केरल केन्द्रीय विश्वविद्यालय
CENTRAL UNIVERSITY OF KERALA
(संसद के अधिनियम, वर्ष 2009 द्वारा स्थापित / *Established under the Act of Parliament in 2009*)

Minutes of BOS in Computer Science Held on 05/01/2019 at 11 AM

Agenda:
(i) To discuss about the Syllabus
(ii) To discuss about the feedback of students
(iii) To start Centre for Computational Intelligence
(iv) To decide about the eligibility criteria for M.Sc. Computer Science
(v) To discuss about the panel of examiners and question paper setting

The following members were present during the meeting.

1. Dr. Arunkumar Thangavelu, Professor, Dept. of Computer Science and Engineering, VIT
2. Dr. K.A. Germina, Associate Professor, Department of Mathematics
3. Dr. Rajesh R, Head, Department of Computer Science
4. Mr. Kumar V.

(i) The BOS members have gone through the previous syllabus and current syllabus proposed by FC based on brainstorming workshop on curriculum development held on 04/01/2019. The BOS observes the improvement in the new curriculum/syllabus and approves the same.

(ii) The BOS has gone through the feedback of the students of 2016-18 batch and considered the suggestions. Two exemplary students cleared the NET exam and two students got placed in TCS.

(iii) The BOS recommends for starting of a Centre for Computational Intelligence based on the recommendations from the FC. Initially, Dr. Rajesh R. will serve as the Director for the centre.

(iv) Based on the recommendation of FC, the BOS recommends to amend the eligibility conditions for M.Sc. Computer Science admission as

BCA or B.Sc (Computer Science/electronics/commuincations/IT/Bioinformatics) or B.Tech/BE (Computer Science/electronics/communications/IT/electrical/ECE) or B.Sc. in Physics/Mathematics/Statistics (with computer science as a subject or having a certificate/diploma in computer related areas) or B.Voc (computer science/IT/electronics/electrical/ECE)

(v) The BOS recommends the panel of examiners/question paper setters suggested by the FC.

The meeting ended with vote of thanks.

5th Jan 2019
Dr. Arunkumar Thangavelu

5/1/2019
Dr. K.A. Germina

Dr. Rajesh R.

Mr. Kumar V.

CENTRAL UNIVERSITY OF KERALA
DEPARTMENT OF COMPUTER SCIENCE
M.Sc. COMPUTER SCIENCE – PROGRAMME STRUCTURE

AUDITED/VALUE ADDED COURSES*					
COURSE CODE	COURSE TITLE	CONTACT HRS/WEEK			CREDITS
		LEC	LAB	TUT	
CSC5056	Operations Research	2	1	1	Nil

This is an audited/value added **skill based course** and the credits will not be added to marklist.

Course Objective:
The main objective of this course is to impart knowledge on the basic principles of Operations Research.

By completing this course, students will obtain the following course/learning outcomes:
1. Knowledge gained:
   (i) State of art methods in Operations Researchs
2. Skill gained:
   (ii) Formulation of linear programming models.
3. Competency gained:
   (iii) Solving real-life operations research problems.

Prerequisites: Nil

Grading:

Lab implementation	– 25%
Participatory based group Project	– 25%
Assignment/Quiz/presentation	– 25%
Individual project	- 25%

CSC5056 – OPERATIONS RESEARCH

Module 1
Basics of Operational Research: Origin & Development of Operational Research, Definition and Meaning of Operational Research, Different Phases of an Operational Research Study, Scope and Limitations of Operational Research, Mathematical Modeling of Real Life Problems.

Module 2
Linear Programming: Introduction to Linear algebra. Solution of a system of Linear Equations, Linear independence and dependence of vectors, Concept of Basis, Basic Feasible solution, Convex sets. Extreme points, Hyperplanes and Halfspaces, Convex cones, Polyhedral sets and cones.

Module 3
Linear Programming Problem Formulation, solution by Graphical Method, Theory of Simplex Method, Simplex Algorithm, Two phase Method, Charnes-M Method, Degeneracy, Theory of Duality, Dual-simplex method.

References /Suggested Readings:

1. G. Hadley: Linear Programming. Narosa, Reprint, 2002.
2. G. Hadley: Linear Algebra, Narosa, Reprint, 2002.
3. Hamdy A. Taha: Operations Research-An Introduction, Prentice Hall, 9th Edition, 2010.
4. A. Ravindran, D. T. Phillips and James J. Solberg: Operations Research- Principles and Practice, John Wiley & Sons, 2005.
5. F.S. Hillier. G.J. Lieberman: Introduction to Operations Research- Concepts and Cases, 9th Edition, Tata Mc-Graw Hill, 2010