e-Content and MOOC works (2020-2021)

Faculty members of Mahatma Gandhi College, Iritty actively participated in the development of e-contents and SWAYAM Courses produced by Educational Multimedia Research Centre (EMMRC), University of Calicut, on behalf of Consortium for Educational Communication (CEC), New Delhi, an Inter-University Center under UGC. Also faculty members contributed towards preparation of courses for SWAYAMPRABHA channel and also for the translation to regional language of MOOC Courses. Details are given below.

Principal Investigators of SWAYAM Courses

Faculty members of Mahatma Gandhi College, Iritty worked as Principal Investigators of SWAYAM Course produced by Educational Multimedia Research Centre (EMMRC), University of Calicut, on behalf of Consortium for Educational Communication (CEC), New Delhi, an Inter-University Center under UGC.

MOOC 1	
Name of the MOOC	: Differential Calculus
Name of the P.I /S.M.E	: Dr Bijumon Ramalayathil, Associate Professor, Dept. of Mathematics, Mahatma Gandhi College, Iritty
Course Level	: UG
Subject	: Mathematics
Topic	: Mathematics
No. of Credits	: 4
Month & Year of the fresh course developed : July 2019	
No. of Modules	: 40
Running Status	: Re-run

Semester & Year of the present running of the course   : July-December 2020

Course Start Date   : 15.06.2020

Course End Date   : 18.09.2020

Total No. of Enrollments   : 2956

Date of Examination   : 25.03.2021

MOOC 2

Name of the MOOC   : Algebra and Trigonometry

Name of the P.I /S.M.E   : Dr Bijumon Ramalayathil, Associate Professor, Dept. of Mathematics, Mahatma Gandhi College, Iritty

Course Level   : UG

Subject   : Mathematics

Topic   : Mathematics

No. of Credits   : 4

Month & Year of the Repurposed course developed : July 2018

No. of Modules   : 36

Running Status   : Rerun (Repurposed course)

Semester & Year of the present running of the course   : January-June 2021

Course Start Date   : 25.01.2021

Course End Date   : 19.04.2021

Total No. of Enrollments   : 1398

Date of Examination   : 28.08.2021

MOOC 3

Name of the MOOC   : Foundations of Mathematical Statistics

Name of the P.I /S.M.E   : Dr Aneesh Kumar K, Associate Professor, Dept. of Statistics, Mahatma Gandhi College, Iritty.

Course Level   : UG

Subject   : Statistics

Topic   : Statistics

No. of Credits   : 4

Month & Year of the Repurposed course developed: Aug 2015

No. of Modules   : 36

Running Status   : Rerun (Repurposed course)

Semester & Year of the present running of the course   : January-June 2021

Course Start Date   : 18.01.2021

Course End Date   : 11.04.2021

Total No. of Enrollments   : 851

Date of Examination   : 28.08.2021

MOOC 4	
Name of the MOOC	: IT FUNDAMENTALS
Name of the P.I /S.M.E	: Dr Reshma P K, Assistant Professor, Dept. of Computer Science, Mahatma Gandhi College, Iritty
Course Level	: UG
Subject	: Computer Science & Applications
Topic	: Computer Science & Applications
No. of Credits	: 4
Month & Year of the fresh course developed : January 2019	
No. of Modules	: 36
Running Status	: Rerun
Semester & Year of the present running of the course : January -May 2021	
Course Start Date	: 25.01.2021
Course End Date	: 12.04.2021
Total No. of Enrollments	: 765
Date of Examination	: 29.08.2021

MOOC MODULES

MOOC Course on **Differential Calculus**

Subject Expert: Dr.Bijumon Ramalayathil
Associate :professor, Dept:of mathematics

1. Functions

2. Limit of Functions – An Intuitive Approach

3. Computing Limits – Limit Laws

4. The Precise Definition of Limit

5. Continuity

6. Tangent Lines and Rate of Change

7. The Derivative of a Function

8. Techniques of Differentiation and the Chain Rule

9. L'Hopital Rule

10. Sequences

11. Techniques for finding Limit of Sequences

12. Infinite Series

13. Tests for Convergence of Series

14. Alternating Series and Absolute Convergence of Series

15. Power Series and Radius of Convergence

16. Taylor and Maclaurin Series of Functions

17. Partial Derivatives

18. Partial Derivatives of Higher Order

19. Differentiability

20. The Chain Rule of Functions of More than One Variable and Euler's Theorem on Homogeneous Functions

Teaching Assistants of MOOC COURSES

Ms. Priyanka P, Assistant Professor, Mahatma Gandhi College, Iritty worked as **Teaching Assistant** on the MOOC programme titled "**Differential Calculus"** run by Dr. Bijumon Ramalayathil, in the year 2020 (July-December Semester).

Ms. Maya P. V., Assistant Professor, Mahatma Gandhi College, Iritty worked as **Teaching Assistant** on the MOOC programme titled "**Algebra and Trigonometry"** run by Dr. Bijumon Ramalayathil, in the year 2021 (January-June Semester).

Ms. Vidya T. M.., Assistant Professor, Mahatma Gandhi College, Iritty worked as **Teaching Assistant** on the MOOC programme titled "**Algebra and Trigonometry"** run by Dr. Bijumon Ramalayathil, in the year 2021 (January-June Semester).

Translation of MOOC Courses to Regional Language (Malayalam)

The following faculty members were part of translation work of MOOC Courses to regional languages in 2020.

- Ms. Priyanka P., Assistant Professor, Dept. of Mathematics, Mahatma Gandhi College, Iritty participated as Faculty for Sound Recording (translation to Malayalam

work) in the development of MOOC modules (for the MOOC on "Algebra and Trigonometry") titled as follows:

1. Relations

2. Solution of Homogeneous System of Equations

3. Method to find solution of Homogeneous System of Equations

4. Non Homogeneous System of Equations

- Ms. Priyanka P., Assistant Professor, Dept. of Mathematics, Mahatma Gandhi College, Iritty participated as Faculty for Translation to Malayalam in the development of MOOC modules (for the MOOC on "Algebra and Trigonometry") titled as follows:

1. Relations

2. Solution of Homogeneous System of Equations

3. Method to find solution of Homogeneous System of Equations

4. Non Homogeneous System of Equations

- Ms. Haseena C., Assistant Professor, Dept. of Mathematics, Mahatma Gandhi College, Iritty participated as Faculty for Translation to Malayalam in the development of MOOC modules (for the MOOC on "Algebra and Trigonometry") titled as follows:
  1. Equivalence Relations
  2. Cyclic Subgroups and Cyclic Groups

- Ms. Haseena C., Assistant Professor, Dept. of Mathematics, Mahatma Gandhi College, Iritty participated as Faculty for Sound Recording (translation to Malayalam work) in the development of MOOC modules (for the MOOC on "Algebra and Trigonometry") titled as follows:
    1. Equivalence Relations
    2. Cyclic Subgroups and Cyclic Groups

- Ms. Jimly Manuel., Assistant Professor, Dept of Mathematics, Mahatma Gandhi College, Iritty participated as Faculty for Translation to Malayalam in the development of MOOC modules (for the MOOC on "Algebra and Trigonometry") titled as follows:
    1. Functions
    2. Adjoint and Inverse of Matrices
    3. Rank of a matrix and Elementary Transformations
    4. Determination of Rank using transformations
    5. Elementary Matrices
    6. Fundamental Results Associated with Rank of Matrices and Inverse using transformations

- Ms. Jimly Manuel, Assistant Professor, Dept. of Mathematics, Mahatma Gandhi College, Iritty participated as Faculty for Sound Recording (translation to Malayalam work) in the development of MOOC modules (for the MOOC on "Algebra and Trigonometry") titled as follows:
    1. Adjoint and Inverse of Matrices
    2. Rank of a matrix and Elementary Transformations
    3. Determination of Rank using transformations
    4. Elementary Matrices
    5. Fundamental Results Associated with Rank of Matrices and Inverse using transformations

- Ms. Maya P. V., Assistant Professor, Dept. of Mathematics, Mahatma Gandhi College, Iritty participated as Faculty for Translation to Malayalam in the development of MOOC modules (for the MOOC on "Algebra and Trigonometry") titled as follows:
    1. Congruent Modulo n
    2. Permutations

- Ms. Maya P. V.., Assistant Professor, Dept. of Mathematics, Mahatma Gandhi College, Iritty participated as Faculty for Sound Recording (translation to Malayalam work) in the development of MOOC modules (for the MOOC on "Algebra and Trigonometry")   titled as follows:
    1. Congruent Modulo n
    2. Permutations

- Ms. Vidya T. M., Assistant Professor, Dept. of Mathematics, Mahatma Gandhi College, Iritty participated as Faculty for Translation to Malayalam in the development of MOOC modules(for the MOOC on "Algebra and Trigonometry") titled as follows:
    1. Matrices
    2. Theory of Equations – Part 5
    3. Groups

- Ms. Vidya T. M., Assistant Professor, Dept. of Mathematics, Mahatma Gandhi College, Iritty participated as Faculty for Sound Recording (translation to Malayalam work) in the development of MOOC modules (for the MOOC on "Algebra and Trigonometry") titled as follows:
    1. Matrices
    2. Groups

Home Based Recording for SWAYAMPRABHA CHANNEL

Dr. Bijumon Ramalayathil, Associate Professor, Department of Mathematics, Mahatma Gandhi College, Iritty contributed as Subject Matter Expert in the development of course entitled "Vector Calculus " (15modules) in Mathematics as a part of Home based recordings produced in the month of june 2020 and telecasted the same in the month of November 2020 for Swayamprabha DTH CHANNEL 08 PHYSICAL AND EARTH SCIENCES–Aryabhatt by EMMRC ,University of Calicut, on behalf of CEC New Delhi, an Inter University centre under UGC.

Title of Modules:

1. PARAMETRIZATION OF LINES AND LINE SEGMENTS IN SPACE VECTOR ANALYSIS
2. PLANE IN SPACE VECTOR ANALYSIS
3. PLANE IN SPACE PART B (VECTOR ANALYSIS)
4. PARAMETRIC EQUATIONS OF CURVES IN A PLANE-1
5. PARAMETRIC EQUATIONS OF CURVES IN A PLANE-2
6. POLAR COORDINATES
7. 3 DIMENSIONAL CARTESIAN COORDINATES
8. PARAMETRIC CURVES IN SPACE
9. VECTOR VALUED FUNCTIONS OF REAL VARIABLE
10. LIMIT AND CONTINUITY OF VECTOR VALUED FUNCTION - PART A
11. LIMIT AND CONTINUITY OF VECTOR VALUED FUNCTION - PART b
12. DERIVATIVE OF VECTOR VALUED FUNCTIONS
13. FUNCTIONS OF SEVERAL VARIABLES
14. LIMIT ALONG CURVES OF FUNCTIONS OF TWO VARIABLES
15. LIMIT OF FUNCTIONS OF TWO VARIABLES

Dr ANEESH KUMAR K ASSOCIATE PROFESSOR DEPT OF STATISTICS M G COLLEGE KANNUR has contributed as Subject Matter Expert in the development of course entitled "Bivariate random variables"(6 modules) in statistics as a part of Home based recordings produced in the month of May 2020 and telecasted the same in the month of September 2020 for Swayamprabha DTH CHANNEL 08 PHYSICAL AND

EARTH SCIENCES –Aryabhatt by EMMRC ,University of Calicut ,on behalf of CEC New Delhi ,an Inter University centre under UGC.

Title of Modules:

- BIVARIATE RANDOM VARIABLES PART 1
- BIVARIATE RANDOM VARIABLES PART 2
- BIVARIATE RANDOM VARIABLES PART 3
- BIVARIATE RANDOM VARIABLES PART 4
- BIVARIATE RANDOM VARIABLES PART 5
- BIVARIATE RANDOM VARIABLES PART 6