



**Newman College** Thodupuzha

Affiliated to Mahatma Gandhi University  
Reaccredited by NAAC with A grade (Cycle 3, CGPA 3.32)

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# Criterion I

# Curricular Aspects

**1.2**

**Academic Flexibility**

1.2.1

**Curriculum of Certificate / Value added course with  
Assessment Procedure**

**2022-2023**

Submitted to



National Assessment and Accreditation Council



## Curriculum for Certificate/Value added programs with Assessment procedure

### List of Courses for 2022-2023

Sl. No	Name of the course	Number of students completed the course	Refer page no
1	Certificate Course in Travel and Tourism	164	4
2	Value added Course in Investment and Equity Management	62	6
3	Certificate Course on Professional English	59	8
4	Value added Course on Spoken English	59	10
5	Certificate Course in Academic Research Writing	30	12
6	Value added Course in Gender Studies	23	14
7	Certificate Course in Computer Basics with MS Office and Google Workspace	83	17
8	Certificate Course on Herbal Medicine	19	20
9	Value added Course on Fernarium	20	23
10	UGC sponsored Career oriented Add on Course on Plant Tissue Culture	25	25
11	Certificate Course on Intellectual Property Rights	36	27
12	Value added Course on Working with Spread Sheets	36	30
13	Certificate Course on Data Analysis using Excel	26	32
14	Value added Course in Numerical Analysis	26	35
15	Value added Course on Electrical and Electronic Equipment Maintenance	12	37
16	Value added Course in Data Analysis and Presentation	26	40
17	Value added Course on Calculus	19	42
18	An Introduction to Machine Learning using Python	21	44
19	Thin Film Preparation: Techniques and Analytical Tools	13	46
20	Certificate Course on Introduction to SPSS	26	48



21	Value added Course in Mental Status Examination	17	50
22	Certificate Course on Field Entomology	32	52
23	Certificate Course on Nutrition and Mental Health	36	54
24	Certificate Course on Research Methodology: A Practical Approach	63	56
25	Value added Course on Data Analysis Using MS Excel	63	60
26	Certificate Course on Accounting with Tally	50	63
27	Value added Course on Security Analysis	48	65
28	Certificate Course on Capital Market	49	68
29	Value added Course on Total Quality Management	45	70
30	Value added Course on Digital marketing	45	72
31	Certificate Course on E Commerce	140	74
32	Value added Course- Voices from the Past: An Introduction to Oral History	59	76
33	Value added Course on Psychological First Aid During Natural Calamities	102	79
34	MOOC course in Organic Farming	187	82

**1. Certificate Course in Travel and Tourism**  
**Curriculum with assessment procedure**

**Course Outline:**

**Module 1: Introduction to Travel and Tourism** (4 hours)

Overview of the travel and tourism industry- Evolution and growth of tourism -Types of tourism: domestic, international, leisure, business, etc. - Key stakeholders in the industry

**Module 2: Tourism Destinations & Operations** (10 hours)

Types of tourism destinations: natural, cultural, heritage, etc. - Case studies of popular destinations- Understanding tourism demand and trends - Sustainable tourism practices - Tour operators and their role in the industry -Components of tour packages- Planning and organizing tours - Marketing and promotion of tours

**Module 3: Customer Service in Tourism** (10 hours)

Importance of customer service in the travel and tourism industry - Effective communication skills for dealing with customers - Handling customer complaints and resolving conflicts - Providing personalized experiences - Understanding customer preferences and requirements -

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

Selecting appropriate transportation and accommodation options - Creating comprehensive itineraries - Managing logistical challenges.

#### Module 4: Sustainable Tourism Practices & Technology in Tourism (4 hours)

Environmental, economic, and socio-cultural impacts of tourism - Principles of sustainable tourism-Strategies for sustainable destination management - Community engagement and responsible tourism- Impact of technology on the industry - Online travel agencies and booking platforms - Travel apps and tools - Future trends in travel technology.

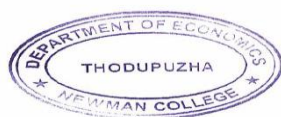
#### REFERENCES:

Cooper, C., Fletcher, J., Fyall, A., Gilbert, D., & Wanhill, S. (2017). Tourism: Principles and practice. Pearson Education Limited.

Page, S. J., & Connell, J. (2019). Tourism: A modern synthesis (5th ed.). Cengage Learning.

Buhalis, D., & Costa, C. (Eds.). (2018). Tourism business frontiers: Consumers, products and industry. Springer.

Middleton, V. T., & Clarke, J. R. (Eds.). (2019). Marketing in travel and tourism. Routledge.



  
Head  
Department of Economics  
Newman College, Thodupuzha

#### Assessment and evaluation:

**Mode of assessment: Course end examination**

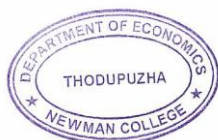
#### Theory


- Mode of assessment: Course end examination
- Marks: 40
- Minimum marks or pass: 15
- Assignment: 10

#### Course outcome:

On completion of the course, the students will be able to:

- Identify the basic concepts related to tourism and its importance.
- Assess the line agencies in the tourism sector.
- Learn about different kinds of tourism and its significance.
- Identify the role of government in the tourism industry.



  
Dr. Jenni K Alex  
Head of the Department

## **2. Value Added Course in Investment and Equity Management Curriculum with assessment procedure**

**Course outcome:**

On completion of this course the students will be able to

- Identify the basic concepts related to tourism and its importance.
- Assess the line agencies in the tourism sector.
- Learn about different kinds of tourism and its significance.
- Identify the role of government in the tourism industry.

**Assessment and evaluation:**

**Mode of assessment: Course end examination**

**Theory**

- Mode of assessment: Course end examination
- Marks: 40
- Minimum marks or pass: 15
- Assignment: 10

**Number of students passed: 62**



Xavier Kurian P.

Name and Signature of Course Coordinator



Name and Signature of HoD



## **Criterion 1**

### *1.2.1 Curriculum for Certificate/Value added programs with assessment procedure*

#### **Module 1 – Financial Institutions and Securities(8 Hours)**

Financial Institutions - Monetary and Non-monetary (banking and non-banking) financial intermediaries - insurance companies (life and general insurance), pension funds and provident funds, mutual funds, investment banks, unit trusts, asset management companies, venture capital funds - primary security and secondary security - gilt-edged securities.

#### **Module 2– Capital Market (6 Hours)**


Capital market-meaning and composition-primary and secondary markets-major financial instruments-equity shares and preference shares, debentures and bonds - G.D.Rs and A.D.Rs - DFIs and FIIs-QIBs -

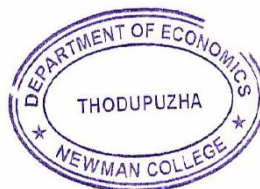
#### **Module 3 –Primary Market (8 Hours)**

Primary market-institutions in the primary market-underwriters, merchant bankers and managers to issue-public issue and methods of public issue, IPO and FPO-book building-private placement, ESOP, blue chip shares, right shares and bonus shares-listing of securities - physical shares and demat shares, depository participants-NSDL and CSDL

#### **Module 4 –Secondary Market: (8 Hours)**

Role and functions of Securities and Exchange Board of India (SEBI); Depositories; Stock exchanges Intermediaries in the Indian stock market Listing; Membership; Trading Clearing and settlement and risk management; Investor protection fund (IPF); and Do's and Don'ts for investors, Equity and debt investment.

  
**Dr. Jenni K Alex**  
Head of the Department



### **3. Certificate course on Professional English**

#### **Curriculum with assessment procedure**

##### **Learning Outcomes:**

After the completion of the course, the learner will be able to

- a) develop both active and passive vocabulary
- b) articulate words with correct pronunciation and get accuracy in grammar
- c) achieve interpersonal communication skills
  - d) communicate with confidence and listen to others to build rapport
  - e) understand and practice proper use of body language
  - f) volunteer discussions and leave positive influence on others
  - g) enhance their professional skills
  - h) equip them for jobs like technical/content writing.

**Module 1: Reading Skills** - Vocabulary: Words used in daily conversation but often neglected or wrongly used, comprehension passages and answering, Reading and understanding articles from Literary, Journalistic, Scientific and Management field, Skimming, Scanning Techniques, Proof reading, Enhance speed reading The SQ3R Reading Strategy.

**Module 2: Writing Skills** - Grammar: Tense: Formation and application; Affirmative /Negative/Interrogative formation, Modals and their usage, Parts of speech, Conditional sentences, Direct and indirect speech, Active and passive voice, Writing letters, emails for job placement, resume, letter to the editor, writing enquiries, complaints and replies, representations, writing narrations, Content Writing

**Module 3: Speaking Skills** - Understanding and employing 7 Cs of communication in conversation, Narrating incidents, stories, situation, and appearance, Group Discussion, Mock Interview, Making Presentations, Telephonic Conversation, Extempore, Debate, Speech

**Module 4: Listening Skills** - Types of Listening, Qualities of a good Listener, Barriers of Listening, Listening to audio of news/ weather forecasts/ reports, Listening to announcements at air ports and railway stations, Listening and retaining dialogues from films, listening to a specific audio and answering the questions

##### **Reference Books**



## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

Jones, Leo, and Alexander, Richard. *New International Business English Student's Book: Communication Skills in English for Business Purposes*. Germany, Cambridge University Press, 2011.

M. Bhatnagar and N. Bhatnagar. *Communicative English for Engineers and Professionals*. New Delhi: Pearson Education, 2010.

M. Raman and S. Sharma. *Technical Communication*. New Delhi, OUP, 2015.

P. Cullen. *Cambridge English: Vocabulary for IELTS*. Cambridge, Cambridge University Press, 2015.

R. Brown and L. Richards. *IELTS Advantage: Writing Skills*. Surrey, Delta Publishing, 2011.

R. Murphy. *Intermediate English Grammar*. Cambridge, Cambridge University Press, 1994.

Seely, John. *Oxford Guide to Effective Writing and Speaking: How to Communicate Clearly*. United Kingdom, OUP Oxford, 2013.

#### Assessment and Evaluation

Mode of assessment: Course end examination

Marks: 40

Minimum marks for pass: 16

Deena P. Kumalose   
Sona George   
Jerome K. Lou 



## **4. Value Added Course on Spoken English**

### **Curriculum with assessment procedure**

#### **Course Outcome:**

After the completion of the course, the learner will be able to

- a. develop both active and passive vocabulary
- b. articulate words with correct pronunciation and get accuracy in grammar
- c. achieve interpersonal communication skills
- d. communicate with confidence and listen to others to build rapport

#### **SYLLABUS**

##### **MODULE1: BASIC PHONETICS**

1. Phonemes, Consonants, vowels and Diphthongs
2. Phonemes and Syllables
3. Phonetic transcription
4. Rules for word accents, Intonation

##### **MODULE2: BASIC GRAMMAR**

1. Parts of speech
2. Tenses, Subject -verb agreement
3. Antonyms and synonyms
4. Word formation, Prefix and suffix

##### **MODULE3: LISTENING AND SPEAKING**

1. Listening to recorded audios
2. Listening and comprehension
3. Principles of public speaking
4. Group discussion and Debate
5. Conversation, speech and descriptions

##### **MODULE4: READING AND WRITING**

1. Techniques of reading
2. Reading comprehension
3. Essay writing - argumentative, narrative, descriptive, imaginative
4. Writing advertisements, speech, conversations, letters and notice
5. Resume and CV

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

#### Reference Books

Jones, Leo, and Alexander, Richard. *New International Business English Student's Book : Communication Skills in English for Business Purposes*. Germany, Cambridge University Press, 2011.

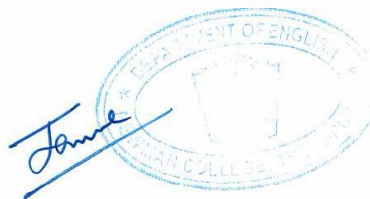
M. Ramanand S. Sharma. *Technical Communication*. 3<sup>rd</sup> Ed. New Delhi, OUP, 2015.

P. Cullen. *Cambridge English: Vocabulary for IELTS*. Cambridge: Cambridge University Press, 2015.

R. Brown and L. Richards. *IELTS Advantage: Writing Skills*. Surrey, Delta Publishing, 2011.

R. Murphy. *Intermediate English Grammar*. Cambridge, Cambridge University Press, 1994.

Seely, John. *Oxford Guide to Effective Writing and Speaking: How to Communicate Clearly*. United Kingdom, OUP Oxford, 2013.

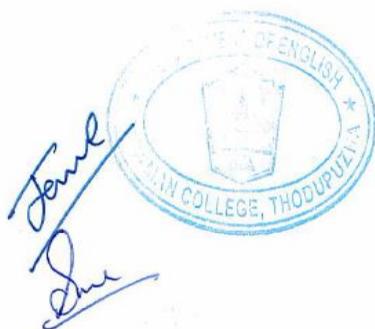


#### Assessment and Evaluation

Mode of assessment: Course end examination

Marks: 40

Minimum marks for pass: 16



## **5. Certificate Course on Academic Research Writing**

### **Curriculum with assessment procedure**

#### **Outcome of the course:**

1. Students acquire expertise in research methodology
2. The skills acquired will empower them to achieve academic and professional success
3. Students will be able to acquire research aptitude.

#### **Syllabus:**

##### **Module 1: Introduction to Research. (5 hrs)**

Definition, Purpose, Scope

##### **Module 2: Research for Academic Writing (10hrs)**

Researching Resources for Writing, Data Collection, Selecting Key Points, Note making, Paraphrasing, Quotations, Documentation, Plagiarism

##### **Module 3: Process of Academic Writing (10hrs)**

Title, Thesis, Abstract, Introduction, Body Paragraphs, Conclusion, Citation (Intext,, End text) Proof Reading

##### **Module 4: MLA Style (5hrs)**

Introducing MLA Edition 8, Styles – Font, Format, Page, Citation, Work Cited

##### **Module 5: Thesis Presentation (10hrs)**

#### **Reference Texts:-**

- *Critical Thinking, Academic Writing and Presentation Skills.* (Marilyn Anderson, Pramod K. Nayar, Madhuchandra Sen)
- MLA Handbook 8<sup>th</sup> edn.

**Syllabus set by: Curriculum Review Committee, Department of Communicative English**

Ms. Romy Thomas (HOD), Fathima Begum, Sherin Varghese

**Criterion 1**

*1.2.1 Curriculum for Certificate/Value added programs with assessment procedure*

**Assessment and evaluation:**

Assignment (15%)

Attendance (5%)

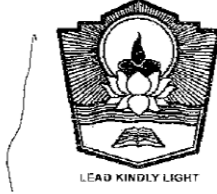
Final Examination (80%)

Pass mark minimum - 40



*Romy Thomas*  
Romy Thomas

**6. Value added course in Gender Studies  
Curriculum with assessment procedure**



**NEWMAN COLLEGE, THODUPUZHA**

**Reaccredited with 'A' Grade by NACC**

**(Affiliated to Mahatma Gandhi University, Kottayam)**

**VALUE ADDED COURSE IN GENDER STUDIES**

**(Academic Year: 2022-2023)**

**Curriculum and Syllabus**

Co-ordinated by

**Department of Malayalam**

**Course Description**

The value added course in **Gender Studies** is a gender awareness enhancement programme of 30 hours duration designed for the undergraduate students doing B.A. Malayalam Language and Literature programme.

**Course Objectives:**

- Demonstrate knowledge of the field
- Understand inter-relatedness of gender, race, ethnicity, class, disability, sexuality, age, religion and other social categories.
- Apply theoretical frameworks of feminism, gender and women's studies, queer studies, sexuality studies
- Understand historical and contemporary context in which women, queer, and gender non-conforming individuals have exercised their agency

**Course Outcomes:**

After the successful completion of the course, the students will be able to :

- Define and evaluate gender as a social construct.
- Identify the ways gender, power, privilege, and oppression play out across a range of cultures and human experiences.
- Demonstrate an understanding of gender as it intersects with sexuality, race, ethnicity, religion, class and other critical variables.

**Assessment Scheme**

Assessment of students for the course will be done by internal continuous assessment. Mark system is followed instead of direct grading for each question. Total marks for the course will be 100 marks.

**VALUE ADDED COURSE IN GENDER STUDIES  
SYLLABUS**

**Course Code: MLVGS01  
No. of hours: 30**

**Module 1**

Sex and Gender, Types of Gender, Gender Roles and Gender Division of Labor, Gender Socialization and Gender Stereotyping, Gender Stratification and Gender Discrimination

**Module 2**

Social Construction of Femininity , Bio-Social Perspective of Gender, Gender as Attributional Fact, Essentialism in the Construction of Femininity, Challenging Cultural Notions of Femininity – Douglas, Foucault, Images of Women in Sports, Arts, Entertainment and Fashion Industry

**Module 3**

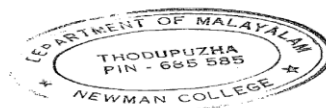
Ideologies proposed by Feminist Criticisms  
1. Lalitambika Antharjanam - Status of Indian Women Through the Ages (Sita Muthal Satyavati vara)

**Module 4**

Self-expression in female stories  
Saraswatiamma - female intellect

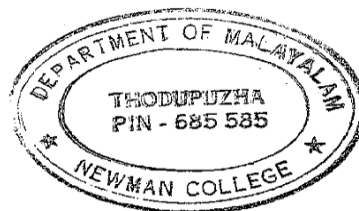
**Module 5**

Female authorship  
Sugathakumari - 'Rain Drop'



**Reference Books**

1. Connell, R.W. (2002). *Gender*, Cambridge: Polity Press
2. Holmes M (2007). *What is Gender*, New Delhi, Sage Publications.
3. Bhasin Kamala (2000): *Understanding Gender*, Kali for women, N. Delhi
4. Basu Aparna(1999) 'Women's Education in India' in Ray and Basu (edt): *From Independence Towards Freedom*, OUP, New Delhi.
5. Chodhuri Maitreyee (2004) *Feminism in India*, Women Unlimited, New Delhi.
6. Leelavathi M. ( 2000) *Feminism Charithraparamaya Oranweshanam*, Prabhas Books, Thiruvathapuram.
7. Getha (1999) *Devadoothikal Manjupovathu*, NBS, Kooayam.
8. Manjula K.V. (2005) *Shtreeyum Samoohavum* , Kairali Books, Kannur.
9. Hemamalini M. (2005) *Aparabhashyangal* , Current Books , Thrissur.





**7. Certificate course in computer basics with MS Office and Google Work Space**

**Curriculum with assessment procedure**



**NEWMAN COLLEGE, THODUPUZHA**

**Reaccredited with 'A' Grade by NACC**

**(Affiliated to Mahatma Gandhi University, Kottayam)**

**Certificate Course in Computer Basics with M.S. Office & Google Workspace**

**(Academic Year: 2022-2023)**

**Curriculum and Syllabus**

Co-ordinated by

**Department of Malayalam**

**Course Description**

The certificate course in **Computer Basics with M.S. Office & Google Workspace** is an IT skill enhancement programme of 30 hours duration designed for the undergraduate students doing B.A. Malayalam Language and Literature programme. A proportional weightage is given to both theory and practical components with a total score of 100 marks.

**Course Objectives:**

- To understand basic computer terminology
- To perform the basic functions of using a computer
- To improve computer literacy
- To know more about M S Office
- To improve computerised skills

**Learning Outcomes:**

After the completion of the course, the learner will be able to

- Increase the efficiency in computer usage
- Learn and Understand MS Word, MS Power Point, MS Excel, MS Access and MS Publishing
- Perform basic editing functions, formatting text, copy and moving objects and text
- Demonstrate the basic mechanics and navigation of an Excel spreadsheet.
- To edit and modify presentations.
- Examine database concepts and explore the Microsoft Office Access environment

**Assessment Scheme**

The assessment of the course is done at two levels. Out of the total 100 marks, 20 marks will be set apart for internal evaluation which will be done as a continuous summative process. At the end of the programme, a written exam carrying 30 marks will be conducted for the theory part and an practical exam carrying 50 marks will be done for the skill component.

**Certificate Course in Computer Basics with M.S. Office & Google Workspace**

**Syllabus**

**Course Code: MLCTC01**  
**No of Hours: 30**

**Module 1**

**MICROSOFT WORD 2013** - Launch Word, Window and ribbon features, File tab , Templates , Formatting a document, Setting margins ,Text alignment , View modes, Spelling and grammar checks , Page breaks and section breaks ,Headers and footers , Tables , Print options.

**Module 2**

**MICROSOFT EXCEL 2013** - Launch excel , Window features, Types of mouse pointers , Entering and formatting data , Freezing panes ,Basic formula, Formula Functions ,Borders and shading, Charts.

**Module 3**

**MICROSOFT POWER POINT 2013**- Window features, Creating slides, Editing techniques , Transition and animation , Slide show.

**Module 4**

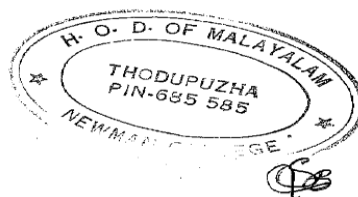
**HTML BASICS** - Key concepts of HTML , Introductory tags , Saving an HTML document, Working with texts , Inserting images and tables, Links, Lists , Forms, Frames.

**Module 5**

**GOOGLE WORKSPACE** – G mail , Google calendar ,Google drive ,Google docs , Google sheets, Google slides ,Google meet, Google classroom, Google translator, Unicode.

**Reference**

1. Peter Nortons- Introduction to Computers, Sixth Edition, Published by Tata McGraw Hill
2. . P K Sinha & Priti Sinha - Computer Fundamentals , Fourth Edition, BPB Publications.
3. M Morris Mano-Digital Logic and Computer design, Fourth Edition, Prentice Hall.
4. Thomas C Bartee- Digital computer Fundamentals, Sixth Edition, TATA McGraw Hill Edition
5. Thomas L Floyd- Digital Fundamentals, Ninth edition, PEARSON Prentice Hall.
6. Malvino & Leach- Digital Principles and Applications, Sixth Edition, Tata McGraw Hill,
7. William Stallings - Operating Systems, Sixth Edition, Prentice Hall of India, Pearson



**8. Certificate course on Herbal Medicine**  
**Curriculum with assessment procedure**



**NEWMAN COLLEGE, THODUPUZHA**  
**CURRICULUM AND SYLLABUS FOR**  
**CERTIFICATE COURSE ON**  
**HERBAL MEDICINE**

**Course code: HMC01**

**2020 Admissions**

Co-ordinated by  
DEPARTMENT OF BOTANY & BIOTECHNOLOGY  
NEWMAN COLLEGE, THODUPUZHA



## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

#### Course outcome:

On completion of the course, the students are expected to have a clear understanding on Herbal Medicine, conservation, sustainable use, and the fair and equitable sharing of the benefits arising out of the utilization of genetic resources. The strategy aims Herbal Medicine developing proactive policies and implementing action plans that will strengthen the role traditional medicine plays in keeping populations healthy.

Traditional medicine refers to health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being.


#### Assessment and evaluation:

##### Theory

- Mode of assessment: Course end examination
- Weightage: 50%
- Marks: 50
- Minimum marks or pass: 20

##### Practical

- Mode of assessment: Continuous internal assessment based on lab involvement
- Weightage: 50%
- Marks: 50
- Minimum marks or pass: 20

  
Head, Department of Botany  
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**4. SYLLABUS**

**HERBAL MEDICINE**

**Course code: HMC01**

**(Theory: 30 hrs; Practical: 5 hrs; Total 35hrs)**

**Module 1:** Introduction to Medicinally important Plant parts and Plant identification.(7)

Introduction to Medicinally important Plant parts: Fruits, Leaves, Stem and its modifications (underground and aerial), Roots. Plant identification – Elementary knowledge of Binomial nomenclature – Outline of Bentham and Hooker classification – Herbarium techniques.

**Module 2:** Study of some medicinally important families and Cultivation methods(9)

Study of some medicinally important families with reference to systematic position. Diagnostic features and medicinal uses only: Meliaceae, Myrtaceae, Apiaceae, Asclepiadaceae, Solanaceae, Lamiaceae, Euphorbiaceae, Zingiberaceae, Musaceae and Poaceae. Cultivation methods – Crop protection – Harvesting – Storage and Protection – Marketing and utilization - Export of medicinally important (General aspects).

**Module 3:** Ethnomedicine (7)

Ethnomedicine – definition, history and its scope – Inter disciplinary approaches in ethnobotany – Collection of ethnic information. Tribal medicine – methods of disease diagnosis and treatment – Plants in folk religion – Aegle marmelos, Ficus benghalensis, Curcuma domestica, Cyanodon dactylon and Sesamum indicum.

**Module4:** Analytical Pharmacognosy (7)

Analytical Pharmacognosy – drug adulteration and detection. Biological testing of herbal drug. Phytochemical investigations with reference to secondary metabolites of locally available medicinal plant

**PRACTICAL (5hrs)**

1. Identification and Medicinal value of locally available medicinal plants.
2. Morphology of the useful parts
3. Vegetative propagation methods (for spotters).
4. Histo – anatomical analysis of crude powder drug of locally available medicinal plants.
5. Field study of Herbal preparation of some medicinal plants

**References**

1. Ethnobiology – R.K.Sinha & Shweta Sinha – 2001. Surabhe Publications – Jaipur.

  
Head, Department of Botany  
Newman College, Thodupuzha  
Kerala, India-685585

## **9. Value added course on Fernarium Curriculum with assessment procedure**

### **Course outcome:**

On completion of the course, the students are expected to have a clear understanding on fernarium, importance of ferns and fernarium management. The Strategic Plan for fernarium, importance of ferns and fernarium management underpins ecosystem functioning and the provision of ecosystem services that are essential for human well-being. The fourth Global Biodiversity Outlook underscores that biodiversity is still being lost and ecosystems degraded at alarming rates.

### **Assessment and evaluation:**

#### **Theory**

- Mode of assessment: Course end examination
- Weightage: 50%
- Marks: 50
- Minimum marks or pass: 20

#### **Practical**

- Mode of assessment: Continuous internal assessment based on lab involvement
- Weightage: 50%
- Marks: 50



## **FERNARIUM**

**Course code: FRM01**

**(Theory: 30 hrs; Practical: 5 hrs; Total 35hrs)**

**Module 1: Ecological insights from fern population dynamics** - Any comprehensive population study of ferns is based on the demography of the three major stages of the life cycle of ferns (spore, gametophyte and sporophyte). Classifying sequential life history stages for ferns facilitates the assessment of growth and reproductive responses to environmental stimuli. (11)

**Module 2: Nutrient ecology of ferns**-Ferns respond to impact ecosystem nutrient cycling, Association with endomycorrhizal fungi, Nutrient levels of fern, The decomposition rates of fern litter.(10)


**Module 3: Fern conservation**-Ecological importance of ferns, Current risk assessments for ferns are mainly based on abundance and geographic range, fern management, culturing of fern. (9)

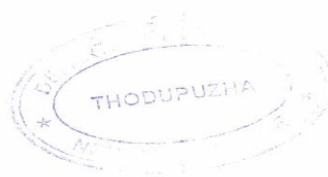
### **PRACTICAL (5hrs)**

1. Visit fern area and write a description about flora and fauna
2. Fernarium development
3. Ferns management and culturing.

### **References**

1. Ferns-Biotechnology, Propagation, Medicinal Uses and Environmental Regulation 2022
2. The Morphology of Pteridophytes; the Structure of Ferns and Allied Plants 2018
3. Pteridophyta by SHARMA 2014
4. A Textbook Of Bryophytes Pteridophytes Gymnosperms And Paleobotany by Sambamurty, Wiley 2020

  
**Head, Department of Botany**  
**Newman College, Thodupuzha**  
**Kerala, India-685585**





## **10. UGC Sponsored career oriented Add on Course on Plant Tissue Culture (Started in 2018-19)**

### **Curriculum with assessment procedure**

**Course outcome:**

On completion of the course, the students will be able

- Identify the basics and application of Plant Tissue culture
- Isolate explants and inoculate it aseptically
- Perform Plant Tissue culture

### **PLANT TISSUE CULTURE**

#### **CERTIFICATE COURSE**

**Paper I. Fundamentals of Plant Tissue Culture: 3 credits**

**Paper II. Applications of Plant Tissue Culture: 3 credits**

**Paper III – Practical: 6 credits**

**Paper IV - Field Work, Project, Training: 8 credits**

**Paper I – Fundamentals of plant tissue culture 3 credits**

1. Introduction and historical background of Plant Tissue Culture.
2. General Laboratory Techniques.-Maintenance of Laboratory.-Laboratory Space.-Culture Room Culture vessels and washing
3. Equipment - Principle and working - pH meter, Hot air oven, Autoclave, LAF, Rotary Shaker.
4. Sterilization techniques- Dry heat sterilization, Wet Heat sterilization and Surface sterilization of explants-Surface sterilants -different Methods.
5. Media preparation, Composition of Nutrient Media, Role of components, Method of preparation of Stock solution, preparation of Growth regulators. Calculations
6. Inoculation -Laminar Air Flow, Procedure of inoculation
7. Incubation -Maintenance of inoculation record, subculture and temperature control, Humidity
8. Hardening Techniques.

**Paper II. Applications of Plant Tissue Culture - 3 credits**

1. Callus culture, suspension culture- choice of explants subculture Estimation of growth of cells in culture.
2. Regeneration -Shoot regeneration, Somatic embryogenesis.
3. Brief study of - Anther culture, Ovary culture, Meristem culture, Embryo culture, Protoplast culture, hybridization.
4. Somaclonal variation - genetic basis of somaclonal variation.
5. Synthetic seeds - Preparation and Importance.

**Paper III practical - 6 credits**

1. Preparation of Standard tissue culture media -MS and White's. Preparation of Stock solution, Preparation of hormones, cotton plugs.
2. Method of preparation of Media, Sterilization of media.
3. Collection of explants Sterilization, inoculation of explants-leaf; root, shoot, anther, ovary and embryo.

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

4. Preparation of synthetic seeds
5. Maintenance of cultures, Sub culturing at periodical intervals.
6. Hardening of rooted plantlets.

#### Paper IV field work, project, and training - 8 credits

Collection of plant Material with medicinal and economic importance. Establishment in field,  
Selection of explants, contamination free cultures.


#### Reference

1. Kalyan Kumar De., (1992) An introduction to plant tissue culture. New Central Agency Calcutta.
2. Razdan M K 1993 an Introduction to plant Tissue culture. Oxford IBH Publi. Co. Ltd.  
ReinertJand Baja YPS. 1989 applied and fundamental aspects of Plant cell tissue and organ culture NarosePubli. House, New Delhi.

#### Assessment and evaluation:

##### Theory and Practical (Paper I, II, III)

- Mode of assessment:  
Continual assessment: Test papers (I and II); Seminar/ viva; Assignments;  
Attendance  
Written assessment: Written examination at the end of course
- Weightage:
  - ✓ Continual assessment – 50%  
Test paper I – 10 marks  
Test paper II – 10 marks  
Seminar/ viva – 10 marks  
Assignments- 10 marks

  
Head, Department of Botany  
Newman College, Thodupuzha  
Kerala, India-685585

## **11. Certificate course on Intellectual Property Rights**

### **Curriculum with assessment procedure**

**Objectives:**

- To introduce fundamental aspects of Intellectual property Rights to students who are going to play a major role in development and management of innovative projects in future
- To disseminate knowledge and awareness on patents, patent regime in India and registration aspects
- To disseminate knowledge on copyrights and its related rights and registration aspects
- To disseminate knowledge on trademarks and registration aspects
- To create general awareness about current trends in IPR and Govt. steps in fostering IPR

**Course Outcomes:**

- The students once they complete their academic projects, shall get an adequate knowledge on patent and copyright for their innovative research works
- During their research career, information in patent documents provide useful insight on novelty of their idea from state-of-the art search. This provide further way for developing their idea or innovations
- Pave the way for the students to catch up Intellectual Property(IP) as a career option such as R&D IP Counsel, Patent Examiner, Patent agent and Trademark agent, Entrepreneur etc.

### **Assessment and evaluation:**

Assignment :10 Marks

Practical Exam :40 Marks

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

Certificate Course 2022-2023

<b>Unit 1: Overview of Intellectual Property</b>	<b>8 Hours</b>
Introduction and the need for intellectual property right (IPR) – Main Kinds of Intellectual Property Rights: Patent, Copyright, Trade Mark, Design, Geographical Indication, Plant Varieties and Layout Design – Genetic Resources and Traditional Knowledge – Trade Secret – IPR in India : Genesis and development – Major International Instruments concerning Intellectual Property Rights: Paris Convention, 1883, the Berne Convention, 1886, the Universal Copyright Convention, 1952, the WIPO Convention 1967, the Patent Co-operation Treaty, 1970, the TRIPS Agreement, 1994	
<b>Unit 2: Patents</b>	<b>6 Hours</b>
Patents - Elements of Patentability: Novelty , Non Obviousness (Inventive Steps), Industrial Application - Non - Patentable Subject Matter - Registration Procedure, Rights and Duties of Patentee, Assignment and licence, Restoration of lapsed Patents, Surrender and Revocation of Patents, Infringement, Remedies & Penalties	
<b>Unit 3: Copyrights</b>	<b>6 Hours</b>
Nature of Copyright - Subject matter of copyright: original literary, dramatic, musical, artistic works; cinematograph films and sound recordings - Registration Procedure, Term of protection, Ownership of copyright, Assignment and license of copyright - Infringement, Remedies & Penalties	
<b>Unit 4: Trademarks</b>	<b>6 Hours</b>
Concept of Trademarks - Different kinds of marks (brand names, logos, signatures, symbols, well known marks, certification marks and service marks) - Non Registrable Trademarks - Registration of Trademarks - Rights of holder and assignment and licensing of marks - Infringement, Remedies & Penalties -	
<b>Unit 5: Current Scenario</b>	<b>4 Hours</b>
India's New National IP Policy, 2016 – Govt. of India step towards promoting IPR –	



Department of chemistry, Newman College, Thodupuzha

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

Certificate Course 2022-2023

Govt. Schemes in IPR – Career Opportunities in IP -IPR in current scenario with case studies

#### References:

##### Text book:

1. Nithyananda, K V. (2019). Intellectual Property Rights: Protection and Management. India, IN: Cengage Learning India Private Limited.
2. Neeraj, P., & Khusdeep, D. (2014). Intellectual Property Rights. India, IN: PHI learning Private Limited. Reference book:
1. Ahuja, V K. (2017). Law relating to Intellectual Property Rights. India, IN: Lexis Nexis.

##### E-resources:

1. Subramanian, N., & Sundararaman, M. (2018). Intellectual Property Rights – An Overview. Retrieved from <http://www.bdu.ac.in/cells/ipr/docs/ipr-eng-ebook.pdf>
2. World Intellectual Property Organisation. (2004). WIPO Intellectual property Handbook. Retrieved from [https://www.wipo.int/edocs/pubdocs/en/intproperty/489/wipo\\_pub\\_489.pdf](https://www.wipo.int/edocs/pubdocs/en/intproperty/489/wipo_pub_489.pdf)

##### Reference Journal:

1. Journal of Intellectual Property Rights (JIPR): NISCAIR

##### Useful Websites:

1. Cell for IPR Promotion and Management (<http://cipam.gov.in/>)
2. World Intellectual Property Organisation (<https://www.wipo.int/about-ip/en/>)
3. Office of the Controller General of Patents, Designs & Trademarks (<http://www.ipindia.nic.in/>)

*Boon*  
Sr. Biju Peter  
HOD, Chemistry



Department of chemistry, Newman College, Thodupuzha

4

*Anull*  
Anne Mary Joseph  
course coordinator

## 12. Value added course on working with Spread Sheets.

### Curriculum with assessment procedure

**Objectives:**

- Master the essential Excel formulas and features to accelerate your career such as
  - Excel Basics
  - Work with Cells and Worksheets
  - Calculate Your Data
  - Format your Workbook
  - Add Charts and Graphics
  - Collaborate with Others
  - Analyze your Data
- Learn Excel from scratch or fill in the gaps to become immediately confident

**Course Outcomes:**

- Students will be equipped to
  - Examine spreadsheet concepts and explore the Microsoft Office Excel environment.
  - Create, open and view a workbook.
  - Save and print workbooks.
  - Enter and edit data.
  - Modify a worksheet and workbook.
  - Work with cell references.
  - Learn to use functions and formulas.
  - Create and edit charts and graphics.

### Syllabus

<b>Unit 1: Manage Workbook Options and Settings I</b>	<b>8 Hours</b>
Create Worksheets and Workbooks- Create a workbook , Import data from a delimited text file, Add a worksheet to an existing workbook, Copy and move a worksheet-Navigate in Worksheets and Workbooks, Search for data within a workbook, Navigate to a named cell, range, or workbook element, Insert and remove hyperlinks	
<b>Unit 2: Manage Workbook Options and Settings II</b>	<b>6 Hours</b>
Format Worksheets and Workbooks- Change worksheet tab color, Rename a worksheet, Change worksheet order, Insert and delete columns or rows, Change workbook themes, Adjust row height and column width, Insert headers and footers Customize Options and Views for Worksheets and Workbooks- Hide or unhide worksheets, Hide or unhide columns and rows, Customize the Quick Access toolbar, Modify document properties, Display formulas	
<b>Unit 3: Create Tables</b>	<b>6 Hours</b>
Create and Manage Tables- Create an Excel table from a cell range, Convert a table to a cell range, Add or remove table rows and columns, Manage Table Styles and Options- Apply styles to tables, Configure table style options, Insert total rows. Filter and Sort a Table - Filter records, Sort data by multiple columns, Change sort order, Remove duplicate records	
<b>Unit 4: Perform Operations with Formulas and Functions</b>	<b>6 Hours</b>
Summarize Data by using Functions- Perform calculations by using SUM functions, Perform calculations by using MIN and MAX functions, Perform calculations by using the COUNT function, Perform calculations by using the AVERAGE function	

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

Unit 5: Create Charts	4 Hours
Create a new chart, Add additional data series, Switch between rows and columns in source data, Analyze data by using Quick Analysis, Format Charts, Resize charts, Add and modify chart elements, Apply chart layouts and styles, Move charts to a chart sheet	

#### References:

<http://www.free-training-tutorial.com/>

<http://tools.malayalam.kerala.gov.in/>

#### Assessment and evaluation:

Assignment :10 Marks

Practical Exam :40 Marks

*Biju*  
Sri-Biju Pekk  
HoD



*Anully*  
Dr. Anu Mary Joseph  
Course Coordinator

**13. Certificate course on Data Analysis using Excel****(Started in 2018-19)****Curriculum with assessment procedure****DATA ANALYSIS USING EXCEL****Programme Description**

Certificate course on 'Data Analysis Using Excel' is a skill oriented programme of 30 hours duration. This course introduces how to present, analyze and interpret data using the statistical analysis using Microsoft office excel. In virtually every field of work, being confident and competent in analyzing data and drawing conclusions is extremely helpful. This course will help you develop those skills using SPSS, which is a statistical package widely used in business, industry, government, commerce and the education and health sectors.

**Class**

Live classes/Assignments/Tests (offline mode)

**Duration**

30 Hours

**Objectives of the Course**

Students who complete this course will have the basic skills required for data analysis using Excel

**Outcome of the Course**

- To solve Mathematical and Statistical analysis using Microsoft office Excel

**Syllabus****PART 1: FUNDAMENTAL OF MICROSOFT EXCEL 2013****Chapter 1 [5 Hours]**

How to start MS Excel 2013, Explore window, Back Stage View, Entering Values, Save Work Book, Create work Book, Copy Work Book, Hiding Work Book, Delete Work Book, close Work Book, Open Work Book. Insert data, Select Data, Delete data, Move Data, Rows & Columns, Copy & Paste, find & replace, inserting Comments. Setting fonts, rotate cells, Merging & Wrap, Borders and



## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

Wrap and Formatting Protecting Excel work Book.

#### PART 2: FUNDAMENTAL DATA ANALYSIS

##### Chapter 2 [5 Hours]

Freeze Panes, Conditional Format, Creating Formula, copying Formula, Formula Reference, using functions, built in Functions.

##### Chapter 3 [5 Hours]

Data Filtering, Sorting of Data, Using ranges, Data validation, Using Styles, using Themes & Styles, Sorting Data by Color, Excel Slicers.

#### PART 3: POWERFUL DATA ANALYSIS

##### Chapter 4 [5 Hours]

Create a PivotTable to analyze external data, Explore data using Pivot table, Create relationship between Tables, Data Model using Calculated Columns, Create Relationship between Tables.

##### Chapter 5 [5 Hours]


Excel – External Data Connection, Update the Data Connections, Automatically Refresh Data, Automatically refresh data at regular intervals. Excel – Pivot Table Tools, Source Data for a PivotTable, Change to a Different External Data Source. Delete a PivotTable, Using the Timeline, Use a Timeline to Filter by Time Period. Create a Standalone PivotChart.

##### Chapter 6 [5 Hours]

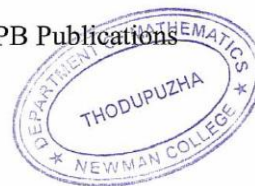
Create a Power View Sheet, Excel – Visualizations Create Charts and other Visualizations, Visualization – Matrix, Visualization – Card, Visualization – Charts.

#### References:

1. Excel Formulas And Functions Step-By-Step Guide With Examples by Ramirez Adam ,Caprioru
2. Advanced MS excel by Kavita Navlani
3. Ms-Office 2007: Gini Courter & Annette Marquis BPB Publications
4. Special Edition Ms Excel 2007: Patrick Blattner, Louie Utrich. Ken Cook & Timothy Dyck Prentice Hall India Pvt. Ltd.
5. Mastering PageMaker: Atman Rebecca & Atman Rich BPB Publications

  
Dr. Jane A. Luke  
Head, Statistics





**Criterion 1**

1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

**Assessment and Evaluation:**

Mode of assessment: End examination

Weightage: 50%

Marks: 50

Minimum marks or pass: 20

Name and Signature of Course Coordinator

Dr Jane A. Luke

Name and Signature of HoD

Nancy Jacob

Name and Signature of Principal

Dr. Bijimol Thomas



## 14. Value added course in Numerical Analysis

### Curriculum with assessment procedure Numerical Methods

Duration : 30 hrs

#### Objectives

- To understand what Numerical Methods are and why we (as Engineers) are interested in them
- To understand the basic concepts of mathematical modelling
- This course gives a complete procedure for solving different kinds of problems that occur in engineering numerically.

#### Syllabus

Module 1 10 hours

##### **Interpolation and Approximation**

Lagrangian Polynomials- Divided difference – Newtons forward and backward difference formula – Coefficients of an interpolating polynomial – Inverse interpolation.

Module 2 12 hours

##### **Numerical Differentiation**

Derivatives from difference table – Divided difference and finite difference – Numerical integration by Trapezoidal and Simpson's 1/3 and 3/8 rules – Romberg's Method – Two and three Gaussian quadrature formula.

Module 3

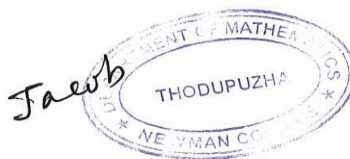
##### **Ordinary Differential Equations** 8 hours

Euler's Method – Improvements of Euler's Method - Runge- Kutta Method – System of Equations - Adaptive Runge- Kutta Method.

**Text Book** - Steven C Chapra and Raymond P Canale, Numerical Methods for Engineers, Mc Graw Hill Education, Seventh Edition.

*Sobe*  
Dr. Sona Jose

*Dr. Jacob*  
Nancy



#### Course Outcomes:

Upon successful completion, the participants will be able to

- understand what Numerical Methods are and why engineers are interested in them.
- understand the basic concepts of mathematical modelling.
- solve different kinds of problems that occur in engineering numerically.\

**Criterion 1**

**1.2.1 Curriculum for Certificate/Value added programs with assessment procedure**

**Assessment and evaluation:**

Mode of assessment: End examination

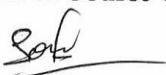
Weightage: 50%

Marks: 50

Minimum marks or pass: 20

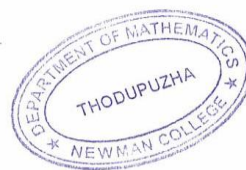
**Name and Signature of Course Coordinator**

Dr. Sona Jose



**Name and Signature of HoD**

Smt. Nancy Jacob



**Name and Signature of Principal**

Dr. Bijimol Thomas



**15. Value added Course on Electrical and Electronic Equipment Maintenance (Started in 2018-19)**

**Curriculum with assessment procedure**

**VALUE ADDED COURSE**

**Paper I: Basic Principles of Electronics -12 Hours**

1. Resistors: General information: Symbol, colour code. Types, Variable resistors and measurement of resistance using multimeter.
2. Inductor: General information: Symbol, Types, Chokes, Inductance measurement.
3. Transformers: General information Principle. Types, and Design of main transformer
4. Capacitors: General information: Symbols, Colour codes, Types - Fixed and variable capacitors, measurement of capacitance
5. Diodes, Transistors and IC: General information: Symbols, Types and applications
6. Measuring Devices: Thermometer, Barometer, Multimeter, LCR meter, Voltmeter, Ammeter, Galvanometer, Signal generator CRO
7. Microphones and Loudspeakers: Principles, Types and Application areas
8. Swatches. Cables and Electrical fittings: Bulbs, Tubes, Plugs - Testing of connections, Bread Board, Soldering

**Paper II Microprocessors and Programming – 20 Hours**

1. Microcomputer Fundamentals - Architecture, Memory Organization, Instruction Set, CPU Organization, Microcomputer- Operation.
2. The 8085 Microprocessor - Data sheet descriptions, Pin Diagram and Function, Architecture, Data/Address, Register, Stack Pointer
3. Interfacing to Microprocessor - Introduction. Interfacing with the ROM and RAM, Input/Output Interfacing, Address - Decoding.
4. Programming the 8085 Microprocessor  
Machine and Assembly Languages, Instruction Set, Arithmetic Operations, Logical Operations. Data Transfer Operations, Branch Operations, Subroutine Call and Return. Operations, Miscellaneous Operations, Writing a Programme.

**Paper III- Project Training – 13 Hours**

1. Component identification, Checking and measurement of different parameters using multimeter (Resistors, Capacitors, Diodes, Transistors, Inductors).
2. Soldering Practice.
3. Electrical fittings - Bulbs, Tubes, Plugs Testing of connections.
4. Computers-Familiarization of input and output devices and connections.
5. Wiring-General information about house wiring, Phases, Two way switch, Master switch.

## **ELECTRICAL AND ELECTRONIC EQUIPMENT MAINTENANCE**

**DEPARTMENT OF PHYSICS, NEWMAN COLLEGE, THODUPUZHA**

### **Course Outcome**

- Students will be able to analyze and construct basic analog and digital circuits.
- Students will be able to leverage this knowledge to build and produce electronic products completely themselves.
- Students will learn how to use basic electronics lab equipment such as oscilloscopes, power supplies, signal generators, and more.
- Students will learn hands on techniques such as circuit construction with solderless breadboards, wire wrapping, and soldering.
- Students will learn microprocessor basics, internal architecture and programming.
- Students will learn basic computer systems, Peripheral systems and their connections.

### **Reference**

1. "Electronic Devices and Circuits" by Salivahanan, N. Suresh Kumar, and A. Vallavaraj
2. Integrated Electronics: Analog and Digital Circuits and Systems" by Jacob Millman and Christos C. Halkias:
3. "Principles of Electronics" by V.K. Mehta and Rohit Mehta:
4. Basic Electrical and Electronics Engineering" by R.K. Rajput:
5. A Course in Electrical and Electronic Measurements and Instrumentation" by A.K. Sawhney:
6. Microprocessors and Microcontrollers: Architecture, Programming and System Design" by A. Nagoor Kani:

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

#### Assessment & Evaluation:

##### Attendance :

Maximum Marks: 5 Marks

Weightage: 10 %

##### Assignment:

Maximum Marks: 5 Marks

Weightage: 10 %

##### Written Exam-

Mode of Assessment: Course end Examination

Weightage-40 %

Max. Marks- 20

##### Practical-

Mode of Assessment: Course end Examination

weightage 40%

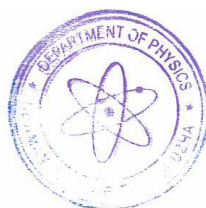
Max. Marks: 20

**Total Mark: 50**

**Minimum pass mark: 40% (20 marks)**



Dr. Beena Mary John  
Head, Dept. of Physics



**16. Value added course in Data Analysis and Presentation****Curriculum with assessment procedure****Newman College, Thodupuzha****Value added Course on ‘Data Analysis and Presentation’****Unit 1-MS word-5 Hr**

Create a Word Document , Editing a Document, Formatting Text and , Adding Tables, Managing Lists , Inserting Graphic Objects , Controlling Page Appearance , Proofing a Document , equation editing

**Unit 2-MS EXCEL-8 hr**

Introduction to MS Excel, Entering and Editing Text, creating Basic formulae in Excel, modifying an excel worksheet, Formatting Data in an Excel worksheet, Excel Sort and Filter, Functions in Excel, inserting images and shapes , Pivot Tables and Charts, printing an excel worksheet, Data Analysis in Excel, Importing and exporting data, Macros and VBA, Excel Dashboard

**Unit 3- MS Powerpoint-5 hr**

Create and Manage Presentations, Insert and Format Text, Shapes, Images, Tables, Charts, SmartArt, Media. Apply Transitions and Animations

**Unit 4- Introduction to Latex-8 hr**

Understanding Latex compilation, Basic Syntax, Writing equations, Matrix, Tables  
Page Layout – Titles, Abstract Chapters, Sections, References, Equation references, citation, List making environments, Table of contents, Generating new commands, Figure handling, numbering, List of figures, List of tables, Generating index,

Classes: (article, book, report, beamer, slides)

Applications to: Writing Resumae, Writing question paper, Writing articles/ research papers, Presentation using beamer.

**Unit 5 Origin Lab- 10 hr**

Introduction to Origin lab, Graphing , Mini Toolbar , Importing of data, Data Exploration , Data Analysis and Statistics , Exploratory Analysis , Curve and Surface Fitting , Peak Analysis, Smoothing , merging of graphs, Transforms , Filtering , Exporting and Presentation , Project and Data Management

**Course Outcome**

Learners will be competent with Word, Excel and Power point. They will be equipped with advanced Office functions like Mail Merge, equation editor etc. They will be able to use formulas in Excel and capable for analysis of Data using the advanced options. Learners will understand how to use Word, Excel, and PowerPoint in a variety of professional, educational, and personal situations. Learners will be able to claim Office proficiency. Learners will be experienced with Latex and able to write their



## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

project reports using Latex. Learners will be competent with Origin Lab scientific data analysis could be easily done using this software. Learners get an exposure to use various fitting techniques and analysis tools.

#### Reference

Microsoft Office 2019 Step by Step" by Joan Lambert and Curtis Frye

"Learn LaTeX in 30 Minutes: A Practical Introduction to LaTeX for Beginners" by Dr. Colin McLarty:

Origin Lab Corporation: Origin User Guide" by OriginLab Corporation;

#### Assessment & Evaluation:

##### Attendance :

Maximum Marks: 5 Marks

Weightage: 5 %

##### Assignment:

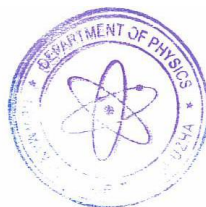
Maximum Marks: 5 Marks

Weightage: 5 %

##### Written Exam



Dr. Beena Mary John  
Head, Dept. of Physics



**17. Value added course in Calculus**  
**Curriculum with assessment procedure**

DEPARTMENT OF PHYSICS, NEWMAN COLLEGE, THODUPUZHA

Value Added Course on 'Calculus' 2022-23

**syllabus**

**Module 1 -Differential Calculus (15 hrs)**

Introduction to Differential Calculus, Introduction to derivatives, Rules of differentiation: Higher-order derivatives and their interpretations, Applications of Differentiation, Finding extreme values, Derivatives of Trigonometric and Exponential Functions, Applications of Derivatives in Physics, L'Hôpital's rule: Evaluating limits of indeterminate forms using derivatives, Practice problems and exercises

**Module 2 -Integral Calculus (15 hrs)**

Introduction to Integration, Overview of integration and its relationship to differentiation, The definite and indefinite integral, Basic integration rules, Integration by substitution, Integration by parts, Applications of Integration in physics, Partial fractions, Infinite limits of integration: Evaluating improper integrals, Practice problems and exercises

**Course Outcome**

By the end of the course, students will be able to understand and apply differential and integral calculus concepts, solve problems, and evaluate limits, demonstrating proficiency in calculus techniques.

**Reference:**

Thomas Calculus-12<sup>th</sup> Edition

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

#### Assessment & Evaluation:

##### Attendance :

Maximum Marks: 5 Marks

Weightage: 8.33 %

##### Assignment:

Maximum Marks: 5 Marks

Weightage: 8.33 %

##### Written Exam

Mode of Assessment: Course end Examination

Weightage: : 83.33 %

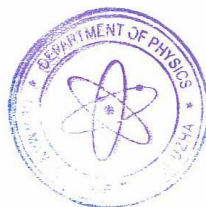
Max. Marks: 50

**Total Mark: 60**

**Minimum pass mark: 40% (24 marks)**



Dr. Beena Mary John  
Head, Dept. of Physics



## **18. An Introduction to Machine Learning using Python**

### **Curriculum with assessment procedure**

Department of Physics, Newman College, Thodupuzha  
Certificate Course- An Introduction to Machine Learning using Python\_  
*Syllabus*

**Module I- Introduction** (2 hour)

Relationship between computers and programs, Basic principles of computers, File systems, Using the Python interpreter, Introduction to binary computation, Input / Output Python programming essentials, Essential Libraries and Tools- NumPy, SciPy, Pandas, xarray, Matplotlib. Editors- Spyder, Jupyter Notebook.

**Module II- Numpy, SciPy & Pandas** (15 hour)

Array creation, Indexing on ndarrays, I/O with NumPy, Data types, Broadcasting, Byte-swapping  
Structured arrays, Writing custom array containers, Subclassing ndarray, Universal functions (ufunc) basics, Copies and views, Interoperability with NumPy,  
Special functions with Scipy, Integration with Scipy, Interpolation with Scipy, Fourier Transforms with Scipy.  
Intro to data structures, Essential basic functionality, IO tools (text, CSV...), Indexing and selecting data, MultiIndex / advanced indexing, Merge, join, concatenate and compare, Reshaping and pivot tables, Working with text data, Working with missing data

**Module III – Data visualisation** (8 hour)

Introduction to pyplot, Line plot, Bar plot, contour plot, scatter plot

**Module IV- Machine learning** (5 hour)

What is machine learning? Difference machine learning, Artificial Intelligence and Deep Data analysis. Python for Machine Learning, Supervised vs Unsupervised.

**Course Outcome**

- Understand the basics of python programme
- Understand to implement object-oriented concepts in python
- Understand a wide variety of machine learning algorithms
- Understand how to evaluate models generated from data
- Apply the algorithms to a real problem, optimize the models learned and report on the

expected accuracy that can be achieved by applying the models

**Reference**

1. Müller, A. C., & Guido, S. (2016). *Introduction to machine learning with Python: a guide for data scientists*. " O'Reilly Media, Inc."
2. Saleh, H. (2018). *Machine learning fundamentals: use python and SCIKIT-learn to get up and running with the hottest developments in machine learning*. Packt Publishing Ltd.

Machine Learning Datasets: <https://www.kaggle.com/datasets>  
<https://archive.ics.uci.edu/ml/index.php>

## **Criterion 1**

### **1.2.1 Curriculum for Certificate/Value added programs with assessment procedure**

#### **Assessment & Evaluation:**

##### **Attendance :**

Maximum Marks: 5 Marks

Weightage: 8.33 %

##### **Assignment:**

Maximum Marks: 15 Marks

Weightage: 25 %

##### **Written Exam**

Mode of Assessment: Course end Examination

Weightage: : 66.67 %

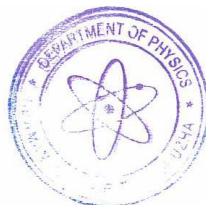
Max. Marks: 40

**Total Mark: 60**

**Minimum pass mark: 40% (24 marks)**



Dr. Beena Mary John  
Head, Dept. of Physics



## **19. Thin Film Preparation: Techniques and Analytical Tools**

### **Curriculum with assessment procedure**

Department of Physics  
Newman College , Thodupuzha  
Certificate Course on  
'Thin Film Preparation Techniques and Analytical Tools'  
Syllabus

#### **Unit 1-Thin film Preparation (15 hr)**

Introduction to thin film, Film preparation techniques, Physical methods-Vacuum Evaporation technique- RF sputtering-Pulsed Laser Deposition-Metal-Organic Chemical Vapor Deposition, Chemical methods- spin coating -chemical bath deposition, Preparation of Polymer films- spin coating-gravity settling- Doctor's blade-dip coating,

Hands on training on vacuum evaporation, spin coating, gravity settling method, Dip coating, Chemical bath deposition

#### **Unit 2-Analytical tools (15 hr)**

Thickness measurements- Fizeau fringes

Structural analysis using X-ray Diffraction , Scherrer equation- determination of lattice parameter- particle size

UV-Visible spectroscopic analysis - Tauc plot- determination of band gap, Infrared spectroscopic analysis - identification of chemical substances or functional groups, Raman Spectroscopy- *identification of molecules and study chemical bonding and intramolecular bonds*, X-ray Photoelectron Spectroscopy, Z scan technique, Atomic force microscopy

Hands on training on analytic techniques such as XRD analysis, band gap determination, Raman & IR analysis, FM, XPS

#### **Course Outcome**

The students acquaint with the fundamentals involved in the processing of Thin films. At the end of this course, students should be able to answer the following questions: (a) What are the various fundamental thin film processing techniques and the science behind it; (b) What processing method to use for a given material and a given application. Students are able to operate devices like vacuum evaporation thin film coating unit, spin coater etc. And are capable of preparing thin films of desired thickness using vacuum evaporation, spin coating, gravity settling, CBD etc.

Students get a thorough conceptual understanding on spectroscopy. Students get the analysing skill of data obtained from UV-VIS spectroscopy, IR spectroscopy, XPS, Raman spectroscopy, XRD, Z scan etc.

#### **Reference**

1. "Thin Film Technology: Materials and Processes" by K.L. Chopra;
2. "Spectroscopy of Organic Compounds" by P.S. Kalsi;
3. "Analytical Techniques for Thin Films: Characterization, Deposition, and Evaluation" by R.K. Goyal

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

#### Assessment & Evaluation:

##### Attendance :

Maximum Marks: 5 Marks

Weightage: 8.33 %

##### Assignment:

Maximum Marks: 5 Marks

Weightage: 8.33 %

##### Written Exam

Mode of Assessment: Course end Examination

Weightage: : 66.67 %

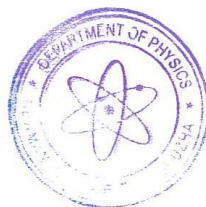
Max. Marks: 40

##### Practical

Mode of Assessment: Continual evaluation



Dr. Beena Mary John  
Head, Dept. of Physics



**20. Certificate course on Introduction to SPSS**  
**Curriculum with assessment procedure**

COURSE NUMBER: PSY 201

SEMESTER: 2

- OBJECTIVES:** (i) To understand basic concepts of SPSS.
- (ii) To understand different measurement scales and graphical representation of data.
- (iii) To know about how to find descriptive data analysis using SPSS.
- (iv) To know about how to find bivariate correlation using SPSS.

**Module I: Introduction to SPSS**

Introduction to SPSS, Menus, tool bar-SPSS layout- Variable View – Data View – Output View – Terminology - Basic Steps for Performing any Statistical Procedure – Creating a Data file- Defining Variables- Variable Characteristics- Default Values - Entering the Data – Inserting Variable and Cases – Selecting Cases - Listing Cases – Identifying Duplicate Cases and Unusual Cases- Sorting Cases.

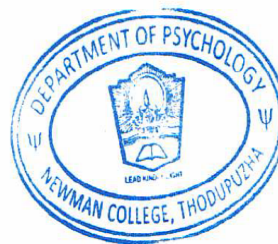
**Module II: Data Transformation**

Computing New Variables – Recoding Variables – Automatic Recode – Visual Binning – Rank cases – Types of Measurement Scales – Summary Measures - Frequency, Explore and Cross Tabs – Describing Data Graphically

**Module III: Descriptive Data Analysis & Bivariate correlation**

Number of observations, Minimum, Maximum, Sum, Mean, Standard Deviation, Variance, Kurtosis, Skewness, bivariate correlation.

- References :** (i) Tutorial of IBM SPSS Statistics.
- (ii) Kiran Panya, Smruti Bulsari & Sanjay Sinha., SPSS in Simple Steps, First edition, Durga Enterprises, Delhi.





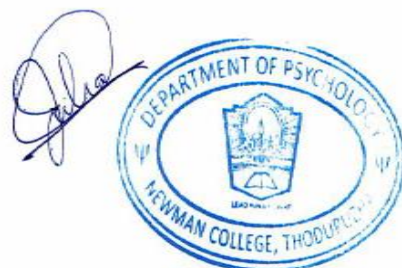
## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

#### Course outcome:

On completion of the course, the students will be able to

1. Test data using the basic concepts that underly SPSS.
2. Devise different measurement scales and represent data graphically.
3. Measure descriptive statistics of data using SPSS.
4. Devise the bivariate correlation of data using SPSS.



2

#### Assessment and evaluation:

##### Theory

- Mode of assessment: Course end examination
- Weightage: 50%
- Marks: 50
- Minimum marks or pass: 20

##### Practical

- Mode of assessment: Continuous internal assessment based on lab involvement
- Weightage: 50%
- Marks: 50
- Minimum marks or pass: 20

JULIA MACKOLIL  
Name and Signature of Course Coordinator

JULIA MACKOLIL  
Name and Signature of HoD



Name and signature of Principal  
DR. BIJIMOL THOMAS  
PRINCIPAL-IN-CHARGE  
NEWMAN COLLEGE  
THODUPUZHA

## **21. Value added course in Mental Status Examination**

### **Curriculum with assessment procedure**

**Objectives:**

- To develop the skill of identifying and diagnose a disorder.
- To acquaint the applications in the management and diagnostic impression of patients with a mental health illness
- To acquaint the students with the history and meaning of abnormal behaviour
- To have an understanding regarding the causal patterns and treatment of disorders.

**Module 1: Mental Status Examination: An overview**

Definition of disorder, normal mental health, classification in Psychiatry- DSM, ICD classification system, Mental status examination, mini mental status examination.

**Module 2: Psychiatric History taking**

Interview technique, identification data, informants, presenting complaints, history of present illness, past psychiatric and medical history, family history, treatment history, personal and social history, alcohol and substance history

**Module 3: Examination**

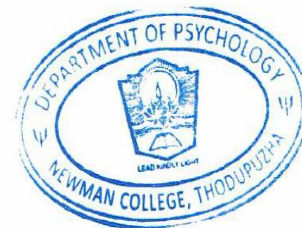
Physical examination, MSE- mental status examination: General Appearance and Behaviour, Speech, Mood and Affect, Thought, Perception, Cognition (Neuropsychiatric) Assessment, Insight, Judgement.

**Module 4: Investigation and Formulation**

Investigation and formulation of the data- biological investigations, psychological investigations, special interviews.

**References :**

- Ahuja, N. (2010). A short textbook of Psychiatry.(7<sup>th</sup> edition ), New Delhi : Jaypee Brothers Medical Publisher.
- Butcher, J. N., Hooley, J. M., & Mineka, S. (2015). Abnormal Psychology (16th ed.), England: Pearson Education Ltd.
- American Psychiatric Association (2013).Diagnostic and Statistical Manual of Mental Disorders- DSM 5 (5th ed.), Washington D.C: American Psychiatric Publishing.



## **Criterion 1**

### **1.2.1 Curriculum for Certificate/Value added programs with assessment procedure**

#### **Course outcome:**

On completion of the course, the students will be able to

1. Students developed the skill of identifying and diagnose a disorder.
2. The applications in the management and diagnostic impression of patients with a mental health illness were understood.
3. Understood the history and meaning of abnormal behaviour.
4. Students got an awareness about the causal patterns and treatment of disorders.

#### **Assessment and evaluation:**

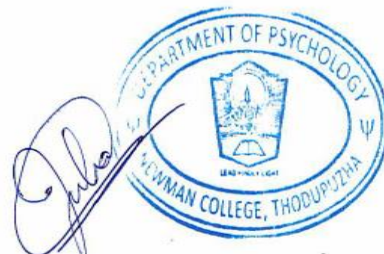
##### Theory

- Mode of assessment: Course end examination
- Weightage: 50%
- Marks: 50
- Minimum marks or pass: 20

##### Practical

- Mode of assessment: Continuous internal assessment based on lab involvement
- Weightage: 50%
- Marks: 50
- Minimum marks or pass: 20

**Number of students passed: 17**



## **22.Certificate Course on Field Entomology (Started in 2020-21)**

### **Curriculum with assessment procedure**

#### **Programme Outcomes**

On completion of the course, the students will be able to:

- describe the evolution and diversity of insects and basics of insect biology
- identify the major insect orders
- have a thorough understanding of the insect collection and preservation methods

#### **5. SYLLABUS**

##### **Course Name: FIELD ENTOMOLOGY**

**Course code: CCZYT01**

**(Theory: 20 hrs; Practical: 10 hrs; Total 30 hrs)**

##### **THEORY (20 hrs)**

###### **Module 1:**

**(4 hrs)**

The Insects: Brief Introduction: Insect Biodiversity, Evolution of Insects, Insect Morphology, Development, Life history.

###### **Module 2:**

**(2 hrs)**

Classification of Insects: Introduction to major Insect Orders.

###### **Module 3:**

**(10 hrs)**

Basic tools and general techniques for Insect Collection: Basic equipments, Methods of Insect collection – Collection of flying insects – collecting nets, aspirators and suction devices, traps, Baits, lures, and other attractants, Collection of aquatic insects, Collection of soil insects.

###### **Module 4:**

**(4 hrs)**

Killing and Preservation of Insects: Killing containers and agents, Storage of specimens – Temporary storage, Mounting, Labeling, Care of the collection, Packaging and shipping specimens.

##### **PRACTICAL (10 hrs)**

1. To study variations and different modifications of external morphology of insect
2. To study different developmental stages of life cycle of Butterfly
3. To study different types of insects traps.
4. General classification of Insects up to families (At least 2 examples of each orders- Odonata, Orthoptera, Hemiptera, Coleoptera)
5. Insect's collection & preservation (5 insects each) of the orders Hemiptera, Lepidoptera, Coleoptera.



## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

#### References

1. Bland, R. and H. E. Jaques. (1978). How to Know The Insects. 3rd edition. Waveland Press, Inc.
2. Borror, D., C. Triplehorn and N. Johnson. (1989). An introduction to the study of insects. 6th Ed. Saunders College Publishing, Philadelphia. 875 pp.
3. Gibb T. J. and C. Oseto (2006) Insect collection and identification: techniques for the field and laboratory. Academic Press, London
4. Lutz, F. E., (2012). How to Collect and Preserve Insects: Guide Leaflet Series, No. 39. Literary Licensing, LLC.
5. Schauff, M. E. (1986). Collecting and preserving insects and mites: Techniques and tools. USDA Miscellaneous Publication 1443: 1-68.



Jisha Jacob Jindhu

Head of the department  
Department of Zoology  
Newman College  
Thodupuzha

#### Assessment and Evaluation:

##### Theory

Mode of assessment: Course End examination

Weightage: 80%

Marks: 80

Minimum marks or pass: 40

##### Practical

Mode of assessment: Continuous internal assessment based on lab/Field involvement

Weightage: 20%

Marks: 20

Minimum marks or pass: 10

Number of students passed : 36

## **23.Certificate Course on Nutrition and Mental Health**

### **Curriculum with assessment procedure**

#### Course Outcome

This course content should be taught and implemented with the aim to develop an interest in nutrition and mental well-being. The course will cover evidence supporting the premise that eating better, and taking additional nutrients when appropriate, can improve mental health. The course will cover the history of using food as a treatment for mental health; the food components to consider when making dietary choices; and why we need to consider micronutrients in our food, such as minerals and vitamins, for building a better brain.



#### **Syllabus**

**Module 01: Introduction to Nutrition**

**(4hrs)**

Nutrition- definition, types of nutrients, role of nutrients, problems associated over nutrition and under nutrition

**Module 02: Mental Health**

**(4hrs)**

Definition, Factors affecting mental health (brief account), Neurological disorders associated with mental health

**Module 03: Nutrients relevant to brain**

**(10 hrs)**

Importance of micro and macronutrients in brain metabolism, Role of precautionary principles

**Module 04: Role of nutrients in mental health (12hrs)**

Effect of stress and meditation on nutrition, Micro biome and mental health, environmental factors affecting mental health

**Module 05: Role of Nutrient Supplements on mental health (10 hours)**

Nutrient supplementation- definition, relevance.

Role of supplements in autism, mood disorder, addiction, Sleep disorders, stress and anxiety



## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

#### References

1. Vigo, D, Thornicroft, G & Atun, R. *Estimating the true global burden of mental illness*. Lancet Psychiatry 3, 171–178.
2. World Health Organization (2012) *Dementia: a Public Health Priority*. World Health Organization.
3. Bertolote, JM & Fleischmann, A (2002) *A global perspective in the epidemiology of suicide*. Suicidology 7, 6–8.
4. World Health Organization (2014) *Global Status Report on Alcohol and Health, 2014*. World Health Organization.
5. Jacka, FN, Mykletun, A & Berk, M (2012) *Moving towards a population health approach to the primary prevention of common mental disorders*. BMC Med 10, 149
6. Jacka, FN, O'Neil, A, Opie, R et al. (2017) *A randomised controlled trial of dietary improvement for adults with major depression (the 'SMILES' trial)*. BMC Med 15, 23
7. Whitmer, RA, Gunderson, EP, Barrett-Connor, E et al. (2005) *Obesity in middle age and future risk of dementia: a 27 year longitudinal population based study*. BMJ 330, 1360.

Jisha Jacob Iroby

Head of the department  
Department of Zoology  
Newman College  
Thodupuzha



#### Assessment and Evaluation:

##### Theory

Mode of assessment: Course End examination

Weightage: 80%

Marks: 80

Minimum marks or pass: 40

##### Practical

Mode of assessment: Continuous internal assessment based on lab/Field involvement

Weightage: 20%

Marks: 20

Minimum marks or pass: 10

Number of students passed : 36

**24.Certificate Course on Research Methodology: A Practical Approach  
(Started in 2021-22)**

**Curriculum with assessment procedure**



**POSTGRADUATE**

**DEPARTMENT OF COMMERCE**

**NEWMAN COLLEGE THODUPUZHA**

(REACCREDITED BY NAAC WITH 'A GRADE')



**2022 - 23**

**30 HOURS**

**RESEARCH METHODOLOGY**

**A PRACTICAL APPROACH**

Course Co-ordinator: [divya.james@newmancollege.ac.in](mailto:divya.james@newmancollege.ac.in)

For further details visit: [commerce@newmancollege.ac.in](mailto:commerce@newmancollege.ac.in)



**Features of the course:**

- Practical orientation to Research methodology
- Course Duration : 30 hours
- Eligibility : Final year B.com students
- Number of Seats : 60
- Attendance : Minimum 75% attendance to appear for final exam

**Course outcome:**

Students who successfully complete this course will be able to:

- Explain key research concepts and issues
- Read, comprehend, and explain research articles in their academic discipline
- Perform literature reviews using print and online databases
- Identify, explain, compare, and prepare the key elements of a research proposal
- Describe sampling methods, measurement scales and instruments, and appropriate uses of each

**Assessment Procedure:**

Assessment will be done after completion of each module through assignments and projects.

- Final exam will conducted at the end of the program
- Exam shall contain objective and descriptive questions
- Maximum marks for the final exam shall be 100
- Grade shall be allotted based on the following scale
  - ✓ 85% and above : A+
  - ✓ 80% – 84% : A
  - ✓ 75% -- 79% : B+
  - ✓ 70% -- 74% : B
  - ✓ 65% --69% : C+
  - ✓ 60% --64% : C
  - ✓ Less than 60% : D

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

Course outcome : Students who successfully completed the course were able to

- ✧ explain key research concepts and issues
- ✧ read, comprehend and explain research articles in their academic discipline
- ✧ perform literature reviews using print and online databases.
- ✧ identify, explain, compare and prepare the key elements of a research proposal
- ✧ Describe sampling methods, measurement scales and instruments with and appropriate uses of each

**Postgraduate Department of Commerce  
Newman College, Thodupuzha**

*Certificate Course in 'Research Methodology – A Practical Approach' 2022 -23*

***Course Description and objectives***

Postgraduate Department of Commerce, Newman College offers a certificate course in Research Methodology for the final year degree students of Commerce department with an objective to acquaint the students with the methodology in Social Science research. This certificate course will help the students to get a practical awareness on the research they have to undertake in the final semester. The course gives an in depth knowledge on research design, sampling, data analysis techniques and report writing which helps them to undertake their project in a systematic and scientific manner.

**MEMBERS :**            *Capt. Prageesh C. Mathew (Chairman)*  
                                 *Ms. Beena Deepthi Louis (member)*  
                                 *Ms. Divya James (member)*

***Features of the course:***

- Practical orientation to research methodology
- Course duration – 30 Hours
- Eligibility – final Year B. Com students
- Number of seats – 63
- Attendance – minimum 75% attendance to appear for final exam
- Evaluation process - Assessment will be done after completion of each module through assignments and projects.
- All successful students will be awarded with certificates from Newman College

**Syllabus**

**Module I – Introduction to research**

Meaning and definition of research – objectives – Importance –Qualities of a good research  
Research problem – Introduction to research problem – Sources

**Module II –Literature review**

Review of literature – Methods of literature survey – Sources of literature survey – Purpose  
or need for literature survey- How to organize the literature – Gap analysis (6 hours)

**Module III – Formulation of Objective**

Setting of objectives -

**Module IV – Questionnaire preparation**

Instruments of data collection – qualities of a good questionnaire – stages in the preparation  
of questionnaire – types of questions

**Module V – Methodology and Data Collection**

Research methodology

Sample design – Essential qualities of a good sample design –Census methods V/S sample  
survey – Sampling techniques (8 hours)

**Module VI – Data Analysis & Interpretation**

Data Collection – Sources of data – Methods of data collection – Primary data and secondary  
data


Processing of data –Editing – Coding –Classification – Methods of classification – Analysis  
of data – Tools and statistical method used in analysis of data – interpretation – Need – Steps  
– Errors in interpretation (9 hours)

**Module VII- Report writing & Documentation**

Report writing – Need – Essentials of a good report – Steps – Layout of a report – Rules in  
report writing – Types of report

Documentation – plagiarism – Citing references – Methods for citing references (4 hours)



  
HEAD,  
P.G. Department of Commerce  
Newman College  
Thodupuzha-685 585

**25. Value added Course on Data Analysis Using MS Excel**  
**Curriculum with assessment procedure**

**DEPARTMENT OF COMMERCE**

**NEWMAN COLLEGE THODUPUZHA**

(REACCREDITED BY NAAC WITH 'A GRADE')



**2022 - 23**

**30 HOURS**

**VALUE ADDED COURSE ON  
DATA ANALYSIS USING MS EXCEL**

Course Co-ordinator: [beena.deepthi.louis@newmancollege.ac.in](mailto:beena.deepthi.louis@newmancollege.ac.in)

For further details visit: [commerce@newmancollege.ac.in](mailto:commerce@newmancollege.ac.in)

**Features of the course:**

- Course shall impart learning exercise on different software applications of accounting and taxation, different aspects of managing accounts, payroll, tracking incomes, analyzing forecasts and budgets digitally.
- Course duration : 30 hours
- Eligibility : Final year B.com students
- Number of Seats : 60
- Attendance : Minimum 75% attendance to appear for final exam

**Course outcome:**

Students who successfully complete this course will be able to:

- Understand the practical aspects of data analysis, managing accounts, payroll, tracking incomes and expenditure, analyzing forecasts and budgets by instilling in students the required office skills
- Throughout the course, students become well versed in the field of data analysis and accounting through the digital medium
- Students will gain both academic and practical knowledge

**Assessment Procedure:**

Assessment will be done after completion of each module through assignments and projects.

- Final exam will conducted at the end of the program
- Exam shall contain objective and descriptive questions
- Maximum marks for the final exam shall be 100
- Grade shall be allotted based on the following scale
  - ✓ 85% and above : A+
  - ✓ 80% – 84% : A
  - ✓ 75% -- 79% : B+
  - ✓ 70% -- 74% : B
  - ✓ 65% --69% : C+
  - ✓ 60% --64% : C
  - ✓ Less than 60% : D

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

Course outcome : Students who successfully completed the course were able to

- ❖ Understand and Identify the principles of data analysis
  - ❖ Build presentation ready dashboards in Excel
  - ❖ Apply analysis techniques to datasets in Excel
  - ❖ Become adept at using Excel functions and techniques for analysis
- 
- ❖ Learn how to use Pivot Tables and Pivot Charts to streamline your workflow in Excel
  - ❖ Use effective design principles when creating and presenting data

#### Syllabus

**Module 1 Introduction to Excel-** About Excel & Microsoft, Uses of Excel, Excel software, Spreadsheet window pane, Title Bar, Menu Bar, Standard Toolbar, Formatting Toolbar, the Ribbon, File Tab and Backstage View, Formula Bar, Workbook Window, Status Bar, Task Pane, Workbook & sheets Columns & Rows (3 hours)

**Module 2** Selecting Columns & Rows, Changing Column Width & Row Height, Autofitting Columns & Rows, Hiding/Unhiding Columns & Rows, Inserting & Deleting Columns & Rows, Cell, Address of a cell, Components of a cell – Format, value, formula, Use of paste and paste special Functionality Using Ranges. (2 hours)

**Module 3 Ranges** Selecting Ranges, Entering Information Into a Range, Using AutoFill Creating Formulas. Using Formulas, Formula Functions – Sum, Average, if, Count, max, min, Proper, Upper, Lower, Using AutoSum, Advance Formulas (3 hours)

**Module 4 Analysis Tools** Concatenate, Vlookup, Hlookup, Match, Countif, Text, Trim Spreadsheet Charts Creating Charts, Different types of chart, Formatting Chart Objects, Changing the Chart Type, Showing and Hiding the Legend, Showing and Hiding the Data Table Data Analysis Sorting, Filter, Text to Column, Data Validation PivotTables (3 hours)

**Module 5 PivotTables,** Creating, Manipulating a PivotTable, Using the PivotTable Toolbar, Changing Data Field, Properties, Displaying a PivotChart, Setting PivotTable Options, . Adding Subtotals to PivotTables Spreadsheet Tools Moving between Spreadsheets, Selecting Multiple Spreadsheets, Inserting and Deleting Spreadsheets Renaming Spreadsheets, Splitting the Screen, Freezing Panes,



Handwritten signature and official stamp of the Head of the Department of Commerce, Newman College, Thodupuzha. The stamp includes the text 'HEAD, Department of Commerce, Newman College, Thodupuzha' and the phone number '585 585 585'.


**26. Accounting with Tally (Started in 2018-19)****Curriculum with assessment procedure****SYLLABUS**


<b>I</b>	-	Basics of Accounting, and Accounting Cycle	- 2 hours
<b>II</b>	-	Introduction to Tally, and Company Information	- 2 hours
<b>III</b>	-	Creating Groups, and Ledger Accounts	- 2 hours
<b>IV</b>	-	Voucher Types, and Voucher Entry – Part I	- 2 hours
<b>V</b>	-	Practice Session – I	- 3 hours
<b>VI</b>	-	Voucher Entry – Part II	- 3 hours
<b>VII</b>	-	Closing Entries, and Adjustments	- 2 hours
<b>VIII</b>	-	Practice Session – II	- 3 hours
<b>IX</b>	-	Debit Note, Credit Note, and Bank Reconciliation Statement	- 2 hours
<b>X</b>	-	Memorandum, Optional, Post - dated, and Reversing Voucher	- 2 hours
<b>XI</b>	-	Display, and Print Books / Reports	- 2 hours
<b>XII</b>	-	Revision	- 3 hours
<b>XIII</b>	-	Examination	- 2 hours

**COURSE OUTCOME**

1. After successfully qualifying practical examination, students will be awarded certificate to work with well-known accounting software i.e. Tally ERP.9
2. Student will do by their own create company, enter accounting voucher entries including advance voucher entries, do reconcile bank statement, do accrual adjustments, and also print financial statements, etc. in Tally ERP.9 software.
3. Students do possess requires skill can also be employed as Tally data entry operator.



  
Rintu Jose  
Course Co-ordinator

  
Sobha Thomas  
HOD

**Assessment and Evaluation :**

- Final exam was conducted at the end of the program
- Exam contained objective and descriptive questions
- Maximum marks for the final exam was 100.
- Grads were allotted based on the following scale
  - 85% and above : A+
  - 80% – 84% : A
  - 75% -- 79% : B+
  - 70% -- 74% : B
  - 65% --69% : C+
  - 60% --64% : C
  - Less than 60% : D



Ms. Seba Thomas  
Name and Signature of HOD



## **27. Value added Course on Security Analysis**

### **Curriculum with assessment procedure**

**NEWMAN COLLEGE THODUPUZHA**  
**DEPARTMENT OF COMMERCE FINANCE AND TAXATION SF**

### **DETAILED SYLLABUS OF VALUE ADDED COURSE ON**

### **SECURITY ANALYSIS**

**Course Title** : Security Analysis

**Course Code** : VCSACM09

**Instructional Hours** : 35 hours

**Course Description** :

This course focuses on the fundamental principles and techniques of security analysis. This course is intended to create awareness among the students and equip them with the necessary skills for analysing the securities.

**Course Objective:**

This course is designed to provide the students with the basic principles and techniques of security analysis including securities trading and regulation.

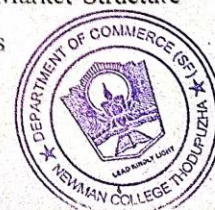
**Course outcome:**

- Provide the students with the basic principles and techniques of security analysis
- Familiarize students on different markets and instruments;
- Enhance knowledge on securities trading and regulation;
- Be knowledgeable on macroeconomic, industry, fundamental and technical analysis
- Have a general understanding of equity valuation models and financial statement analysis

### **SYLLABUS**

#### **Module I**

Investment Environment, Markets And Instruments - Real versus Financial Assets - Financial Markets and the Economy - Clients of the Financial System - Markets and Market Structure - The Money Market - The Bond Market - Market Indexes - Derivatives Markets



## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

(8 hours)

#### Module II

SECURITIES- Investment Banking- Securities Trading- Trading Participants- Local Exchanges - Foreign Exchanges - The Securities and Exchange Commission- The International Organization of Securities Commissions - Registration of Securities- Investor Protection- Manipulation of Security Prices - Insider Trading- Tender Offer

(10 hours)

#### Module III

Macroeconomic and Industry Analysis- Global Economy- Domestic Economy- Fiscal, Monetary, and Supply-Side Policies- Business Cycle- Industry Analysis- Industry Life Cycle- Industry Structure and Performance - Equity Valuation Models- Balance Sheet Valuation Methods - Intrinsic Value versus Market Price - Dividend Discount Model- Price-Earnings Ratio- Corporate Finance and Free Cash Flow Approach - Inflation and Equity Valuation.

(10 hours)

#### Module IV

Fundamental Analysis- Technical Analysis- Explaining Past Behavior- Forecasting Models- Market Anomalies - Financial Statement Analysis - The Major Financial Statements- Return on Equity- Ratio Analysis

(7 hours)

#### Assessment and Evaluation:

Final exam was conducted at the end of the program

Exam contained objective and descriptive questions

Maximum marks for the final exam - 100.

Grads were allotted based on the following scale

- 85% and above : A+
- 80% – 84% : A
- 75% -- 79% : B+
- 70% -- 74% : B
- 65% --69% : C+
- 60% --64% : C



**Criterion 1**

**1.2.1 Curriculum for Certificate/Value added programs with assessment procedure**

➤ Less than 60% : D

**Reference:**

1. Reilly, F.K. and K.C. Brown. (1997). Investment Analysis and Portfolio Management. Fort Worth: The Dryden Press..
2. Graham, B. and D.L. Dodd. (2009). Security Analysis: Principles and Technique. New York: McGraw Hill Companies, Inc.



Signature of course co-ordinator



Signature of HOD

## **28. Certificate Course on Capital Market**

### **Curriculum with assessment procedure**

#### **Learning Outcomes:**

- Improve transactional efficiencies in capital market.
- Better understanding about the markets and instruments
- Helps to understand concepts of capital market

**NEWMAN COLLEGE THODUPUZHA**  
**DEPARTMENT OF COMMERCE COMPUTER APPLICATION (SF)**  
**Certificate Course during 2022-23**

**Name of the course: Capital Market**

**Course Code: CM2223**

**Number of instructional hours: 40 hrs**

#### **Course objectives:**

1. To give the students an overall idea about Capital market.
2. To familiarise the students with capital market operations in India.

#### **Description**

Capital market course is to equip the students with necessary stock market theoretical and practical know how and provide the students an academic base so that students can apply the same in equity market for wealth creation.

#### **Syllabus**

MODULE- 1 The Indian financial system-Components- Role and functions-Recent development in the Indian financial system-Financial market-ClassificationIndustrial security market-Government security market-Money marketCapital market and money market-Money market instruments.

MODULE -2 SEBI-Establishment-Objectives-Powers and functions.

MODULE -3 Primary market-Functions of new issue market-Methods of floating new issueIPO-FPO-Public issue-bonus issue-Right issue-Private placement-Book building-ESOP-Intermediaries in the new issue market-Registrars to the issue-brokers to the issue-Bankers to the issue-Underwriters.

MODULE -4 Secondary market-Role and functions of Stock Exchanges-Members of the Stock Exchanges-Classification-type of speculators-Speculative transactionlisting of securities-Classification of listed securities-Methods of trading in a stock exchange-Screen based trading-on line trading-Depository systemStock market indices.

MODULE -5 Stock exchanges in India-NSE-BSE-MCX-Major international stock exchanges-Derivatives-features of derivatives-Types of derivativesDerivative instruments-Futures-Options-Swaps-Currency futures in IndiaRecent trends in capital market.

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

#### Learning Outcomes:

- Improve transactional efficiencies in capital market.
- Better understanding about the markets and instruments
- Helps to understand concepts of capital market

#### Assessment:

Total number of instructional hours assigned for this particular course is 40. After each module, online test will be conducted. Students will be given assignments and the grade of each assignment is accumulated to calculate the participant overall score. The total credit points will be calculated on the basis of assignment score of the students plus the online test score.

Module wise credit distribution:

Module Name	Credit Hours	Credit Points
Module I	5	2
Module II	10	2
Module III	10	3
Module IV	10	3
Module V	5	2
<b>Total Credits</b>	<b>40</b>	<b>12</b>

#### References:

1. Gupta N.K and Monica Chopra: Financial Markets Institutions and services
2. Yogesh Maheswary: Investment Management
3. Kevin. S: Security Analysis and Portfolio Management
4. Gupta N.K, Monica Chopra, Financial Markets, Institutions and Services.

Head of the Department



Course - Co-ordinators

**29. Value added Course on Total Quality Management****Curriculum with assessment procedure****Syllabus**

**Module 1:** Concept and definition of Quality- Need for quality-dimensions of quality- - Idea of total quality (TQ), Concept of Quality Costs- Elements- Optimum cost of performance- Analysis techniques of quality costs- Trend Analysis, Pareto Analysis TQM- Evolution of TQM- Characteristics- Scope of TQM- –Elements – Pillars of TQM Potential benefits of TQM- Barriers to Implementation of TQM

**Module 2:** Quality Principles- Leadership- Strategic Quality Planning- Quality Council-Employee involvement, Motivation, Empowerment, Team and Teamwork- Recognition and Reward- Performance Appraisal- Continuous process, Improvement, Customer satisfaction models- Types of customer- Customer perception of quality- Customer feedback- Customer complaints- Customer Service- , service- Retaining a customer- PDCA cycle, 5S, Kaizen – Features- Kaizen Vs Kairyo- Role of people in implementing, Kaizen- Supplier partnership - strategies for Implementing performance measures- performance measures presentation, Quality Circles- Meaning- Functioning of Quality Circle-Advantages of Quality, Circles- Barriers to Quality Circles

**Module 3:** TQM – 7 tools, Taguchi loss function, Functional linkage of quality with reliability and maintainability, Failure analysis, Just – in – time system, JIT manufacturing system, JIT Pull system, Use of Kanban, JIT purchase. , benchmarking- Reasons of benchmarking- types- process- steps involved- pitfalls in benchmarking-Process Capability- Control Charts- Concept of Six Sigma and applications- Need for six sigma-New 7 management tools- Optimum maintenance decisions, TPM- Need for TPM- Objectives of TPM- Steps involved Benefit- ,Process design and the work process.

Management support mechanisms, FMEA-Types of FMEA, Benefits- Quality Function Development- Objectives-QFD methodology- QFD process Benefit- Process design and the work process. Management support mechanisms.

**Module 4:** ISO, Need for ISO- BIS- ISO 9000, standards, elements of ISO 9000- ISO 9001- 2015 Quality Systems- Elements, Quality audits, ISO 14000- Requirements and benefits- ISO 14001-Implementation of TQM in manufacturing and service sector

**Learning Outcomes:**


- Develop the idea regarding quality and quality management
- Understand the contribution to quality gurus
- Procure knowledge about TQM principles

**Criterion 1**

**1.2.1 Curriculum for Certificate/Value added programs with assessment procedure**

**References:**

1. Feigenbaum A V \_ Total Quality Management- Mc Graw Hills
  2. J M Juran and Gyna F M- Quality Planning and Analysis- McGraw Hills
- Sunil Sharma- Total Engineering Quality Man

  
Head of the  
department



  
course co-ordinator

### **30. Value added Course on Digital marketing Curriculum with assessment procedure**

**NEWMAN COLLEGE, THODUPUZHA**

**DEPARTMENT OF COMMERCE CO-OPERATION (SF)**

**VALUE ADDED COURSE OFFERED DURING 2022-23**

**Course Name : Digital Marketing**

Course Code : DM0256

Instructional Hours : 30 Hour/3Months

**Course Objectives:**

The marketing landscape has evolved significantly over the past decade. Brands and marketers need to consider alternative strategies and tactics in order to reach and connect with prospects and consumers. What worked a few years ago, may not work now, or even a few months from now. Digital marketing has become a predominant component of many marketing mixes in recent years. And, now it is critical that multiple marketing channels and disciplines are leveraged together in order to remain relevant to the always on, always connected customer lifecycle. Students will learn the holistic value of Digital marketing through research and development of an actionable marketing plan. Understanding the interconnected value of these channels and disciplines will set you apart from other marketing professionals and guide your development as a digital marketing expert.

**Course Outcomes**

On successful completion of the course the students will be able to:

- Analyse the confluence of marketing, operations, and human resources in real-time delivery.
- Explain emerging trends in digital marketing and critically assess the use of digital marketing tools by applying relevant marketing theories and frameworks.
- Develop a digital marketing plan that will address common marketing challenges



## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

#### Syllabus

##### Unit I

Digital marketing, Understanding the Marketing Process, Increasing Visibility, Types of visibility, Examples of visibility, Visitor Engagement, Bringing Targeted Traffic, Inbound, Outbound, Understanding Conversion Process, Retention, Types of Retention, Performance Evaluation, Tools Needed.

##### Unit II

Understanding Internet, Difference between Internet & Web, understanding websites and domain names, extensions, Web server & web hosting, different types of web servers, Planning and conceptualizing a website, building website using CMS in Class.

##### Unit III

Understanding Google Analytics, set up Analytics account, add Analytics code in a website, understanding goals and conversions, setup goals, understanding bounce rate, Difference between bounce rate and exit rate, reduce bounce rate, Monitoring traffic sources.

##### Unit IV

Marketing on Social networking websites, viral marketing and its importance, Facebook Marketing, Twitter Marketing, LinkedIn Marketing, Google plus Marketing, Video Marketing, Pinterest Marketing

##### Unit V

Introduction to SEO and its importance, Google AdWords overview, Understanding AdWords Algorithm, creating search campaigns, Creating Ads, Tracking performance/conversion, Optimizing Search Campaigns, Creating Display Campaign.

#### Assessment

Total number of instructional hours assigned for this particular course is 30. After each module, online test will be conducted. Students will be given assignments and the grade of each assignment is accumulated to calculate the participant overall score. The total credit points will be calculated on the basis of assignment score of the students plus the online test score.

#### Module wise credit distribution:

Module Name	Credit Hours	Credit Points
Unit I	6	3
Unit II	6	2
Unit III	5	2
Unit IV	6	2
Unit V	7	3
<b>Total Credits</b>	<b>30</b>	<b>12</b>

#### References :

- Digital Marketing for Dummies, By Ryan Deiss and Russ Hennesberry, 2017
- Digital Marketing by Seema Gupta

#### Syllabus set by : Board of studies, Department of Commerce Co-operation

Fr. Tojin Kalarackal (Director-Self), Ms. Sobha Thomas (HOD), Mrs. Lakshmi Suresh, Mrs. Anju Sukumaran, Mrs. Neethu V Sagar, Ms. Chandranjaly V C

  
Sobha Thomas  
Head of the Department



  
Course Co-ordinator

**31. Certificate Course on E Commerce  
Curriculum with assessment procedure**

**DEPARTMENT OF COMMERCE CO-OPERATION (SF)**

**CERTIFICATE COURSE 2022 – 2023**

**E-COMMERCE**

Course Code: EMO564

Instructional Hours: 40 Hour/4 Months

**Course Objectives:**

This course provides an introduction to information systems for business and management. It is designed to familiarize students with organizational and managerial foundations of systems, the technical foundation for understanding information systems

**Course Outcomes**

On completion of this course, learners will be able to:

- Understand the basic concepts and technologies used in the field of management information systems;
- Have the knowledge of the different types of management information systems;
- Understand the processes of developing and implementing information systems;
- Be aware of the ethical, social, and security issues of information systems;

**Syllabus**

**Unit I**

Aspects Overview of developments in Information Technology - Defining E-Commerce: The scope of E commerce - Electronic Market, Electronic Data Interchange, Internet Commerce - Benefits and limitations of E-Commerce - Produce a generic framework for E-Commerce

**Unit II**

E Commerce E-Retailing: Traditional retailing and e retailing - Benefits of e retailing - Key success factors - Models of e retailing - Features of e retailing.

## Criterion 1

### 1.2.1 Curriculum for Certificate/Value added programs with assessment procedure

#### Unit III

E services: Categories of e-services - Web-enabled services - Information-selling on the web - e entertainment, Auctions and other specialized services - Electronic Payment Systems, Need of Electronic Payment System

#### Unit IV

Digital economy: Identify the methods of payments on the net – Electronic Cash, cheques and credit cards on the Internet. Security in E Commerce Threats in Computer Systems - Virus, Cyber Crime -Network Security - Issues in E Commerce

#### Unit V

Understanding Ethical, Social and Political issues in E-Commerce: A model for Organizing the issues, Basic Ethical Concepts, Analyzing Ethical Dilemmas, Candidate Ethical principles Privacy and Information Rights.

#### Assessment

Total number of instructional hours assigned for this particular course is 40. After each module, online test will be conducted. Students will be given assignments and the grade of each assignment is accumulated to calculate the participant overall score. The total credit points will be calculated on the basis of assignment score of the students plus the online test score.

#### Module wise credit distribution:


Module Name	Credit Hours	Credit Points
Unit I	10	3
Unit II	6	2
Unit III	8	2
Unit IV	5	2
Unit V	10	3
<b>Total Credits</b>	<b>40</b>	<b>12</b>

#### References :

1. Elias. M. Awad, " Electronic Commerce", Prentice-Hall of India Pvt Ltd.
2. RaviKalakota. Andrew B. Whinston, "Electronic Commerce-A Manager's guide", Addison-Wesley

  
Head of the department



  
Course Co-ordinator

**32. Value added Course- Voices from Past: An Introduction to Oral History  
Curriculum with assessment procedure**

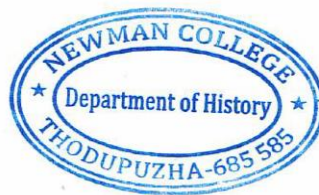
**NEWMAN COLLEGE, THODUPUZHA**

**CURRICULUM AND SYLLABUS FOR**

**VALUE ADDED COURSE ON**

**VOICES FROM THE PAST: AN INTRODUCTION TO ORAL  
HISTORY**

**COURSE CODE: VACHYOH01**



**COORDINATED BY  
DEPARTMENT OF HISTORY  
NEWMAN COLLEGE, THODUPUZHA**

**2022**

**VOICES FROM THE PAST: AN INTRODUCTION TO ORAL HISTORY****Course Description**

This value-added course of the Department of History, Newman College, Thodupuzha is intended to provide the students an essential framework for understanding the oral traditions as a source of historical reconstruction. This course aims at examining the possibilities and limitations of oral history in the reconstruction of the past societies. This course will provide students with the foundations for designing and executing oral history research projects by providing various methodologies for conducting interviews. The students will read and discuss oral history theories and methods and they will examine how historians use oral history interviews to construct interpretive historical narratives.

**Course Objectives**

1. To introduce the processes of oral history traditions to explain how oral history interviews are different from other sources of historical reconstruction.
2. To understand the various processes in the theory and methodology of the oral history traditions.
3. To plan and conduct oral history projects according to the best practices in the field.
4. To understand how memory constituted as a major source in understanding past societies.
5. To understand the limitations of the oral traditions

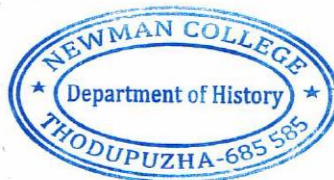
**Course Outcomes**

After the successful completion of the course, the students will be able to:

1. Demonstrate an understanding of oral history and its practice.
2. Develop a working definition of oral history, and explain how oral history interviews are different from other kinds of interviews.
3. Learn how to analyse oral history interviews as a source for writing history.
4. Plan and conduct an oral history interview.
5. Discuss current oral history processing and preservation practices.
6. Learn how to evaluate various approaches to presenting, processing, and analysing oral life history interviews.

**Assessment of Students**

Assessment of students for the course will be done by internal continuous assessment. Mark system is followed instead of direct grading for each question. Total marks for the course will be 100 marks.



## **Criterion 1**

### ***1.2.1 Curriculum for Certificate/Value added programs with assessment procedure***

#### **Course Syllabus**

##### **Module 1**

An Introduction to Oral History Tradition – Definitions -Oral Tradition as a Source of History – Memory and Oral History

##### **Module 2**

Setting up Oral History Project – Funding and Staffing – Equipment - Processing –Legal Concerns

##### **Module 3**

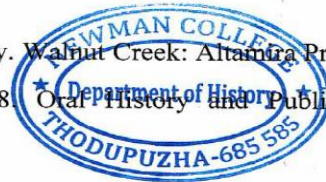
Conducting Interviews – Preparation for the Interview – Setting up the Interview – Conducting the Interview

##### **Module 4**

Limitations of Oral Traditions – Chronology and Interdependence – Selectivity and Interpretation – Degree of Limitations

#### **Reading List**

- Donald A. Ritchie. 2003. *Doing Oral History*. New York: Oxford University Press.
- Jan Vansina. 1985. *Oral Tradition as History*. Madison: The University of Wisconsin Press.
- John Brady. 1976. *The Craft of Interviewing*. New York: Vintage Books.
- Nancy Mackay. 2007. *Curating Oral Histories: From Interview to Archive*. California: Left Coast Press Inc.
- Paul Thompson. 1978. *The Voice of the Past: Oral History*. Oxford: Oxford University Press
- Lynn Abrams. 2010. *Oral History Theory*. London: Routledge.
- Robert Perks and Alistair Thompson (eds.). 1998. *The Oral History Reader*. London: Routledge
- Valerie Raleigh Yow. 2005. *Recording Oral History*. Walnut Creek: Altamira Press
- Paula Hamilton and Linda Shopes (eds.). 2008. *Oral History and Public Memories*. Philadelphia: Temple University Press



**33. Value added Course on Psychological First Aid during Natural Calamities**

**Curriculum with assessment procedure**



**NEWMAN COLLEGE, THODUPUZHA**

**CURRICULUM AND SYLLABUS FOR**

**VALUE ADDED COURSE ON**

**PSYCHOLOGICAL FIRST AID DURING NATURAL CALAMITIES**

**Course code: VACQAC001**

Co-ordinated by

INTERNAL QUALITY ASSURANCE CELL

NEWMAN COLLEGE, THODUPUZHA



**1. Programme description**

Value added course on **Psychological First Aid during Natural Calamities** is a skill oriented programme of 30 hours duration. This course has both theory and practical components with a total score of 100 marks. **Candidates who have passed (Eligible for Higher Studies) the HSE of the Kerala State Board Higher Secondary Examination or any other examination recognized as equivalent to that as one of the subject are eligible to apply for this course without any age restriction.**

**2. Programme objectives**

The course is designed to provide psychological first aid to people in an emergency by employing the RAPID model: Reflective listening, Assessment of needs, Prioritization, Intervention, and Disposition. This course provides perspectives on injuries and trauma that are beyond those physical in nature.

**3. Programme Outcomes**

On completion of the course, the students will increase their abilities to: - Discuss key concepts related to PFA - Listen reflectively - Differentiate benign, non-incapacitating psychological/ behavioral crisis reactions from more severe, potentially incapacitating, crisis reactions - Prioritize (triage) psychological/ behavioral crisis reactions - Mitigate acute distress and dysfunction, as appropriate - Recognize when to facilitate access to further mental health support - Practice self-care

**4. Assessment of Students**

Assessment of students for the course will be done by internal continuous assessment for practical and course end examination for theory. Mark system is followed instead of direct grading for each question. Total marks for the course will be 100 marks with 50 marks for theory paper and 50 marks for practical paper.





**5. SYLLABUS**

**Course Name: PSYCHOLOGICAL FIRST AID DURING NATURAL CALAMITIES**

**Course code: VACQAC001**

**(Theory: 16 hrs; Practical: 14 hrs; Total 30 hrs)**

**THEORY (16 hrs)**

Module 1: Introduction to Psychological first Aid **(2 hrs)**.

Module 2: Utilizing the RAPID model (Reflective listening, Assessment of needs, Prioritization, Intervention, and Disposition) **(4 hrs)**.

Module 3: Assessment and Prioritization in detail Intervention and disposition **(6 hrs)**

Module 4: Self care and wrap up **(4 hrs)**

**PRACTICAL (14 hrs)**

1. Simulation models for Reflective listening
2. Simulation models for Assessment of needs
3. Simulation models for Prioritization
4. Simulation models for Intervention, and Disposition

**References**

1. George S. Everly, Jr. and Jeffrey M. Lating. The Johns Hopkins Guide to Psychological First Aid, 2<sup>nd</sup> edition.
2. Psychological First Aid (PFA): Field Operations Guide (2nd ed.) U.S. Department of Veterans Affairs (VA)



## **34. MOOC in Organic Farming**

### **Curriculum with assessment procedure**

#### **Guidelines for implementing the organic farming project, as part of MOOC course for Under Graduate students of Mahatma Gandhi University**

##### **Objective**

To enable the Under Graduate students of Mahatma Gandhi University to understand the know-how of organic farming activities and thereby acquiring the related skill sets.

##### **Implementation Team**

Affiliated Colleges shall nominate one Faculty member as Coordinator for the purpose of conducting MOOC course. For each department/course in a college, one faculty member shall be the Mentor of the course. The committee comprising of Coordinator and Mentors shall be responsible for the conduct of MOOC course, including the Project work and the online examination to be conducted using the computer lab facility of the college. Mentors have the immediate responsibility to guide the students regarding the implementation of the project work as well assessing the performance of students, subject to the guidelines put forward by the University.

##### **Beneficiaries**

All UG Students in the 240 plus affiliated colleges, from 2020 admission onwards.

##### **Location**

The location of the project shall either be the colleges concerned or the homestead of the beneficiaries. A 20 square meter ( half a cent) land area with abundant sunshine and good drainage is to be selected for the project work.

##### **Crops**

The students may select five crops from the following crop cafeteria:

Vegetable crops: Amaranthus, ladies finger, cowpea, brinjal and chillies

Annual spices: Ginger , turmeric.

Tuber crops: Amorphophallus, tapioca.

##### **Season**

Crop season of February-March to July- August is desirable. Period during which farming to be done must be based on the prevailing climatic conditions. Rainfall and atmospheric temperature are to be considered while selecting the season. Cultivation in grow bags is possible irrespective of the season, if timely irrigation is assured.

##### **Agricultural implements**

Spade, hand hoe, scythe, hand sprayers, baskets and knapsack sprayers are the implements required.

## **Criterion 1**

### *1.2.1 Curriculum for Certificate/Value added programs with assessment procedure*

#### **Manures**

Organic manures : Compost, cattle manure, poultry manure, goat manure etc.

Concentrated manures: Ground nut cake, neem cake, bone meal, coconut oil cake

Green leaf manure: Glyricidia, tender weed shoots .

Fermented Bio slurries: Fish aminoacid, Egg aminoacid, Jeevamrutham, Panchagavyam etc.

Bio fertilizers

Azotobacter, Rhizobium, Azospirillum, Phospho bacteria, VAM etc.

#### **Biocontrol agents**

Botanical pesticides: Neem oil, Neem garlic emulsion, Tobacco decoction.

Bio pesticides: Verticillium, Beuveria, Trichoderma, Bacillus thuringiensis, Pseudomonas.

#### **Seeds and planting materials**

Seeds and seedlings of Amaranthus, ladies finger, cowpea, brinjal and chillies can be used as the planting materials. Rhizomes of Ginger and turmeric are used for planting. For tapioca, stem cuttings are used while tuber cut pieces are used as planting material of Amorphophallus . Seed materials are available with farms and research stations under the department of agriculture and Kerala Agricultural University. Seeds are also available with the vegetable and fruit promotion council (VFPC) and Krishibhavana.

#### **Crop management**

Land preparation, liming, manuring, preparation of potting mixture, preparation of fermented Bio slurries, seeding/planting, pests and disease management, water management and harvest are the major management practices.

#### **Training programmes**

University will provide training on the project work to the co-ordinators. Co-ordinators shall train the Mentors and they in turn shall impart training to the students.

#### **Observations and data collection**

The students shall closely monitor the growth and development of the crops and collect the data regularly. The data generated are to be submitted to the Mentors. The observations and the data collected shall include the day to day activities of the project work from initial land preparation to the final harvest. Height of plants at 15 days interval, no. of branches, date of first flowering, date of fruiting, number of fruits, harvest details, yield etc. are to be recorded in detail. Photos of the crop at different growth stages and during harvest are to be included in the report. Pest and disease incidence and the control measures adopted are to be reported. The students may report their project experiences including the difficulties faced and the alleviation measures adopted.

#### **College level assessment**

A seminar at the college level is to be organized in which the project work will be evaluated based on a power point presentation by the concerned student.

