DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

HUM -5051 Research Methodology and Technical Communication
Lab Manual (Technical Communication Component)

INSTRUCTIONS TO STUDENTS

1. The main objective of the research methodology lab is to write **a research article** and **publish** it in a Scopus / WoS-indexed Journals to inculcate research culture among the student community.

2. Students must follow research methodology techniques for carrying out the scripting of the research article. A thorough literature survey is mandatory to identify appropriate research gaps and to formulate research objectives.

3. A student should discuss the idea with their **faculty mentor** for feasibility and finalize the work with mutual understanding. Students can also get help from the faculty in charge of RMTC Lab if the area of interest matches.

4. The topic has to be selected from **SCOPUS/SCI/SCIE/WoS indexed journal** (refer 'indexed in' section of the journal website) or A/A* category conferences through the website http://portal.core.edu.au/conf-ranks/. You can also refer scimagojr.com and csrankings.org to search the journal and to filter particular research areas and journal papers.

5. Faculty in-charge of the lab as well as the mentor will be involved in the evaluation process. Students should regularly apprise their mentor about the work done. Students will be evaluated both for presentation and submission.

6. A **synopsis** must be submitted after finalizing the domain and research area. Mentor's approval in the form of signature is required in the synopsis report

7. All students should adhere to the rules of RMTC lab. Paper publication is mandatory in this Lab. Papers published in the other M.Tech related subject labs are not in connection with the RMTC Lab.

8. Students can also continue with their B.Tech project, if it is not published (Include your B.Tech project guide's name also in the paper).

9. All students should maintain a notebook for this lab and every week's lab task should be shown and discussed with the mentor and get the signature.
10. The midterm and final article should be plagiarism checked by the student and the article submitted should be accompanied by a similarity index report where the similarity should not exceed 10%.
11. In case a student misses a lab, it is his/her responsibility to complete the assigned work as per the manual.
12. Students are expected to be disciplined and attend the lab on time.

List of Tasks:

1. Identification of domain area.
2. Start with the literature review and identify the area of interest.
3. Identify relevant research topic from the area of interest, find the research gap and formulate the research problem.
4. Frame the achievable research objectives that can be implemented to find the solution for the formulated research problem.
5. Do a detailed literature survey pertaining to the formulated objectives, to understand the state-of-the-art technology of the proposed work.
6. Conceptualize and frame the methodology, implement the objectives of the research work with suitable result analysis.
7. Writing a research article or extended research article which can be published in a journal

The format of author details

Author/ Authors Name

Terminal degree and Designation (as per the journal requirement)

Name of the department/ departments, Name of the institution/ institutions,

Manipal Academy of Higher Education, Manipal, Karnataka, India-576104

Note:

Authors are requested not to use short form for Institutions or University name

Sample: Department of ABC, Manipal Institute of Technology, Manipal Academy of Higher Education, Manipal, 576104, India

RMTC Lab - List of Experiments

Week #	Work Description	Evaluation	Team/ Individual
Week 1	• Introduction to RMTC Lab experiments • Student Team (#3) formation • Briefing about RMS download – MAHE Approved list_July https://rms.manipal.edu/UserManagement/Usefullinks.aspx • Scopus website, Quartile ranking https://www.scopus.com/ • A journal's quartile is a metric that shows the credibility of a publication in a particular area. There are 4 journal quartiles (Q), where Q1 is the highest and Q4 is the lowest. The percentile divides the data into 100 parts, or between 0 and 99 percent. • Quartile Journal (Q1) is a journal that has a percentile of 75%-99%. • Quartile Journal (Q2) is a journal that has a percentile of 50%-74%. • Quartile Journal (Q3) is a journal that has a percentile of 25%-49%. • Quartile Journal (Q4) is a journal that has a percentile of 0%-24% • Awareness on different E-Journals subscription under MIT Central Library Portal https://libportal.manipal.edu/MIT/E-Journals.aspx • Identify area of research by exploring E-journals • Preparation on "How to write Introduction and how to cite articles" by the team members	NA	Orientation by faculty in charge
Week 2	• Presentation of "How to write Introduction and how to cite articles " by the team members taking selected journal article as a case study • Time duration: 5 minutes to each team	3 M	Presentation by team members
Week 3	• Introducing the Turnitin tool for plagiarism checking https://www.turnitin.com • Preparation on "How to write Literature survey" and "How to write research gaps and objectives" by the team members	NA	Orientation by faculty in charge
Week 4	• Presentation of "How to write Literature survey" and "How to write research gaps and objectives" by the team members taking selected journal article as a case study • Use Turnitin tool to conduct similarity checks and to detect AI generated content for the draft paper	3 M	Presentation by team members
Week 5	• Overview of overleaf tool - IEEE journal template https://www.overleaf.com/org/ieee • Preparation of a draft Synopsis report with Title, Introduction, Literature survey, Research gaps and objectives, References using the IEEE journal template • Use Turnitin tool to conduct similarity checks and to detect AI generated content for the final paper	NA	Individual
Week 6	• Midterm Submission of Synopsis Report as a hardcopy duly signed by the mentor	8 M	Individual

Week #	**Work Description**	**Evaluation**	**Team/Individual**
Week 7	• Working on the methodology and implementation of the proposed synopsis	NA	Individual
Week 8	• Preparation on "How to write Methodology, block diagram, algorithm, case study, experimental results, analysis and discussion of results"	NA	Team
Week 9	• Presentation on "How to write Methodology, block diagram, algorithm, case study, experimental results, analysis and discussion of results" by the team members taking selected journal article as a case study	3 M	Presentation by team members
Week 10	• Implementation of the proposed synopsis • Preparation on "How to write abstract, conclusion and list of references"	NA	Individual
Week 11	• Presentation of "How to write abstract, conclusion and references for journals and references for conferences" by the team members taking selected journal article as a case study	3M	Presentation by team members
Week 12	• Implementation of the proposed synopsis • Writing the inferences based on the results achieved • Preparation of the final paper with Title, Abstract, Key words, Introduction, Literature survey, Research gaps and objectives, Methodology, Experimental Results, Conclusion, References using the IEEE journal template • Use Turnitin tool to conduct similarity checks and to detect AI generated content for the final paper	NA	Review by Faculty in charge along with respective mentors
Week 13	• Final paper submission as a hardcopy duly signed by the mentor	10 M	Individual

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