



# **Sree Narayana Mangalam College Maliankara**

*(Affiliated to Mahatma Gandhi University, Kottayam)*

## **CERTIFICATE COURSE SYLLABUS**

### **RESEARCH METHODOLOGY**

Sree Narayana Mangalam College  
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Kerala, Pin - 683516  
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## Certificate course on Research Methodology

### Objectives of the Course:

- ✓ To promote scientific temper by learning research methodology
- ✓ To equip the students to conduct independent research and prepare research reports.
- ✓ To make the students acquaint with different tools and techniques used in research work

### Course Overview:

The course covers all the conceptual and methodological issues that cater successful conduction of research. The content of course includes techniques of research, IPR, literature review, main texts of research work, preparation of project proposal etc.. It will enable the researchers to build up the most suitable methodology for their research studies. The mission of the course is to teach research skills to the beginners and assist to improve the quality of research. It also provides a detailed plan that helps to keep researchers on track, making the process smooth, effective and manageable

**Duration of the course: 32 Hours (26 Hours Theory + 6 Hours Practical)**

### **Module I**

Introduction to Research Methodology- Principles, goals, and techniques of research, stages of research; generation of a research problem, execution of work; interpretation of results - analysis of data, interpretation and conclusions. **(Theory – 2 hrs)**

### **Module II**

Intellectual Property rights- Patent, copyright, trademarks **(Theory – 7 hrs)**

### **Module III**

Literature review- Journals-indexing journals, abstracting journals, research journals, review journals, e- journals. Impact factor of journals; h-Index; NCBI, PubMed, Medline; books, bibliographic tools **(Theory – 7 hrs)**

### **Module IV**

Preparation of research report- (IMRAD-System)- Introduction, Materials and methods, results, discussion, bibliography **(Theory – 8 hrs)**

### **Module V**

Preparation of project proposal- KSCSTE proposal model, statistical tools. PowerPoint presentation **(Theory- 8 hrs)**

### **Module VI**

Analysis and derivation from a problem to research **(Practical: 6hrs)**

### Suggested readings

- Anderson J, Durston B H, Poole (1970). Thesis and assignment writing. Wiley eastern
- Day R A, 1998. How to Write and Publish a Scientific Paper. University Press Cambridge.
- Holmes D, Moody P, D Dine, 2006. Research methods for the biosciences. Oxford University Press.
- Jeffrey A Lee, 2009. The Scientific Endeavour: Methodology and perspectives of sciences. Pearson.
- Joseph Gibaldi (2000 & 2009). MLA- Handbook for writers of research papers. Affiliated East-West Press Pvt. Ltd, New Delhi.
- Judith Bell. How to complete your research project successfully. UBS Publishers and Kanak publications.
- Ranjit Kumar, 2014. Research Methodology: A Step-by-Step Guide for Beginners. SAGE Publications India Pvt Ltd, New Delhi
- Sunder Rao P S S, Richard J, 2012. Introduction to Biostatistics and Research methods. PHI Learning, New Delhi.

## **Suggested Readings**

- George Acquiciah, 2004. Horticulture: Principles and Practices (II Edn). Prentice Hall. India.
- Chandha.K L, 2003. Handbook of Horticulture. ICAR. New Delhi.
- Hudson T, Hartmann, Dale E Kester, 2001. Plant Propagation, Principles and Practices (VI Edn). Prentice Hall, India.
- Kunte, Kawthalkar, Yawalker, 1997. Principles of Horticulture and Fruit Growing. Agri – Horticulture Co
- Gopal Chandha De, 2002. Fundamentals of Agronomy. Oxford and IBH Publishing House.
- Sharma R R, 2005. Propagation of Horticultural Crops. Kalyani Publishers.
- Manibhushan Rao K, 1991. Text Book of Horticulture. Macmillan India Ltd.