Programme Project Report (PPR) for Distance Learning Programme under School of Distance Education

Bachelor of Science in Mathematics 2018-19

School of Distance Education University of Calicut Malappuram District Kerala 673635

UNIVERSITY OF CALICUT SCHOOL OF DISTANCE EDUCATION

Bachelor of Science (Mathematics)

PROGRAMME PROJECT REPORT (PPR)

1 Programme's Mission and Objectives :

i. Mission

B. Sc Mathematics programme involves basic studies of the subjects lying a strong foundation which would support employability as well as background for higher studies. Also this programme provides a good measure of flexibility and choice as per interest. Therefore, a significant increase of interest in Mathematics has been grown among different disciplines as well as other areas of life in recent past. With that spirit in mind and keeping the mission that to foster the analytical skills among the students, so that they develop the traits of being potentially employable in their career, the School of Distance Education, University of Calicut, started under graduate Mathematics course.

ii. **Objectives**

- To attain proficiency in identifying, reflecting, evaluating, and applying different types of in-formation and knowledge to form independent judgment.
- To provide better understanding of basic rules of logic and enable the students to articulate the differences between inductive and deductive reasoning.
- To provide proficiency in formulating conjectures by abstracting general principles from examples.
- To enable the students to formulate and solve abstract mathematical problems.

- To enable the students to apply mathematical methodologies in real-world problems.
- To enable the students to present Mathematics clearly and precisely to an audience, and to describe mathematical ideas from multiple perspectives.

2. Relevance of the program with HEI's Mission and Goals:

The B. Sc Mathematics course has great relevance with the Mission and Goal set by the University of Calicut. The primary aim of this programme is to acquaint the learners with the core values of life. After B. Sc Mathematics, the students shall be in a position to pursue higher studies, depending upon their competence and knowledge in Mathematics. The programme will also help the learners to keep abreast with the latest developments in Mathematics from national and international stand points.

The objective of program is to produce graduates who are well grounded in the fundamentals of Mathematics and acquisition of the necessary skills, in order to use their knowledge in Mathematics in a wide range of practical application, develop creative thinking and the power of imagination to enable graduates work in research in academia and industry for broader application, accommodate their relevant fields in allied disciplines and to allow the graduates of Mathematics to fit into the inter-disciplinary environment.

3. Nature of prospective target group of learners:

The B. Sc Mathematics programme is in demand for large number of human resource in various fields. This programme has been welcomed by those who missed the opportunity for higher science education. As per the needs of the learners, the university has prepared course curriculum of this programme.

The prospective target group of learners are :-

Working professionals

- Unemployed graduates
- Academic faculty
- Home makers

4. Appropriateness of programme to be conducted in Open and Distance Learning mode to acquire specific skills and competence :

B. Sc Mathematics programme will meet the learning aspiration for Mathematics by providing a chance to those who had to discontinue their formal education or could not join regular colleges or Universities owing to social, economic, and other constraints. It is 3 years programme. In the first two years, focus is on the basic papers in Mathematics such as Foundations of Mathematics, Calculus, Calculus and Analytic geometry, and Theory of equations, matrices and vector calculus. In the third year, focus is on the skill-based papers including Abstract algebra, Differential equations, Real analysis, Complex analysis, Numerical methods, Number theory an Linear algebra which will help the students to pursue the higher studies in these topics.

Besides imparting theoretical knowledge, the University provides the opportunity to the human resource, basically to those who are financially backward and rural people to get a quality education in Mathematics, which can fulfill the demand of the society.

5. Instructional Design :

i) Curriculum Design

Sl No.	Course Code	Course Title	Int. Marks	Ext. Marks	Total Mar ks	No. of Credit s
		First Year : Se	mester-I			
1	ENG1A01	The Four Skills for Communication (Common Course	20	80	100	3

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2	ENG1A02	Modern Prose & Drama (Common Course II)	20	80	.100	3
3	na na mangangan ng data telogo ng data telogo ng data te	Language Course (Common Course III)	20	80	100	4
.4	ME1C01	Mathematical Economics (Complementary Course)	20	80	100	3
5		Basic Statistics and Probability (Complementary Course)	20	80	100	3
6	MAT1B01	Foundations of Mathematics (Core Course)	20	80	100	4
		Total	120	480	600	20
		First Year : Ser	nester-II			
7	ENG2A03	Inspiring Expressions (Common Course IV)	20	80	100	4
8	ENG2A04	Readings on Society (Common Course V)	20	80	100	4
9		Language Course (Common Course	20	80	100	4

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10	ME2C02	Mathematical Economics (Complementary Course)	20	80	100	3
11		Probability Distributions (Complementary Course)	20	80	100	3
12	MAT2B02	Calculus (Core Course)	20	80	100	4
		Total	120	480	600	22
		Second Year : Se	mester II	I		
13	ENG3A05	Native Media in English (Common Course VII)	20	80	100	4
14		Language Course (Common Course VIII)	20	80	100	4
15	ME3C03	Mathematical Economics (Complementary Course)	20	80	100	3
16	n de Strang Na Strang	Statistical Inference (Complementary Course)	20	80	100	3
17	MAT3B03	Calculus and Analytic Geometry	20	80	100	4

(Core Course)

		Total	100	400	500	18
		Second Year : Se	mester	IV		
18	ENG4A06	Reading Fiction and Non-fiction (Common Course IX)	20	80	100	4
19		Language Course (Common Course X)	20	80	100	4
20	ME4C04	Mathematical Economics (Complementary Course)	20	80	100	3
21		Applied Statistics (Complementary Course)	20	80	100	3
22	MAT4B04	Theory of Equations, Matrices and Vector Calculus (Core Course)	20	80	100	4
		Total	100	400	500	18
		Third Year : Se	mester	V		
23	MAT5B05	Vector Calculus (Core Course)	20	80	100	4
24	MAT5B06	Abstract Algebra (Core Course)	20	80	100	5
25	MAT5B07	Basic	20	80	100	5

		Mathematical Analysis (Core Course)				
26	MAT5B08	Differential Equations (Core Course)	20	80	100	4
27		Open Course	20	80	100	2
28		Project/ Viva	-	-	-	-
		Total	100	400	500	20
		Third Year : Se	mester V	[
29	MAT6B09	Real Analysis (Core Course)	20	80	100	5
30	MAT6B10	Complex Analysis (Core Course)	20	80	100	5
31	MAT6B11	Numerical Methods (Core Course)	20	80	100	4
32	MAT6B12	Number Theory and Linear Algebra (Core Course)	20	80	100	4
33	MAT6B13	Elective Course	20	80	100	2
34	MAT6P14(PR)	Project/ Viva	20	80	100	2
		Total	120	480	600	22
		Grand Total	660	2640	3300	120

ii) **Programme Duration :** Course duration is 3 years with 6 semesters

iii) Faculty and support staff requirement:

There is one full time faculty member available to coordinate B. Sc Programme in Mathematics. Supporting staff from the School of Distance Education are performing the administrative functioning for all the programs. The service of qualified guest teachers and experts from panels approved by the Vice Chancellor are used in preparation of study materials, for taking contact classes and conducting internal evaluation.

iv) Instructional delivery mechanism :

The academic contents are being delivered to the students through study learning materials and contact classes as stipulated by norms of the Distance Education Programme. Normally, contact classes are held as per a schedule drawn beforehand by the Study Centre Coordinator. They are held on weekends. Eminent teachers from SDE and other institutes drive these classes with their vast experience and help the learners to understand the subject better.

6. Procedure for admission, curriculum transaction and evaluation :

Admission Procedure: The Application form can be downloaded from the official university website. The filled in registration form along with the required documents should reach the Director, School of Distance Education within the prescribed date mentioned in the admission notification.

Eligibility: Candidates who have passed (Eligible for higher studies) the HSE of Kerala State Board of Higher Secondary Examination or any other examination recognized as equivalent there to with Mathematics group only are eligible for admission to B Sc Mathematics.

Fee Structure:

Sl. No	Fee	Amount
1	Registration Fee (Admission Fee)	Rs. 1200
2	Course Fee	Rs. 1600 (For 1Year)
3	Matriculation Fee	Rs. 100
4	Re- matriculation Fee	Rs. 150
5	Recognition Fee	Rs. 100
6	Postage Charges	Rs. 50
7	Spot Admission Fee	Rs. 50

 Matriculation fee for those who are enrolling in University of Calicut for the first time

 Re-matriculation fee for those who have migrated from the University of Calicut to other Universities

 Recognition fee for those who have qualified from Boards/ Universities of other States

 Postage charges for those who not availing the facility of Spot admission

 Spot admission fee for those who are availing the spot admission facility **Financial Assistance:** Concession for tuition fee will be given to SC/ST and OEC students. The students belonging to SC/ST and OEC category will be admitted to the programme without remitting the tuition fee, only if they are not employed in Govt/Quasi Govt/Public Sector Services. They should submit the duly filled in application form (available in the SDE website) for fee concession with relevant documents at the time of admission. No fee concession for OBC students.

Visually challenged candidates are also eligible for fee concession on production of Medical Certificate.

Curriculum transaction and evaluation:

Curriculum is transacted in the Distance mode with the help of study materials and contact classes. Evaluation is by end semester examinations. End Semester Examinations are conducted by the Controller of Examinations, University of Calicut. The written exams carry 80 marks per paper. The examiners for evaluation are drawn from the panel of examiners available for the corresponding disciplines in the regular mode.

Academic planner for the UG programmes proposed for the academic session July 2018

SI	Activity	From	То
INO	A sheets stars		
1	Admission	1 st week of June 2018	Last week of June 2018
2	Distribution of I st Semester Study Materials	2 nd week of July 2018	2 nd week of August 2018
3	I st Semester Contact Classes	Last week of July 2018	Last week of October 2018
4	Commencement of I st Semester examination	Last week of January 2019	Last week of February 2019
5	Publication of results	Last week of June 2019	
6	Distribution of II nd Semester Study Materials	1 st week of March 2019	1 st week of April 2019
7	II nd Semester Contact Classes	Last week of March 2019	1 st week of May 2019
8	II nd Semester Examinations	1 st week of May 2019	Last week of May 2019
9	Publication of results	Last Week of September 2019	
10	Distribution of III rd Semester Study Materials	1 st week of June 2019	1 st week of July 2019

11	IIIrd Semester Contact Classes	Last week of June 2019	Last week of Sentember 2010
12	III rd semester Examinations	Last week of	II nd week of December 2019
		November2019	
13	Publication of Results	II nd week of April 2020	
14	Distribution of IV th semester Study	Last week of December	Last week of January 2020
	Materials	2019	
15	IV th Semester Contact Classes	I st week of January 2020	Last week of March 2020
16	IV th Semester Examinations	2 nd week of April 2020	I st week of May 2020
17	Publication of Results	Last week of August 2020	·
18	Distribution of V th Semester Study	2 nd week of May 2020	2 nd week of June 2020
	materials		
19	V th Semester Contact Classes	3 rd week of May 2020	Last week of September 2020
20	V th Semester Examinations	2 nd week of October 2020	2 nd week of November 2020
21	Publication of results	2 nd week of March 2021	
22	Distribution of VIth Semester Study	3 rd week of November 2020	2 nd week of December 2020
	Materials		
23	VIth Semester Contact Classes	3 rd week of December 2020	Last week of February 2021
24	VI th Semester Examinations	2 nd week of March 2021	2 nd week of April 2021
25	Publication of results	I st week of July 2021	

7. Requirement of the laboratory support and Library Resources :

The SDE has its own library with a good collection of books, periodicals, reference books etc. Students can make use of the library resources and the reference services by producing their Student's ID card.

8. Cost estimate of the programme :

Sl. No Expenditure

Cost estimate for B. Sc Mathematics Programme proposed to be offered from July 2018(1000 students expected)

1	Cost of SLM preparation	400,000
	including DTP charges	
2	Printing and distribution of	1.165.500

	SLM	
3	Contact classes	1,323,478
4	Pay & Allowances of staff at HQ	1,381,025
5	Examination & Valuation	909,091
· 6	Miscellaneous Expenses	15,152
	Grand Total	5,194,245
	Expense per student	5194

9. Quality assurance mechanism and expected programme outcomes :

SDE has constituted the Centre for Internal Quality Assurance (CIQA) as per UGC(Open and Distance Learning) Regulations, 2017 to ensure the delivery of high quality programmes to its learners.

Expected Programme Outcomes:

On completion of this programme, the successful students will be able to:

- ✓ Formulate problems in appropriate theoretical frameworks to facilitate their solution
- Develop strategies to solve mathematical in a range of relevant areas
- Criticize mathematical arguments developed by themselves and others
- Understand the correct use of mathematical language to express both theoretical concepts and logical arguments
- ✓ Solve practical problems in a range of areas of Mathematics
- Communicate Mathematics effectively to a wide range of audience

- ✓ Work effectively and constructively as part of a team
- ✓ Motivate and communicate complex ideas accurately using a range of formats
- ✓ Identify and benefit from opportunities for personal and career development
- ✓ Learn effectively

Vice-Chancellor

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