
- Each reference shall contain all the necessary information. See the examples below:

1. Journal article

Author (s). "Article Title". *Journal Title*, Vol.(no), pp, date. DOI

2. Book Chapters

Author(s). "Chapter Title" in *Book Title*, edition. Editors name, Ed. Publishing location: Publishing Company, year, pp. ISSN.

3. Book

Author(s) . *Book Title*. Publishing Company, Year. [ISSN]

4. Articles presented in conference with proceedings published

Author(s). "Article Title", *Conference Proceedings*, location, year, pp. DOI.

5. Papers presented in conference (no proceedings)

Author(s). "Paper's Title", *Conference name*, location, year.

6. Patents/standards

Inventor(s) /Author(s). "Name/Title". Country where patent is registered. Patent number, date.

7. PhD Dissertation/Thesis

Author. "Title". Degree level, school, location, year.

8. Reference on the internet

Author(s). "Title". Internet: complete URL, date updated [date accessed].

9. e-Books

Author. *Book title*. (edition). [type of medium]. Vol.(issue). Available: site/path/file [date accessed].

10. News Paper/ Magazine Article

Author(s). "Article Title". Newspaper (month, year), section, pages.

Research Synopsis Format (Annexure 11D)

Following guidelines will be used for preparing Research Synopsis:

Paper:

- **Type:** On good quality white paper 80-100 gsm.
- **Size:** A4 size

Page Layout:

- **Orientation:** Portrait
- **Margins:**

At least 1¼ -1½ inches (3.17-3.81cm) on the left-hand side, 3/4 - 1 inch (2 -2.54cm) at the top and bottom of the page, and about ½ - 0.75 inches (1.27 - 1.90cm) at the outer edge. The best position for the page number is at top-centre or top right ½ inch(1.27 cm) below the edge. Pages containing figures and illustration should be suitable paginated.

- **Print:** Typescript should appear on one side only.
- **Line spacing:** at least one-and-a-half spaced. Footnotes, quotations, references and photographic captions may be single spaced.

Font: Times New Roman (preferred) / Arial / Courier New.

Font sizes:

- Chapter Title 16 point Bold, Center justified, double space
- Headings 14 point Bold
- Subheadings 14 or 12 point Bold
- Body-text (paragraphs): 12 points, Not Bold, Justified
- Footnotes 8-10 point
- Footnotes shall be given on the same page where reference is quoted.

Length of Synopsis:

The maximum length of synopsis should be 30 pages. It is dependent on the research area and work done.

Binding:

- The final synopsis must be spiral bound.
- Front cover should be as per Annexure I, properly spaced. The sizes should be: Title 24 pt., name of the candidate 18 pt. and name of the School 14 pt., Name of University 18 pt.



K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

Semester No Dues cum Registration Form

Date:

Name of Research Scholar:

Roll No.:

School:

Ph.D. Discipline:

Research Scholar <Name of Research Scholar> has no dues.

Signature

(Account Department)

**Research Scholar is registered for the (2/3/4/5/6/7/8/etc.)
Semester.**

PhD Cell

Registrar
K.R. Mangalam University
Sohna Road, Gurugram (Haryana)
RS

K. R. Mangalam University, Sohna Road, Gurugram

Research Scholar's Semester Progress Report

Date:

Name of Research Scholar:

Roll No.:

School:

PhD Discipline:

Semester:

1. Outline details of objective achieved/work done in in the above semester:

(Attach presented ppt and two to three pages report of semester progress)

2. Plan of work/What do you plan to achieve in the next 6 months?:

3. Number of research papers published in refereed journal: _____

4. Number of research papers presented in conferences/ seminars: _____

Date: _____ Place: _____ Signature of the Candidate

-----Report of Research Advisory Committee on student's progress -----

Registrar
K. R. Mangalam University
Sohna Road, Gurugram (Haryc)
RS

Note: Kindly adjudicate the research work on the scale of 5, as given below, since last review.

Scale	5	4	3	2	1	0	
Interpretation	Excellent	Very Good	Good	Satisfactory	Poor	Inferior	

S.NO	Attribute	Value
1	Progress towards goal(s)	
2	Frequency of student's meeting for discussion	
3	Direction of Student's progress	
4	Readiness of student for submission of synopsis	
5	Readiness of student for submission of dissertation	
6	OVERALL (<2 implies Unsatisfactory grade)	

Name & Signature of RAC member-1:

Name & Signature of RAC member-2:

Signature of Supervisor:

Approved by
SRC-Chairperson

Registrar
K P Mangalam University
Sohna Road, Gurugram (Haryana)

Research Scholar's Progress Report

Odd/Even Semester 20__-20__

1.	Roll Number:												
2.	Name of candidate (In Block Letters):												
3.	Status:	FULL TIME / PART TIME											
4.	Date of Completion of Course Work:												
5.	CGPA in the Course Work:												
6.	Total semesters of research work, since admission:	_____ years											
7.	Expected date of Thesis submission:												
8.	Thesis Title Approval details:												
(a)	Approved Title of the Thesis:												
(b)	Date of Approval of Title of Thesis: (If not approved, give expected date by which it will be approved)												
(c)	Was there any change of Title/Topic required?	Yes [] No []											
7	Supervisor/Co-Supervisor details:												
(a)	Date of Approval of Supervisor:												
(b)	Name, Designation & Affiliation of the Approved Supervisor												
(c)	Phone No. & E-mail ID:												
(d)	No. of Co-Supervisors:												
(e)	If applicable, give details of each approved co-supervisor:												
(f)	Date of Approval of Co-Supervisor:												
(g)	Name, Designation & Affiliation of the Approved Co-Supervisor(s):												
(h)	Phone No. & E-mail ID:												

Registrar
K.R. Mangalam University
Sohna Road, Gurugram (Haryana)

1. Outline details of objective achieved/work done in in the above semester:

(Attach presented ppt and two to three pages report of semester progress)

2. Plan of work/What do you plan to achieve in the next 6 months?:

3. Number of research papers published in refereed journal: _____

4. Number of research papers presented in conferences/ seminars: _____

Date: _____ Place: _____ Signature of the Candidate

-----Report of Supervisor and Co-supervisor(s) on student's progress -----

Note: Kindly adjudicate the research work on the scale of 5, as given below, since last review.

Scale	5	4	3	2	1	0	
Interpretation	Excellent	Very Good	Good	Satisfactory	Poor	Inferior	

S.NO	Attribute	Value
1	Progress towards goal(s)	
2	Frequency of student's meeting for discussion	
3	Direction of Student's progress	
4	Readiness of student for submission of synopsis	
5	Readiness of student for submission of dissertation	
6	OVERALL (<2 implies Unsatisfactory grade)	

Name of Co-Supervisor: _____

Signature of Co-Supervisor

Date: _____ Place: _____
(Note: Signature(s) of the Co-Supervisor(s) required, if applicable)

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)
RB

Name of Supervisor: _____

Signature of Supervisor

Date: _____ Place: _____

-----For Office Use-----

The final grade for _____ Semester _____

SATISFACTORY(S)/UNSATISFACTORY(U)

(Note: If the grade is U, student has been warned and was told about the consequence of two consecutive "U" grades.)

Grade has been communicated to COE.

Name of SRC: _____ Date: _____

Signature of SRC Chairperson

Registrar
K. R. Mangalam University
Sohna Road, Gurugram (Haryana)
R3



K. R. Mangalam University, Sohna Road, Gurugram

Checklist for the Pre-Thesis Submission Presentation

Roll Number									
Name of the Research Scholar (in Block Letters)									

S. No.	Requirements for submission of Synopsis for Pre-Submission Presentation of Dissertation/Thesis	Tick	Remarks, if any
1.	No documents are pending to be submitted to university.		
2.	Correct Name, AADHAAR number and photograph are available in university.		
3.	Course Work Cleared (Grade Sheet available).		
4.	Minimum time for thesis submission Completed.		
5.	Maximum time for thesis submission not exceeded.		
6.	No "U" grade in all semesters registered.		
7.	All Fees and other dues paid.		
8.	No case of indiscipline is pending.		
9.	Published at least one Research Paper in UGC listed Journals where PhD scholar is First Author. (Reprints/Acceptance available)		
10.	Presented at least two papers in conference/seminars (Evidence of presentation available).		
11.	Thesis Title Approved by URC.		
12.	Letter of Approval of Thesis Title and, if applicable, Change of Title available.		
13.	Supervisor Approved by URC (letter available).		
14.	Co-Supervisor(s) Approved by URC (if applicable) (letter available).		
15.	Completion of the research work duly checked and certified By supervisor/co-supervisor(s).		
16.	Progress reports for all semesters after the course work have been submitted to SRC.		
17.	Five copies of Research summary		
18.	Correct thesis title used as approved by the URC.		
19.	Certificate from Supervisor(s) is available		
20.	Plagiarism check done on the draft Thesis.		

Registrar
 K. R. Mangalam University
 Sohna Road, Gurugram (Haryana)

R3

Annexure-14

21.	<p>Power Point Preparation of the synopsis for approximately 35 to 40 minutes duration. The presentation must cover the following:</p> <ul style="list-style-type: none"> • Objectives and Scope of the research • Literature reviewed (briefly 5-6 slides only) • Identification of the research gaps based on literature review • Problem Formulation • Research Methodology • Experimentation/Data Collection/Analysis • Results and Discussion • Conclusions and Contributions of the research • Further Scope of Research • Publications by candidate 		
-----	--	--	--

Date: _____ Place: _____

Signature of the Candidate

Name of Co-Supervisor: _____

Signature of Co-Supervisor

Date: _____ Place: _____

Name of Co-Supervisor: _____

Signature of Co-Supervisor

Date: _____ Place: _____

(Note: Signature(s) of the Co-Supervisor(s) required, if applicable)

Name of Supervisor: _____

Signature of Supervisor

Date: _____ Place: _____

Registrar
K R Mangalam University
Sohna Road Gurugram (Haryana)
R3

B. Guidelines for preparation of Research Summary for Pre-Thesis submission & presentation

On completion of the research work, a pre-thesis submission by the research scholar to the SRC is an essential requirement. For this the research scholar is required to submit 5 (Five) copies of research summary of his/her research work to the SRC through his/her supervisor(s) and make a presentation of his/her research work to the SRC at which faculty members and other research scholars of the concerned and of other schools may be present.

- The summary of research work characterized by discovery of new facts or proposition of a new theory or by fresh interpretation of known facts with evidence of the analysis and judgment, investigation, design or development.
- It must include a certificate that "No part of the thesis or supplementary published work shall have been submitted for the award of any other diploma or degree at any other university/institution."
- The research summary shall be written in English.
- The research summary shall contain:
 - Title Page with Thesis title, name of student, roll number, name of supervisor/co-supervisor(s),
 - Certificate from Supervisor(s)
 - Abstract
 - Table of Contents
 - Introduction of the problem
 - Literature Review
 - Research Work done
 - Conclusions and Future Scope of Work
 - Specific Contributions
 - Key References
- The number of pages shall be between 6 to 10.
- Refer to Guidelines for Thesis for paper, page settings etc.

Registrar
K.R. Mangalam University
Sohna Road, Gurugram (Haryana)

R3



K. R. Mangalam University, Sohna Road, Gurugram

Form for Pre-Thesis Submission

1.	School Name:	
2.	Roll Number	
3.	Name of the research scholar (in Block Letters)	
(a)	AADHAAR Number	
(b)	Name of Mother	
(c)	Name of Father	
4.	Contact & Address details:	
(a)	E-mail Address	
(b)	Phone No.	
(c)	Address for correspondence	
(d)	Designation, Name & Address of the Organization (for Part Time research scholar):	
5.	Number of research papers published in UGC listed journal:	_____ (enclose reprints and details)
6.	Number of research papers presented in conferences/ seminars:	_____ (enclose evidence for the same in the form of presentation certificates and details)
7.	Thesis Title Approval details:	

Registrar
K. R. Mangalam University
Sohna Road, Gurugram (Haryana)

Annexure-14

(a)	Approved Title of the Thesis:	
(b)	Date of Approval of Title of Thesis by URC:	
(c)	Was there any change of Title/Topic?	Yes [] No []
8.	Supervisor/Co-Supervisor details:	
(a)	Date of Approval of Supervisor:	
(b)	Name of the Approved Supervisor	
(c)	Designation & Address:	
(d)	Phone No.:	
(e)	E-mail Address:	
(f)	Is there any co-supervisor?	No [] / Yes [] If Yes, No. of Co-Supervisors: ____
(g)	If yes, give details of each approved co-supervisor:	
	Date of Approval of Co-Supervisor 1:	
	Name of Approved Co-Supervisor 1:	
	Designation & Address:	
	Phone No.:	
	E-mail Address:	
	Date of Approval of Co-Supervisor 2:	
	Name of Approved Co-Supervisor 2:	
	Designation & Address:	
	Phone No.:	
	E-mail Address:	

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)
R3

9.	Total duration of research work, since admission:	_____ years/_____ semesters
(a)	Is the duration within permitted time limits?	Yes [] / No []
(b)	If No, was extension of time to submit thesis obtained?	Yes [] / No []. If Yes, enclose extension of time permission.

Enclosures:		Tick
1.	No dues certificate.	
2.	Certificate stating, 'no case of indiscipline is pending'.	
3.	Five copies of Research summary of research work duly signed by candidate and all Supervisor/Co-supervisor(s) and written following the guidelines for writing the synopsis.	
4.	Copy of Letter of Approval of Thesis Title /Topic and if applicable, Change of Title /Topic.	
5.	Copy of Approval of Supervisor/Co-supervisor(s) Letter.	
6.	Certificate from Supervisor/Co-supervisor(s).	
7.	Reprints and details of papers published (in prescribed format).	
8.	Copies of papers, presentation certificates and details of papers presented (in prescribed format).	
9.	Letter of Extension of Time to submit thesis (if applicable).	
10.	Any other (describe) _____	

Date: _____ Place: _____

Signature of the Candidate

-----**Recommendation of Supervisor and Co-supervisor(s)**-----

The Supervisor and Co-supervisor(s), if any, has/have found the candidate's research work is complete, satisfactory, worthy of submission and embodies original work done by him/her under my/our supervision

Also certify that the Candidate has completed the work within minimum-maximum period of registration as provided in the Regulations.

Recommended for submission to the SRC.

Name of Co-Supervisor: _____

Signature of Co-Supervisor

Date: _____ Place: _____

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)
R3

Name of Co-Supervisor: _____

Signature of Co-Supervisor

Date: _____ Place: _____

(Note: Signature(s) of the Co-Supervisor(s) required, if applicable)

Name of Supervisor: _____

Signature of Supervisor

Date: _____ Place: _____

-----For Office Use-----

- Received the completely filled Form for Pre-Thesis Submission on:
- Verified that the research scholar has fulfilled all requirements for pre-thesis submission (Yes/No):
- The research scholar presented the research work before the SRC on:

The work presented is found to be not worthy of Ph.D. thesis Submission:

- The deficiencies, corrections and improvements to be made have been shared with the Supervisor and Candidate.
- Candidate shall incorporate all the suggestions and shall re-submit the pre-submission application.
- The student shall submit his/her dissertation within three months from the date of pre-submission presentation.

The work presented is found to be worthy of Ph.D. and is approved by SRC.

- The dissertation shall be written in English.
- The dissertation shall be in the prescribed format.
- The dissertation shall be submitted within three months from the date of pre-submission presentation by the student.
- Plagiarism Check Report duly signed by candidate and Supervisor(s) shall be included in the dissertation.
- Three copies of the dissertation in soft binding, along with one copy on Electronic Media, must be submitted to the Controller of Examinations (COE) for Evaluation, through SRC, along with a copy of this recommendation.
- In case of a student being supervised by more than one supervisor, appropriate number of additional copies must be produced and submitted.
- A proposed panel of a minimum of six external examiners, suggested by the supervisor(s), shall be submitted to Vice chancellor in a sealed cover through COE.
- All the required certificates shall be submitted along with.

Name of SRC-Chairperson: _____

Signature of SRC Chairperson

Date: _____

Registrar
K.P. Mangalam University
Sohna Road, Gurugram (Haryana)

R3

C. Format for details of papers published in refereed journals

Format for details of papers published in refereed journals: (Attach hard copy/reprint as well as soft copy)

S. No.	Title of the research paper	Name of all the Author(s) in proper sequence (i.e. first author's name first)	Name of the Journal	Database listing of Journal	Volume, Issue, Page Nos.	DOI	Impact Factor	Citation Index
1.								
2.								

D. Format for details of papers presented in conference/seminars

Format for details of papers presented in conference/seminars: (Attach hard as well as soft copy of paper and presentation certificate)

S. No.	Title of the research paper	Name of all the Author(s) in proper sequence (i.e. first author's name first)	Name of the Conference/ Seminar	Place and Dates of Conference	Organizer of Conference	DOI	If published in proceedings of the conference, Page Nos.
1.							
2.							
3.							



K.R. MANGALAM UNIVERSITY
THE COMPLETE WORLD OF EDUCATION

PRE-THESIS SUBMISSION-NO DUES FORM

(For Ph.D. Research Scholar)

Date:

Please Tick the relevant box:

Minimum duration of 32 months from the date of orientation completed:	Yes	No
---	-----	----

Name of Research Scholar:

Father's Name :

Ph.D. Discipline:.....

Roll No. :

(Clearance required from the following sections)

Dean/School Coordinator:

Library :

Sports :

Hostel :

Canteen :

Labs (If Any):

Account Section:

TPO (In-charge):

Ph.D. Cell

Registrar

Registrar
K.R. Mangalam University
Sohna Road, Gurugram (Haryana)

<TITLE OF THE THESIS>

Thesis submitted in the fulfillment for the requirements of the degree of

DOCTOR OF PHILOSOPHY

in

<DISCIPLINE NAME>

by

<SCHOLAR'S NAME>

<Roll No:>

Under the supervision of

<Supervisor's Name>

and

<Co-supervisor's Name (if any)>



<School Name>

K. R. MANGALAM UNIVERSITY
SOHNA ROAD, GURUGRAM-122103, HARYANA INDIA

November, 2024

Registrar
K. R. Mangalam University
Sohna Road, Gurugram (Haryana)

DEDICATED

TO

(If required)

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)

DECLARATION

I, hereby, declare that the research work presented in the thesis titled “**Thesis Title**” submitted by me at the <**School Name**> of **K.R. Mangalam University**, Gurugram, in fulfillment of the requirement for the award of the degree of “Doctor of Philosophy in <Mechanical Engineering>” is an authentic record of my original research work carried out under the Supervision(s) of <**Name of Supervisor**> and Co-supervision of <**Name of Co-supervisor (if applicable)**> .The work presented in this thesis has not been submitted by me in any form (part or full) for any other degree or Diploma to this University or elsewhere.

I further declare that, if my thesis is found copied or comes under plagiarism, copyright violation or any legal dispute arises at any stage of time, I will be solely responsible for it and the University shall have sole right to cancel my research work from the beginning and the degree.

Date:

Signature of Research Scholar
(Roll No.: 1601990008)

We certify that the research work done by **Research scholar Name** embodies original work done by her under our supervision and vouch that there is an acceptable level of plagiarism as per the UGC Gazette Notification No. F.1-18/2010(CPP-II) 12.1, i and the work presented in this thesis has not been submitted for the award of any other degree/diploma anywhere else.

We are fully satisfied with the work done by the scholar in this thesis and allowed to submit the thesis as per the prescribed format. This is in accordance with the latest UGC-regulations.

Prof. (Dr.) Pawan Kumar

Supervisor

<Physics>

<School of Basic and Applied sciences>

<K. R. Mangalam University>

<Dr. Surendra Kumar Yadav>

Co-supervisor

<Mechanical Engineering (if Applicable)>

<School of Engineering and Technology>

<K. R. Mangalam University>

ACKNOWLEDGEMENT

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)

TABLE OF CONTENTS

<i>Dedication (if required)</i>	<i>ii</i>
<i>Declaration</i>	<i>iii</i>
<i>Acknowledgment</i>	<i>iv</i>
<i>Table of Contents</i>	<i>v</i>
<i>List of Figures</i>	<i>vi</i>
<i>List of Tables</i>	<i>vii</i>
<i>Symbols</i>	<i>viii</i>
<i>List of Abbreviations</i>	<i>ix</i>
<i>List of Publications</i>	<i>x</i>
<i>Abstract</i>	<i>xi</i>
CHAPTER 1: INTRODUCTION	
CHAPTER 2: LITERATURE REVIEW	
CHAPTER 3: As required	
CHAPTER 4: As required	
CHAPTER 5: As required	
CHAPTER 6: Conclusion and Future Scope of Work	
REFERENCES	
APPENDICES	
Appendix A	
Design Methodology (if required)	
APPENDIX-B	
Paper published based on the PhD thesis	
APPENDIX-C	
Brief biography of the Research Scholar	
APPENDIX-D	
Brief biography of the Supervisor and Co-Supervisor	
APPENDIX-E	
Plagiarism Certificate	

LIST OF FIGURES

Figure No.	Caption/Description	Page No.
Figure 2.1	MIMO antenna: (a) top layer, (b) bottom layer	10
Figure 2.2	Wide Band MIMO Antenna	10
Figure 2.3	MIMO Antenna with de-coupling Network (a) Top Layer; (b) Bottom Layer	11

LIST OF SYMBOLS

Symbol	Nomenclature
β	Propagation Constant
λ	Wavelength
μ	Permeability
ω	Angular frequency
Ω	Ohm
ϵ	Permittivity
ϵ_r	Relative permittivity
f_r	Resonant Frequency

LIST OF ABBREVIATIONS

HFSS	High Frequency Simulator Software
ISM	Industrial Scientific Medical Band
DCSP	Dual -Coupled Shorting Probe
RMPA	Rectangular Microstrip Patch Antenna
MIMO	Multi Input Multi Output
FSS	Frequency Selective Surface
MPA	Microstrip Patch Antenna
GPS	Global Positing System

LIST OF PUBLICATIONS

S. No.	Authors	Paper Title	Journal Name with ISSN No.	Vol.(Issue)/Page No. /I.F.and DOI
1.	Acharya, P., Kumar, J., Dahiya, V., & Peddakrishna, S.	Miniaturized omnidirectional satellite phone antenna inspired by meander line radiator and metamaterial integrated ground plane	International Journal of Information Technology ISSN No.: 2511-2112	14(6), 2981-2990 I.F.- https://doi.org/10.1007/s41870-022-01069-7
2				
3				

ABSTRACT

The antenna is a key element of all wireless communication systems and plays a vital role in efficient operation. There are a variety of antennas available in the market with different characteristics. In this work, a miniaturized microstrip antenna is presented for the lower earth orbit satellite phone. The proposed antenna is 66.3% smaller than a traditional circular patch antenna with acceptable performance. In addition, the modifications in the radiator plane are yielding a pure omnidirectional pattern. The impedance matching of the antenna is well below -10 dB in the operating 1510–1590 MHz frequency band. The prototype of the antenna is developed and tested, showing good agreement. The measured bandwidth and realized gain of the antenna are 80 MHz and 3.5 dB, respectively. The compact size, reasonable gain, and monopole radiation pattern make this antenna suitable for the 1525 MHz band satellite phones. Good matching is observed between the simulation and the measurement results and antenna is highly recommended for ISM band. The design is basically formulated through miniaturization by the use of meander lines techniques which is the eminent intention of this task. Multi bands and ultra-wideband antennas are also executed with miniaturized size and can be integrated easily with innumerable wireless devices. The results, such as return loss, surface charge density, and radiation pattern is obtained and discussed. The antenna is simulated on HFSS, and results like gain, VSWR, radiation efficiency, and radiation pattern are investigated. Comparison is also studied by employing complementary split rectangular structure CSSR and different results have been simulated on HFSS 13 software and making it suitable for applications in satellite and radar communications.

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)
R.S.

<TITLE OF THE RESEARCH SUMMARY>

Research summary submitted in the fulfillment for the requirements of the degree of

DOCTOR OF PHILOSOPHY

in

<DISCIPLINE NAME>

by

<SCHOLAR'S NAME>

<Roll No:>

Under the supervision of

<Supervisor's Name>

and

<Co-supervisor's Name (if any)>



<School Name>

K. R. MANGALAM UNIVERSITY
SOHNA ROAD, GURUGRAM-122103, HARYANA INDIA

November, 2024

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)

DECLARATION

I, hereby, declare that the research work presented in the thesis titled “**Thesis Title**” submitted by me at the <**School Name**> of **K.R. Mangalam University**, Gurugram, in fulfillment of the requirement for the award of the degree of “Doctor of Philosophy in <**Mechanical Engineering**>” is an authentic record of my original research work carried out under the Supervision(s) of <**Name of Supervisor**> and Co-supervision of <**Name of Co-supervisor (if applicable)**> .The work presented in this thesis has not been submitted by me in any form (part or full) for any other degree or Diploma to this University or elsewhere.

I further declare that, if my thesis is found copied or comes under plagiarism, copyright violation or any legal dispute arises at any stage of time, I will be solely responsible for it and the University shall have sole right to cancel my research work from the beginning and the degree.

Date:

Signature of Research Scholar
(Roll No.: 1601990008)

We certify that the research work done by **Research scholar Name** embodies original work done by her under our supervision and vouch that there is an acceptable level of plagiarism as per the UGC Gazette Notification No. F.1-18/2010(CPP-II) 12.1, i and the work presented in this thesis has not been submitted for the award of any other degree/diploma anywhere else.

We are fully satisfied with the work done by the scholar in this thesis and allowed to submit the thesis as per the prescribed format. This is in accordance with the latest UGC-regulations.

Prof. (dr.) Pawan Kumar
Supervisor
<Physics>
<School of Basic and Applied sciences>
<K. R. Mangalam University>

<**Dr. Surendra Kumar Yadav**>
Co-supervisor
<Mechanical Engineering (if Applicable)>
<School of Engineering and Technology>
<K. R. Mangalam University>

ABSTRACT

The antenna is a key element of all wireless communication systems and plays a vital role in efficient operation. There are a variety of antennas available in the market with different characteristics. In this work, a miniaturized microstrip antenna is presented for the lower earth orbit satellite phone. The proposed antenna is 66.3% smaller than a traditional circular patch antenna with acceptable performance. In addition, the modifications in the radiator plane are yielding a pure omnidirectional pattern. The impedance matching of the antenna is well below -10 dB in the operating 1510–1590 MHz frequency band. The prototype of the antenna is developed and tested, showing good agreement. The measured bandwidth and realized gain of the antenna are 80 MHz and 3.5 dB, respectively. The compact size, reasonable gain, and monopole radiation pattern make this antenna suitable for the 1525 MHz band satellite phones. Good matching is observed between the simulation and the measurement results and antenna is highly recommended for ISM band. The design is basically formulated through miniaturization by the use of meander lines techniques which is the eminent intention of this task. Multi bands and ultra-wideband antennas are also executed with miniaturized size and can be integrated easily with innumerable wireless devices. The results, such as return loss, surface charge density, and radiation pattern is obtained and discussed. The antenna is simulated on HFSS, and results like gain, VSWR, radiation efficiency, and radiation pattern are investigated. Comparison is also studied by employing complementary split rectangular structure CSSR and different results have been simulated on HFSS 13 software and making it suitable for applications in satellite and radar communications.

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)



CONTENTS

S. No.	Description	Page No.
1	Introduction	
2	Research Objectives	
3	Organization of thesis (chapter wise)	
4	Contribution	
5	Scope for further work	
6	References	
7	List of Publications	

Details of Proposed External Examiners

Student Roll No. _____ Name: _____

Proposed Examiner 1

Name of examiner		
Contact info:		
	Email address	
	Phone no, with country, city codes	
	Full address, with country, city, pin code	
Qualifications:		
	Highest Degree, with year	
	University	
	Discipline, Specialization	
Affiliation/Current position (give last position, if not working now)		
	Employer	
	Position(s)	
Teaching & Professional Experience (In-years):		
Key Achievements (Awards, Medals, Projects):		
Research:		
	Research Guidance (No. of Ph.D./PG)	
	Specialization/Area of Research/Expertise	
	Number of patents	
	Number of books authored	
	Number of chapters in books/Articles	

Registrar
K. J. Somaiya University
Sohna Road, Gurugram (Haryana)
R3

Annexure-18

	Number of papers in UGC Care List-I&II journals	
	Number of presentations in conferences	
Five key papers relevant to thesis topic (complete with authors, title, journal, publisher, vol. no., year, page nos.):		
1		
2		
3		
4		
5		

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)

Ref.:

Date:

Ph.D. Thesis Submission Certificate

This is to certify that <Scholar Name with Roll No.> enrolled in < Discipline Name> at <School Name>, K. R. Mangalam University, Gurugram. He/She has submitted his/her thesis entitled <thesis title> on <date>. His/her thesis Oral defense will be conducted after evaluation of thesis by external examiners.

Controller of Examination

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)



Thesis Evaluation Report

Ref: Ph.D./School/Discipline/2024/Roll No./_____

Date:

1. Thesis Title:

2. Name of the Research Scholar:

3. Roll No.:

4. Discipline Name:

5. School Name:

Please note that the form should be accompanied by a detailed report commenting on the strengths and weaknesses as well as specific suggestion for the improvement of the thesis as per the guidelines given in the covering letter. This recommendation form is to mainly facilitate the Controller of Examinations in deciding appropriate action. Check (✓) for your recommendation.

(i)	The Thesis is worthy of a Ph.D. degree subjected to a successful defense.	
(ii)	The Thesis is worthy of a Ph.D. degree after the suggested modifications, duly verified by the advisor(s), have been made.	
(iii)	The thesis requires major modifications as suggested, and the thesis must be sent to the examiners after changes have been incorporated.	
(iv)	The Thesis is not worthy of a Ph.D. degree	

Name of the Examiner

Designation:

Date:

Address:

Signature of the Examiner

Contact No.:

E-mail:

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)
B3

Thesis Viva Report

The Ph.D. thesis defense (Viva – voce Examination) of Mr. /Ms. _____
(Roll No. _____) on his/her Ph.D. thesis
titled“ _____

_____” was held on _____(Date) at _____(Time)
in _____(Venue/Virtual mode).

The thesis defense on the above mentioned Ph.D. thesis was conducted by the thesis defense Board:

- Name of External Examiner:
- Dean of School:
- Name of Supervisor:
- Name of Co-supervisor/s

The candidate presented his/her work identifying major contributions made and thereafter was examined by the members of the Viva – Board. Specifically the questions/clarification raised by all the thesis examiners was asked. The audience present also asked the questions. Based on the thesis defense the overall recommendation on the thesis is as follow. (This could be one of the following, please tick):

- ☐ **Category A:** The Thesis is worthy of a PhD degree. The suggestions made are minor.
- ☐ **Category B:** The Thesis is worthy of a PhD degree after the suggested modifications have been done and the modifications verified by the advisor(s).
- ☐ **Category C:** The Thesis requires major modifications as suggested, and the thesis must be sent to the examiners after changes have been incorporated.
- ☐ **Category F:** The Thesis is not worthy of a PhD degree.

Suggestions / comments on the thesis

Recommendation: Doctor of Philosophy in _____

(External Examiner)
Name _____
Designation _____

(Co-Supervisor)
Name _____
Designation _____

(Supervisor)
Name _____
Designation _____

(Dean of school)
Name _____
Designation _____

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)

K. R. MANGALAM UNIVERSITY, SOHNA ROAD, GURUGRAM**Checklist for Final Thesis Submission**

Roll Number											
Name of the Research Scholars (in Block Letters)											

S. No.	Requirements for submission of Thesis	Tick	Remarks, if any
1.	Pre-submission presentation to SRC done and Thesis was approved by SRC for Final Submission.		
2.	Thesis prepared as per the specified format		
3.	Preparation of thesis duly checked and certified by supervisor(s).		
4.	Verified the correctness of thesis title as approved by the URC.		
5.	Plagiarism check done on Thesis.		
6.	Plagiarism check report attached.		
7.	Supervisor has approved the Thesis		
8.	Co-Supervisor(s) have approved the Thesis		
9.	Self-declaration certificate stating that research carried out by the scholar is original and has not been submitted for any other degree / diploma, institution.		
10.	Certificate from the Supervisor/Co- Supervisor(s)		
11.	Three (or more) copies of Thesis made in soft (spiral) binding.		
12.	Soft copies of thesis (in a single PDF format) and synopsis on a CD.		
13.	Details (in specified format) of six external Examiners in sealed envelope from Supervisor(s)		
14.	Thesis submitted to COE within three months of pre-submission presentation.		

Date: _____ Place: _____

Signature of the Candidate _____

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)

Annexure-22

Name of Co-Supervisor: _____

Signature of Co-Supervisor

Date: _____ Place: _____

Name of Co-Supervisor: _____

Signature of Co-Supervisor

Date: _____ Place: _____

(Note: Signature(s) of the Co-Supervisor(s) required, if applicable)

Name of Supervisor: _____

Signature of Supervisor

Date: _____ Place: _____

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)

Ref.:

Date:

PH.D. THESIS SUBMISSION CERTIFICATE

I <Name of research Scholar with Roll No.> Ph.D. in <Name of Discipline> of <Name of School> under the supervision of <Name of Supervisor> and <Name of Co-supervisor> is finally willing to submit my Ph.D. thesis with due consent and signature of my research supervisor(s) in the hard bound volume of the thesis.

I have completed all the formalities and nothing is pending. I will be solely responsible for any wrong information submitted by me, if found in future, hence my thesis/degree may be cancelled. Kindly accept my thesis.

Central Library:

Bound Volume Two Copies

Soft PDF copies in a Pen drive

Examination Cell:

Bound Volume Two Copies

Soft PDF copies in a Pen drive

Note: Three hard bound volume and two pen drive containing soft copies of synopsis, singed thesis, singed chapters as per INFLIBNET format to upload at *Shodhganga* website must be submitted.

Name and Signature of Research Scholar

Roll No.

This is to certify that the research scholar <Name of Research scholar> has submitted the library's and COE's copies.

Name and Signature with date
University Librarian

Name and Signature with date
Controller of Examination

Registrar
K R Mangalam University
Sohna Road, Gurugram (Haryana)