

NAVAJYOTHI COLLEGE OF TEACHER EDUCATION FOR WOMEN, OLARIKKARA
VAC.EDU.09: ENHANCING MATHEMATICS LEARNING THROUGH COMMUNITY RESOURCES
AND MATHEMATICS LABORATORY

Contact Hours: 36 (Instruction)

Maximum Marks: 100 (Theory- 40, Practical - 40, Internal- 20)

Programme Learning Outcome

On the successful completion of the programme, the prospective teachers will be able to attain the following Programme Outcomes.

PO. 01. Master in pedagogical knowledge, professional competencies and skills to become as a competent teacher.

PO. 02. Proficient in fundamental ICT skills indispensable for personal and professional development.

Course Learning Outcomes

On the successful completion of the topic, the learner will be able to,

1. Understand the concept of community resources.
2. Identifies the various resources from immediate environment for mathematics learning
3. Develops interest in mathematics learning by integrating the learning resources such as field trip and mathematics laboratory.
4. Develops the problem solving skill using Geogebra

UNIT 1: Introduction to community resources. : An overview of community resources - Meaning – objectives – importance -types of community resources. **(4 hrs)**

UNIT 2 :Learning resources from immediate environment: Developing resources for Mathematics laboratory- Improvised learning aids –Different learning aids for mathematics fair and its Evaluation Criteria (U.P & Secondary classes) **(8 hrs)**

UNIT 3: Preparation of Improvised Model in a Workshop: procedure for the preparation of still model and working model in middle stage and secondary stage **(8 hrs)**

UNIT 4: Community Engagement and Outreach activities: Bringing community to the class and class to the community - Field visit and Interview–organization and evaluation – advantages. **(8 hrs)**

UNIT 5: IT Maths Laboratory: Geogebra – Meaning - significance in Mathematics Class – Application of Geogebra in Higher secondary Class **(8 hrs)**

Mode of Transaction

Lecture, Demonstration, Discussions, Hands – on Activities, Workshops

Task and Assignments (Any two)

1. Prepare a detailed report with geo-tagged photo of the field trip.
2. Prepare a still model and a working model for a secondary class.
3. Write an assignment about the materials exhibited in mathematics fair. Based on this conduct a discussion about how far these resources help them for better learning.

Reference

Raju, B., & Babu, M.R. (2017). Pedagogy of Mathematics. Neelkamal pub.

Evaluation System

1. Continuous Evaluation

In the continuous evaluation mode, the course provides the student teacher to complete two tasks related to the course within the stipulated time. Each task is for 5 Marks and the split up of this 5 Marks is as following;

Sl. No.	Criteria	Marks
1	Timely Submission	1
2	Systematic structure	3
3	Task writing style	1
Total Marks		5

There will be two internal test papers of 5 Marks each during the first and second half of the course. The Marks for the internal examinations will be given as per the following criteria;

Sl. No.	Criteria	Marks
1	80 percentage and above	5 Marks
2	60 percentage to 79 percentage	4 Marks
3	40 Percentage to 59 percentage	3 Marks
4	Below 40 percentage	2 Marks

Thus the total distribution of Internal Mark is as per the following table;

Sl. No.	Items	Marks
1	Task 1	5
2	Task 2	5
3	Internal Examination - I	5
4	Internal Examination - II	5
Total		20

A minimum of 10 Marks in the Continuous Evaluation mode is necessary to attend the External theory and practical examination.

2. External Evaluation

The external evaluation consists of both Theory and Practical Examination. The theory Examination is for a total of 40 Marks and Practical Examination is also for a total of 40 marks.

2.1 Theory Examination

The theory Examination is for a total of **40** Marks. The question paper consists of three parts such as part A, part B and part C. Part A consists of **7** short answer questions out of which the student has to attend any **5** questions. Each question carries **2** Marks. Part B consists of **7** Paragraph writing Questions out of which the student has to write **5** questions. Each question carries **4** Marks. Part C consists of **2** Essay questions out of which the student has to attend any **one**. Each question carry **10** Marks. The minimum marks for a pass is **20**.

2.2 Practical Examination

The practical examination is for a total of **40** marks. The practical examination consists of 2 items each having **20** marks. The first item will be for the solving of a Mathematical problem using Geogebra for standard XI. The second item includes the solving of a Mathematical problem using Geogebra for standard XII.

Grading and Result Declaration of the Course

The Total grade of the course is determined by adding together the internal evaluation and external evaluation. Those who successfully complete the value added course are given grades according to their total score percentage as shown in the below table.

Sl. No.	Range of Total Scores (%)	Grade
1	90 - 100	A+
2	80 - 89	A
3	70 - 79	B+
4	60 - 69	B
5	50 – 59	C+
6	40 - 49	C
7	Below 40	D+