FIELD VISIT

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN (AUTONOMOUS), SIVAKASI – 626 123.

(Affiliated to Madurai Kamaraj University, Re-accredited with A Grade by NAAC,
College with Potential for Excellence by UGC and Mentor Institution under UGC PARAMARSH)

DEPARTMENT OF MATHEMATICS

FIELD VISIT TO ALAGAPPA UNIVERSITY (CECRI), KARAIKUDI

M.Sc. MATHEMATICS

2019-2020

From

Mrs.U.Muthumari
Assistant professor of Maths,
Department of Mathematics,
S.F.R.College for Women,
Sivakasi.

To

The Principal,
S.F.R.College for Women,
Sivakasi.

Respected Madam,

We would like to inform you that our I M.Sc Maths Students are going to Alagappa University (CECRI) Karaikudi, to visit Science Exhibition on 26.09.2019.I request you to permit me to accompany the participants to visit the Science Exhibition. Participants list is enclosed .

Thanking you,

Yours faithfully,
(U.MUTHUMARI)

Sivakasi
23.9.19

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DEPARTMENT OF MATHEMATICS

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M.Sc. MATHEMATICS

2019-2020

Participants list:

S.No	Roll NO	Student Name
1	19PM001	AARTHI B
2	19PM002	AFRIN K
3	19PM003	ALAGESWARI B
4	19PM004	AYISHA RAKSHANA S
5	19PM005	BHARATHY B
6	19PM006	BHAVANI G
7	19PM007	BHUVANESWARI T
8	19PM008	DEEPALAKSHMI K
9	19PM009	HARITHA R
10	19PM010	ILAKKIYA T
11	19PM011	JANANI S
12	19PM012	JEYACHITRA V
13	19PM013	JEYAPRABA M
14	19PM014	KALAIARASI A
15	19PM015	KALAISELVI D
16	19PM016	KALAIVANI K
17	19PM017	KAMALI G
18	19PM018	KARPAGALAKSHMI S
19	19PM019	KARTHEESWARI M
20	19PM020	KAVIYA V
21	19PM021	LAKSHIMI PRABA K
22	19PM022	MAHESWARI K
23	19PM023	MALARVIZHI S
24	19PM024	MALAVIKA S A
25	19PM025	MONISHA N
26	19PM026	NANDHINI M
27	19PM027	PREETHI K S
28	19PM028	PUSHBAVENI B
29	19PM029	SAGUNTHALADEVI S
30	19PM030	SANTHIYA M
31	19PM031	SASI REKHA G
32	19PM032	SATHOTHITHA B
33	19PM033	SHANMUGAPRIYA M
34	19PM034	SIBA EZHILARASI R
35	19PM035	SIVAA KAVYA R
36	19PM036	SOUNDHARYA LAKSHMI J
37	19PM037	UMA MAGESWARI M
38	19PM038	VAISHNAVY M
39	19PM039	VICHITRADEVI G
40	19PM040	VINNARASI A
41	19PM041	VISALAKSHI K

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M.Sc. MATHEMATICS

2019-2020

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SIVAKASI - 626123

Report

Department of Mathematics , S.F.R.College , Sivakasi arranged field visit to Alagappa University, CECRI, Karaikudi, for PG students on 26th September 2019. As a part of M.Sc., Mathematics curriculum of our college the students have to undergo a field visit related to their subject. The visit create awareness in the young minds about the utilization of science models, which is the need of the hour. In this field visit 41 students were participated. Mrs.U.Muthumari Assistant Professor of Mathematics made all the necessary arrangements.

for S. Kalaiselvi
Staff in-charge

HOD

Head of the Dept. of Mathematics,
The Standard Fireworks Rajaratnam
College for Women, Sivakasi.

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DEPARTMENT OF MATHEMATICS

FIELD VISIT TO ALAGAPPA UNIVERSITY (CECRI), KARAIKUDI

M.Sc. MATHEMATICS

2019-2020

THE STANDARD FIREWORKS RAJARATNAM COLLEGE FOR WOMEN, SIVAKASI.
DEPARTMENT OF MATHEMATICS
M. Sc. MATHEMATICS
SEMESTER I
ELECTIVE –I
HLMT1E1- MATHEMATICAL MODELLING
(For those admitted in June 2017 and later)

Contact hours per week : 06
Total number of hours per semester : 90
No. of Credits : 05

Course Outcomes (CO):

On successful completion of the course, the learners should be able to
CO1: explain the concepts of mathematical models
CO2: apply differential equation models to solve problem in any disciplinary of science
CO3: analyze problems in various fields and find solution using ODE and difference equations
CO4: determine the planetary motion of satellites
CO5: construct mathematical models for solving real life problems

CO-PO Mapping table (Course Articulation Matrix)

POs / COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO1	1	1	-	-	-	-	-
CO2	3	1	3	-	-	-	-
CO3	3	1	3	3	-	-	-
CO4	9	3	3	3	-	-	-
CO5	9	9	3	3	-	-	-
Weight age of the course	25	15	12	9	-	-	-
Weighted percentage of Course contribution to POs	9.29	3.12	8.05	10.98	-	-	-

Unit - I **(18 hrs)**

Simple Situations Requiring Mathematical Modelling – The Technique of Mathematical Modelling – Classification of Mathematical Models – Some Characteristics of Mathematical Models – Mathematical Modelling Through Geometry - Mathematical Modelling Through Algebra - Mathematical Modelling Through Trigonometry - Mathematical Modelling Through Calculus – Limitations of Mathematical Modelling.

Unit - II **(18 hrs)**

Mathematical modelling through Differential equations-Linear Growth and Decay models- Nonlinear Growth and Decay models -Compartment models- Mathematical modelling in Dynamics through ordinary differential equations of first order-Mathematical modelling of Geometrical problems through ordinary differential equations of first order.

Unit - III **(18 hrs)**

Mathematical modelling in Population Dynamics - Mathematical modelling of epidemics through systems of ordinary differential equations of first order - Compartment models through systems of ordinary differential equations – Mathematical modelling in Economics through systems of ordinary differential equations of first order - Mathematical models in Medicine,Arms Race,Battles and international trade in terms of systems of ordinary differential equations- Mathematical modelling in Dynamics through systems of ordinary differential equations of first order .

Unit IV **(18 hrs)**

Mathematical Modelling of Planetary motions- Mathematical Modelling of Circular motion and motion of satellites- Mathematical Modelling through linear differential equations of second order- Miscelleneous Mathematical Models through ordinary differential equations of second order

Unit - V **(18 hrs)**

The need for Mathematical modelling through difference equations: Some Simple Models-Basic theory of linear difference equations with constant coefficients- Mathematical Modelling through Difference equations in Economics and Finance- Mathematical Modelling through Difference equations in Population Dynamics and Genetics – Mathematical Modelling through Difference equations in Probability theory – Miscellaneous examples of Mathematical Modelling through Difference equations.

Text book: J.N. Kapur (2005), Mathematical modelling
New Age international Ltd., New Delhi.

- Unit I -Chapter 1 (section1.1 to 1.9) pg(1-28)
- Unit II -Chapter 2 (sections 2.1 to 2.6) pg(30-52)
- Unit III -Chapter 3 (sections 3.1 to 3.6) pg(53-75)
- Unit IV -Chapter 4(Sections 4.1 to 4.4) pg(76-95)
- Unit V - Chapter 5(sections 5.1 to 5.6) pg(96-123)

Reference Book: JN Kapur (1992), Mathematical models in Biology & Medicine East - West Press Private Limited., New Delhi.