COURSE NAME: BRIDGE COURSE ON BASIC MATHEMATICS

Eligibility: BSc Maths, BSc (CS), BSc (ELE) , BCA for Sem 1 (students who got admission in BSc & BCA**)**

About the bridge course

A bridge course for the students of BSc/BCA is conducted every year to get the students the knowledge of mathematics. The main objective of the course is to bridge the gap between subjects studied at Pre-university level and subjects they would be studying in science. A Bridge course aims to cover the gap between the understanding level of the high school courses and higher educational courses. Bridge course is preparative course for college level course with an academic curriculum that is offered to enhance the knowledge of the students by means of preparing for the intellectual challenges of mathematics subject and to know basic information about core & complementary subject.

Bridge courses are the tool to help students to success in their graduate level studies. It is also a prerequisite and foundational course to know the basic information about mathematics subjects.

Objective

The bridge course aims to act as a buffer for the new entrants with an objective to provide adequate time for the transition to hard core of degree courses. This gives them a breather, to prepare themselves before the onset of courses for first year degree programme. During this interaction of twelve hours with the faculty and their classmates the students will be equipped with the knowledge and the confidence needed to take on bigger challenges in future.

Design

The course consists of 7 days of interactive sessions and an internal examination designed by the mathematics departments which is compulsory for all students. The result will be published in the website as well as on the notice board.

V. V. COLLEGE OF SCIENCE& TECHNOLOGY

(Affiliated to University of Calicut)

CHULLIMADA KANJIKODE

DEPARTMENT OF MATHEMATICS

SYLLABUS FOR BRIDGE COURSE: BASIC MATHEMATICS

MODULE I

Functions and their Graphs - Definition of a Function, Finding the Domain of a Function, Even and Odd Functions (quick review) ,Limits - A Real Life Example, Intuitive Definition of a Limit, One-Sided Limits, Ev Techniques for finding Limits - Computing Limits Using the Laws of Limits, Limits of Polynomial and Rational Functions, Limits of Trigonometric Functions

Continuous Functions - Continuity at a Number, Continuity at an Endpoint, Continuity on an Interval, Continuity of Composite Functions, Intermediate Value Theorem.

MODULE II

Differentiation: Derivative at a point, Derivative of a Function, Differentiation from first principle, Differentiation of important functions, Product rule, Quotient rule, Differentiation of a function of a function (problem based)

MODULE III

Integration: Integral as Anti-derivative, Indefinite integral &constant of integration, Fundamental theorems, Elementary Standard results, Methods of Integration, Integration through Partial Functions, and Integration by parts.

MODULE IV

Definite Integral: Evaluation by Substitution, Properties of definite integrals (Problem Based)

COURSE OUTCOME:

- Create deep interest in learning mathematics;
- Develop broad and balanced knowledge and understanding of definitions, concepts, principles and theorems
- Familiarize the students with suitable tools of mathematical analysis to handle issues and problems in mathematics and related sciences
- Enhance the ability of learners to apply the knowledge and skills acquired by them during the programme to solve specific theoretical and applied problems in mathematics
- Provide students/learners sufficient knowledge and skills enabling them to undertake further studies in mathematics and its allied areas on multiple disciplines concerned with mathematics
- Encourage the students to develop a range of generic skills helpful in employment, internships and social activities.