DON BOSCO ARTS & SCIENCE COLLEGE

ANGADIKADAVU

(Affiliated to Kannur University Approved by Government of Kerala)

ANGADIKADAVU P.O., IRITTY, KANNUR – 670706

COURSE PLAN

BSc MATHEMATICS

(2019 – 22)

SEMESTER - I

ACADEMIC YEAR - (2019-20)

I Semester BSc MATHEMATICS (2019 - 22)			
SL. No.	**Name of Subjects with Code**	**Name of the Teacher**	**Duty Hours per week**
1.	1A 01 ENG Communicative English	Aleena George	5
2.	1A 02 ENG Readings on Kerala	Surabhi Raveendran	4
3.	1A 07 MAL Kadha Mathrukakal	Silvi Tharal	4
4.	1A 07 HIN Hindi Kavitha	Jainy N. George	4
5.	1B01 MATSet Theory, Differential Calculusand Numerical Methods	Sebin Abraham	4
6.	1C01 STA Basic Statistics	Noble Philip Arundas V. P.	4
7.	1C01CSC Introduction To Computers And Programming	Vineetha Mathew	4
8.			
	Class Incharge	**NOBLE PHILIP**	

TIME TABLE

Day	09.50 Am - 10.45 Am	10.45 Am -11.40 Am	11.55 Am -12.50 Pm	01.40 Pm - 02.35 Pm	02.35 Pm - 03.30 Pm
1	1A 02 ENG Readings on Kerala	1A 01 ENG Communicative English	1A 07 MAL Kadhamathrukakal-1A 07 HIN Hindi Kavitha	1C01 STA Basic Statistics	1C01CSC Introduction To Computers And Programming
2	1A 02 ENG Readings on Kerala	1C01 STA Basic Statistics	1B01 MATSet Theory, Differential Calculusand Numerical Methods	1A 01 ENG Communicative English	1A 07 MAL Kadhamathrukakal-1A 07 HIN Hindi Kavitha
3	1A 01 ENG Communicative English	1B01 MATSet Theory, Differential Calculusand Numerical Methods	1A 07 MAL Kadhamathrukakal-1A 07 HIN Hindi Kavitha	1C01CSC Introduction To Computers And Programming	1B01 MATSet Theory, Differential Calculusand Numerical Methods
4	1C01CSC Introduction To Computers And Programming	1A 07 MAL Kadhamathrukakal-1A 07 HIN Hindi Kavitha	1B01 MATSet Theory, Differential Calculusand Numerical Methods	1A 02 ENG Readings on Kerala	1A 01 ENG Communicative English
5	1C01 STA Basic Statistics	1C01CSC Introduction To Computers And Programming	1A 01 ENG Communicative English	1C01 STA Basic Statistics	1A 02 ENG Readings on Kerala

Subject Code:	**1A01 ENG**
Subject Name:	**Communicative English**
No. of Credits:	**4**
No. of Contact Hours:	**90**
Hours per Week:	**5**
Name of Faculty:	**Aleena George**

Objective: -

1. Understand and apply the rubrics of English grammar
2. Recognize and apply the basic patterns in English vocabulary
3. Read and elicit data, information, inferences and interpretations based on a given material in English
4. Develop the ability to speak in English in real life situations
5. Elicit necessary information after listening to an audio material in English
6. Compose academic and non-academic writings including letters, paragraphs and essays on a given topic and CV's for specific purposes

Module –I: Grammar and Usage

Grammar

Articles, Modals, Tenses, Voices, Subject- Verb Agreement, Direct & Reported speech

Usage

Question Tags, Types of Words, Phrasal Verbs and Idiomatic Expressions.

Module – II: Listening and Speaking

Listening

What is Communication?, Phonemes in English, Syllables and Word Stress, Listening to NewsBulletins, Listening to Instructions and Directions, Listening to Lectures, Listening to Speeches

Speaking

Greetings and Introductions, Small Conversations, Talking on Telephone, Making Requests,Making Enquiries, Making Suggestions, Expressing Gratitude, Complaining.

Module – III: Reading and Writing

Reading

Reading Official Letters and Profiles, Reading Advertisements, Reading News Reports, ReadingCharts, Reading Online Content.

Writing

Writing Paragraphs, Taking and Making Notes, Essay and Academic Writing, Writing Letters,Writing Resumes.

Prescribed Textbook: *Equip: English for Undergraduates* by Cambridge University Press

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	01-07-2019 To 05-07-2019	1	Introduction to Communication
		2	Terms of Communication
		3 July	St. Thomas Day
		3	Article (a, an, and the)
		4	Definite Article (the) and Indefinite Article (a and an)
		5	Discussion on Article
		6	Class Test
2	08-07-2019 To 12-07-2019	7	Modals – Modal Auxiliary and non-Modal Auxiliary
		8	Modals
		9	Introduction to Tenses
		10	Present Tense
		11	Past Tense
		12	Future Tense
		13	Discussion on Modals and Tenses
3	15-07-2019 To 19-07-2019	14	Examination
		15	Voices- Passive and Active
		16	Passive Voice
		17	Passive Voice
		18	Examination
		19	SEMINAR PRESENTATION
4	22-07-2019 To 26-07-2019	20	SEMINAR PRESENTATION
		21	SEMINAR PRESENTATION
		22	Subject –Verb Agreement
		23	Subject –Verb Agreement
		24	Speech - Direct and Reported
		25	Direct and Indirect Speech
5	29-07-2019 To 02-08-2019	26	Direct and Indirect Speech
		27	Examination
		28	Question Tag
		31 July	Karkadaka Vavu
		29	Question Tag
		30	Phrasal Verbs (Separable, Inseparable, Transitive and Intransitive)
		31	Phrasal Verbs

No of Weeks	Dates	Session	Topic
6	05-08-2019 To 09-08-2019	32	CLASS PRESENTATION ON IDIOMS
		33	DISCUSSION
		34	Examination
		35	Types of Words (Synonyms, Antonyms, Homonyms, Homophones, Acronyms and Eponyms)
		36	Synonyms, Antonyms and Eponyms
		37	Homonyms, Homophone and Acronyms
		38	Examination
		39	What is Communication?
7	12-08-2019 To 16-08-2019	40	Phonemes in English
		41	Phonemes in English
		15 Aug	Independence day
		42	Syllables and Word Stress
		43	Syllables and Word Stress
		44	Listening to News Bulletins
		45	Listening to Lectures
8	19-08-2019 To 23-08-2019	46	Examination
		47	Listening to Speeches
		48	Listening to Instructions and Directions
		49	DISCUSSION
		50	Small Conversation
		51	Greetings and Introductions
		52	REVISION
		23 Aug	Sreekrishna Jayanthi
9	26-08-2019 To 30-08-2019	26 Aug	First Internal Exam
			First Internal Exam
		28 Aug	Ayyankali Jayanthi
			First Internal Exam
			First Internal Exam
			First Internal Exam
10	02-09-2019 To 06-09-2019		First Internal Exam
		53	Talking to Telephone
		54	Making Requests
		55	Making Enquiries
		56	Making Suggestions
		57	SEMINAR PRESENTATION
		58	SEMINAR PRESENTATION
		59	SEMINAR PRESENTATION

No of Weeks	Dates	Session	Topic
			Onam Celebration
11	09-09-2019 To 13-09-2019		**Muharram**
			First Onam
			Thiruvonam
			Third Onam
			Fourth Onam - SreeNarayana Guru Jayanthi
12	16-09-2019 To 20-09-2019	60	Expressing Gratitude
		61	Complaining
		62	SEMINAR PRESENTATION
		63	SEMINAR PRESENTATION
		64	READING
		65	Reading Official Letters and Profiles
		66	Reading Advertisements
		67	Reading News Reports
		68	Reading News Reports
13	23-09-2019 To 27-09-2019	69	Reading Charts
		70	Reading Online Content
		71	Examination
		72	Writing Paragraphs
		73	Writing Paragraphs
		74	DISCUSSION
		75	DISCUSSION
		76	Essay and Academic Writing
		77	Essay and Academic Writing
14	30-09-2019 To 04-10-2019	78	Writing Letters
		79	Writing Letters
		2 Oct	**Gandhi Jayanthi**
		80	SEMINAR PRESENTATION
		81	SEMINAR PRESENTATION
		82	SEMINAR PRESENTATION
		83	Writing Resumes
		84	Writing Resumes
15	07-10-2019 To 11-10-2019	**07 Oct**	**Mahanavami**
		08 Oct	**Vijayadashami**
		85	Taking and Making Notes
		86	Taking and Making Notes
		87	Examination
		88	REVISION

No of Weeks	Dates	Session	Topic
		89	REVISION
		90	REVISION
16	14-10-2019 To 18-10-2019	14 Oct	Second Internal
			Second Internal
			Second Internal
			Second Internal
			Second Internal
			Second Internal
17	21-10-2019 To 25-10-2019		Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
18	28-10-2019 To 01-11-2019		Study Leave
			Study Leave
		30 Oct	University Exam Begin

Subject Code:	**1A 02 ENG**
Subject Name:	**Readings on Kerala**
No. of Credits:	**3**
No. of Contact Hours:	**72**
Hours per Week:	**4**
Name of Faculty:	**Surabhi Raveendran**

Objective: -

1. Understand the basic facts and patterns regarding the cultural evolution of Kerala through articles, poems, stories, life writings and historical narratives.
2. Acquaint with the life and works of the illustrious leaders of Kerala Renaissance and the major events.
3. Assimilate the notion of Kerala as an emerging society and critically examine the salient features of its evolution.
4. Understand the evolution and contemporary state of the concept of "gender" with reference to Kerala
5. Understand the form and content of Kerala's struggle against "casteism" and for "secularism".
6. Develop an awareness about the ecological problems and issues in Kerala

Module - I

1. "Conversation" :SreeNarayana Guru
2. "Curing Caste" :SahodaranAyyappan
3. Excerpts from "Eri" :PradeepanPambirikkunnu
4. Excerpts from *Kelu*: N. Sasidharan, E.P.Rajagopalan
5. Excerpts from "Parting from the Path of Life" :CherukadGovindaPisharodi

Module – II

1. "Not an Alphabet in Sight" :PoykayilAppachan
2. "KuttippuramPalam" :Idasseri
3. "Courageous Act" :AnasuyaMenon
4. "Vaikom Satyagraha" : K. N.Panikkar
5. "The Voice" : Suresh Menon

Prescribed Textbook: *Multiple Modernities: Readings on Kerala* published by HornbillPublications

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	01-07-2019 To 05-07-2019	1	. “Conversation” :Sree Narayana Guru
		2	. “Conversation” :Sree Narayana Guru
		3 July	St. Thomas Day
		3	. “Conversation” :Sree Narayana Guru
		4	. “Conversation” :Sree Narayana Guru
		5	Class Test
		6	Discussion
2	08-07-2019 To 12-07-2019	7	Curing Caste” :Sahodaran Ayyappan
		8	Curing Caste” :Sahodaran Ayyappan
		9	Curing Caste” :Sahodaran Ayyappan
		10	Curing Caste” :Sahodaran Ayyappan
		11	Discussion
		12	CLASS TEST
3	15-07-2019 To 19-07-2019	13	Excerpts from “Eri” :PradeepanPambirikkunnu
		14	Excerpts from “Eri” :PradeepanPambirikkunnu
		15	Excerpts from “Eri” :PradeepanPambirikkunnu
		16	Excerpts from “Eri” :PradeepanPambirikkunnu
		17	Excerpts from “Eri” :PradeepanPambirikkunnu
		18	Discussion
4	22-07-2019 To 26-07-2019	19	CLASS TEST
		20	Excerpts from *Kelu*: N. Sasidharan, E.P.Rajagopalan
		21	Excerpts from *Kelu*: N. Sasidharan, E.P.Rajagopalan
		22	Excerpts from *Kelu*: N. Sasidharan, E.P.Rajagopalan
		23	Excerpts from *Kelu*: N. Sasidharan, E.P.Rajagopalan
		24	Excerpts from *Kelu*: N. Sasidharan, E.P.Rajagopalan
5	29-07-2019 To 02-08-2019	25	Excerpts from *Kelu*: N. Sasidharan, E.P.Rajagopalan
		26	Excerpts from *Kelu*: N. Sasidharan, E.P.Rajagopalan
		27	Excerpts from *Kelu*: N. Sasidharan, E.P.Rajagopalan
		31 July	KarkadakaVavu
		28	DISCUSSION
		29	DISCUSSION
		30	DISCUSSION
6	05-08-2019 To	31	DISCUSSION
		32	CLASS TEST
		33	Excerpts from “Parting from the Path of Life”

No of Weeks	Dates	Session	Topic
	09-08-2019		:CherukadGovindaPisharodi
		34	Excerpts from "Parting from the Path of Life" :CherukadGovindaPisharodi
		35	Excerpts from "Parting from the Path of Life" :CherukadGovindaPisharodi
		36	Excerpts from "Parting from the Path of Life" :CherukadGovindaPisharodi
		37	Excerpts from "Parting from the Path of Life" :CherukadGovindaPisharodi
7	12-08-2019 To 16-08-2019	38	Excerpts from "Parting from the Path of Life" :CherukadGovindaPisharodi
		39	**CLASS TEST**
		15 Aug	**Independence day**
		40	**REVISION**
		41	Excerpts from "Parting from the Path of Life" :CherukadGovindaPisharodi
		42	Excerpts from "Parting from the Path of Life" :CherukadGovindaPisharodi
8	19-08-2019 To 23-08-2019	43	"Not an Alphabet in Sight" :PoykayilAppachan – is the name in Syllabus) In text book the name of poem is ' About my Race a Song"
		44	. "Not an Alphabet in Sight" :PoykayilAppachan – is the name in Syllabus) In text book the name of poem is ' About my Race a Song"
		45	"Not an Alphabet in Sight" :PoykayilAppachan – is the name in Syllabus) In text book the name of poem is ' About my Race a Song"
		46	"Not an Alphabet in Sight" :PoykayilAppachan – is the name in Syllabus) In text book the name of poem is ' About my Race a Song"
		47	"Not an Alphabet in Sight" :PoykayilAppachan – is the name in Syllabus) In text book the name of poem is ' About my Race a Song"
		23 Aug	**SreekrishnaJayanthi**
9	26-08-2019 To 30-08-2019	**26 Aug**	**First Internal Exam**
			First Internal Exam
		28 Aug	**AyyankaliJayanthi**
			First Internal Exam
			First Internal Exam

No of Weeks	Dates	Session	Topic
			First Internal Exam
10	**02-09-2019 To 06-09-2019**		**First Internal Exam**
		48	DISCUSSION
		49	DISCUSSION
		50	DISCUSSION
			Onam Celebration
11	**09-09-2019 To 13-09-2019**		**Muharram**
			First Onam
			Thiruvonam
			Third Onam
			Fourth Onam - SreeNarayana Guru Jayanthi
12	**16-09-2019 To 20-09-2019**	51	"KuttippuramPalam" :Idasseri
		52	"KuttippuramPalam" :Idasseri
		53	"KuttippuramPalam" :Idasseri
		54	"KuttippuramPalam" :Idasseri
		55	"KuttippuramPalam" :Idasseri
		56	"KuttippuramPalam" :Idasseri
13	**23-09-2019 To 27-09-2019**	57	Courageous Act" :AnasuyaMenon
		58	Courageous Act" :AnasuyaMenon
		59	Courageous Act" :AnasuyaMenon
		60	Courageous Act" :AnasuyaMenon
		61	Courageous Act" :AnasuyaMenon
		62	CLASS TEST
14	**30-09-2019 To 04-10-2019**	63	"Vaikom Satyagraha" : K. N.Panikkar
		64	"Vaikom Satyagraha" : K. N.Panikkar
		2 Oct	**Gandhi Jayanthi**
		65	"Vaikom Satyagraha" : K. N.Panikkar
		66	"Vaikom Satyagraha" : K. N.Panikkar
		67	"Vaikom Satyagraha" : K. N.Panikkar
		68	"Vaikom Satyagraha" : K. N.Panikkar
15	**07-10-2019 To 11-10-2019**	**07 Oct**	**Mahanavami**
		08 Oct	**Vijayadashami**
		69	The Voice" : Suresh Menon
		70	The Voice" : Suresh Menon
		71	The Voice" : Suresh Menon
		72	The Voice" : Suresh Menon
16	**14-10-2019**	**14 Oct**	**Second Internal**

No of Weeks	Dates	Session	Topic
	To 18-10-2019		Second Internal
			Second Internal
			Second Internal
			Second Internal
			Second Internal
17	21-10-2019 To 25-10-2019		Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
18	28-10-2019 To 01-11-2019		Study Leave
			Study Leave
		30 Oct	University Exam Begin

Subject Code:	**1B01 MAT**
Subject Name:	**Set Theory, Differential Calculus and Numerical Methods**
No. of Credits:	**4**
No. of Contact Hours:	**72**
Hours per Week:	**4**
Name of Faculty:	**Sebin Abraham**

Objective: -

1. Understand Relations and Functions
2. Understand limit of a function, limit laws, continuity, Inverse functionsand their derivatives
3. Understand successive differentiation and Leibnitz theorem
4. Understand functions of several variables, limit and continuity, partialderivatives, chain rule, homogenous functions and Euler's theorem onhomogenous functions
5. Understand bisection method, Regula-falsi method and Newton-Raphson method to solve algebraic and transcendental equations

Unit I–

Relations and Functions

Relations, Types of relations, Partitions, Equivalence relation, Partial orderingrelation, Functions, Composition of functions, One-to-one, onto and invertiblefunctions, Mathematical functions, exponential function, logarithmic function(Sections 3.3, 3.6, 3.8, 3.9, 3.10 and sections 4.1 to 4.5 of Text 1).

Unit II –

Limit, Continuity and Successive differentiation

Limit of a function and limit laws, continuity, Inverse functions and theirderivatives (Sections 2.2, 2.5, 7.1 of Text 2. Proof of Theorem 10 in section 2.5is omitted).Successive differentiation, standard results, nth derivatives, Leibnitztheorem (Sections 4.1, 4.2 of Text 3).

Unit III –

Functions of several variables

Functions of several variables, limit and continuity, partial derivatives, chainrule (theorems without proof) (Sections 14.1, 14.2, 14.3, 14.4 of Text 2).Homogenous functions, Euler's theorem on homogenous functions(Sections 11.8, 11.8.1 of Text 4).

Unit IV –

Solution of Algebraic and Transcendental Equations

Introduction to solution of algebraic and transcendental equation**,** Initialapproximations,Bisection method, Regula-falsi method, Newton-Raphson method (Sections3.2, 3.2.1, 3.3, 3.4, 3.5 of Text 5).

Texts

1. S. Lipschutz, Set Theory and Related Topics (2nd edition), Schaum'sSeries
2. G.B, Thomas Jr., M.D. Weir and J.R. Hass, Thomas' Calculus (12thedition), Pearson Education
3. Higher Engineering Mathematics, B.S. Grewal (43rd edition), KhannaPublishers
4. S Narayan and P.K Mittal , Differential calculus, Revised Edition, S.Chand & Company Ltd
5. S. R. K. Iyengar and R. K. Jain, Mathematical methods (2nd edition),Narosa Publishing House.

References

1. H Anton, Bivens and Davis, Calculus, 10th edition , Willey
2. E. Kreyszig, Advanced Engineering Mathematics (10th edition),Willey
3. S. S. Sastry, Introduction to Numerical Methods (5th edition),Prentice Hall of India.
4. V.N. Vedamurthy and N.Ch.S.N. Iyengar, Numerical Methods,Vikas Publishing House.

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	01-07-2019 To 05-07-2019	1	Set theory basics
		2	Relations
		3 July	St. Thomas Day
		3	Types of relations
		4	Types of relations
		5	Partitions
		6	Equivalence relation
2	08-07-2019 To 12-07-2019	7	Equivalence relation
		8	Equivalence relation
		9	Partial ordering relation
		10	Problem solving in relations
		11	Functions
		12	Functions
3	15-07-2019 To 19-07-2019	13	Composition of functions
		14	One-to-one functions
		15	Onto functions
		16	Invertible functions
		17	Invertible functions
		18	Mathematical functions
4	22-07-2019 To 26-07-2019	19	Mathematical functions
		20	Exponential functions
		21	Logarithmic functions
		22	Class test
		23	Limit of a function and limit laws
		24	Limit of a function and limit laws
5	29-07-2019 To 02-08-2019	25	Continuity
		26	Continuity
		27	Inverse functions and their derivatives
		31 July	KarkadakaVavu
		28	Inverse functions and their derivatives
		29	Inverse functions and their derivatives
		30	Successive differentiation
6	05-08-2019	31	Standard results
		32	Successive differentiation

No of Weeks	Dates	Session	Topic
	To 09-08-2019	33	Successive differentiation
		34	Class test
		35	nth derivatives
		36	nth derivatives
		37	nth derivatives
7	12-08-2019 To 16-08-2019	38	Leibnitz theorem
		39	Leibnitz theorem
		15 Aug	Independence day
		40	Functions of several variables introduction
		41	Functions of several variables
		42	Class test
8	19-08-2019 To 23-08-2019	43	Limit of several variables
		44	Limit of several variables
		45	Continuity of several variables
		46	Continuity of several variables
		47	Partial derivatives
		23 Aug	SreekrishnaJayanthi
9	26-08-2019 To 30-08-2019	26 Aug	**First Internal Exam**
			First Internal Exam
		28 Aug	AyyankaliJayanthi
			First Internal Exam
			First Internal Exam
			First Internal Exam
10	02-09-2019 To 06-09-2019		**First Internal Exam**
		48	Partial derivatives
		49	Partial derivatives
		50	Chain rule
			Onam Celebration
11	09-09-2019 To 13-09-2019		Muharram
			First Onam
			Thiruvonam
			Third Onam
			Fourth Onam - SreeNarayana Guru Jayanthi
12	16-09-2019 To 20-09-2019	51	Chain rule
		52	Partial derivatives continues
		53	Partial derivatives continues
		54	Homogeneous functions
		55	Homogeneous functions

No of Weeks	Dates	Session	Topic
		56	Homogeneous functions
13	23-09-2019 To 27-09-2019	57	Homogeneous functions
		58	Eulers theorem on homogeneous functions
		59	Eulers theorem on homogeneous functions
		60	Revision of functions of several variables
		61	Revision of functions of several variables
		62	Algebraic and transcendental equation
14	30-09-2019 To 04-10-2019	63	Algebraic and transcendental equation
		64	Class test
		2 Oct	Gandhi Jayanthi
		65	Initial approximations
		66	Initial approximations
		67	Bisection method
		68	Regula-falsi method
15	07-10-2019 To 11-10-2019	07 Oct	Mahanavami
		08 Oct	Vijayadashami
		69	Newton Raphson method
		70	Approximations revision
		71	Problems on approximation
		72	Class test
16	14-10-2019 To 18-10-2019	14 Oct	**Second Internal**
			Second Internal
			Second Internal
			Second Internal
			Second Internal
			Second Internal
17	21-10-2019 To 25-10-2019		Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
18	28-10-2019 To 01-11-2019		Study Leave
			Study Leave
		30 Oct	University Exam Begin

Subject Code:	**1C01 STA**
Subject Name:	**Basic Statistics**
No. of Credits:	**3**
No. of Contact Hours:	**72**
Hours per Week:	**4**
Name of Faculty:	**Noble Philip & Arundas V. P.**

Objectives:

Student should be able to

1: Understand the different types of data.

2: Compute various measures of central tendency, measures of variation.

3: Analyse the relationship between two variables.

4: Acquire knowledge in time series data and compute various index numbers.

Unit I :

Statistical Methods - Scales of measurement - Nominal, Ordinal, Ratio and Interval, Collection of data, Primary and Secondary data, Census method, Sample survey method, Comparison of census method and sample survey method, Principal steps in a sample survey, Types of sampling - probability, restricted and non-restricted sampling, judgement and mixed sampling, SRSWOR, SRSWR, stratified and systematic random sampling(concepts only). (12 Hrs.)

Unit II :

Measures of Central Tendency Definition and properties of various measures of central tendency - A.M,weighted A.M, Median, Mode, G.M., H.M. and weighted averages, Partition values - Quartiles, Deciles, Percentiles, Dispersion - Definition and properties of various measures of dispersion - Range, Q.D, M.D, S.D, and relative measures of dispersion, Moments - raw moments, central moments and relation between them, Skewness and Kurtosis - Definition and various measures of skewness and kurtosis. (30 Hrs)

Unit III:

Correlation and Regression Analysis - Method of least squares - Fitting of linear, quadratic and exponential curves, Regression analysis - linear regression, fitting of regression lines, regression coefficients and their properties, Correlation analysis - Definition and properties of correlation coefficient, Rank correlation coefficient-formula and problems only, Definitions of partial and multiple correlation coefficients(trivariate case only). (18 Hrs)

Unit IV:

Time Series and Index Numbers- Time series - Meaning, need, components and models of time series, estimation of linear trend by moving average 53 method and least square method, Index numbers - Meaning and uses of index numbers, weighted index numbers - Laspeyer's, Paasche's and Fisher's index numbers, time reversal and factor reversal tests. (12 Hrs)

Books for Study:

1. Gupta, S. C. & Kapoor, V. K. (1980). Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi.
2. Gupta, S. C. & Kapoor, V. K. (1994). Fundamentals of Applied Statistics, Sultan Chand & Sons, New Delhi.
3. Gupta, S. P. (2004). Statistical Methods, Sultan Chand & Sons, New-Delhi.

Books for Reference:

1. Mukhopadhyay, P. (1996). Mathematical Statistics, New Central Book Agency (P) Ltd., Kolkata.
2. Agarwal, B. L. (2006). Basic Statistics, 4th Edition, New Age International (P) Ltd., New Delhi.

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	01-07-2019 To 05-07-2019	1	Introduction
		2	Statistical Methods
		3 July	St. Thomas Day
		3	Scales of measurement
		4	Nominal, Ordinal, Ratio and Interval
		5	Collection of data
		6	Primary and Secondary data
2	08-07-2019 To 12-07-2019	7	Examples
		8	Census method
		9	Examples
		10	Sample survey method
		11	Comparison of census method and sample survey method
		12	Principal steps in a sample survey
3	15-07-2019 To 19-07-2019	13	Assignment
		14	Types of sampling
		15	probability
		16	Restricted and non-Restricted Sampling
		17	Judgement and Mixed Sampling
		18	SRSWOR
4	22-07-2019 To 26-07-2019	19	SRSWR
		20	Stratified and Systematic Random Sampling
		21	Class Test
		22	Measures of Central Tendency
		23	Definition and properties of various measures of central tendency
		24	A.M, Weighted A.M
5	29-07-2019 To 02-08-2019	25	Median, Mode
		26	Examples
		27	Examples
		31 July	KarkadakaVavu
		28	Examples
		29	G.M., H.M. and weighted averages
		30	Examples
6	05-08-2019	31	Partition values - Quartiles

No of Weeks	Dates	Session	Topic
	To 09-08-2019	32	Examples
		33	Deciles, Percentiles
		34	Dispersion
		35	Examples
		36	Definition and properties of various measures of dispersion
		37	Definition and properties of various measures of dispersion
7	12-08-2019 To 16-08-2019	38	Range, Q.D, M.D, S.D, and relative measures of dispersion
		39	Range, Q.D, M.D, S.D, and relative measures of dispersion
		15 Aug	Independence day
		40	Assignment
		41	Class Test
		42	Moments
8	19-08-2019 To 23-08-2019	43	Raw moments
		44	Central moments and relation between them
		45	Examples
		46	Skewness and Kurtosis
		47	Definition and various measures of skewness and kurtosis.
		23 Aug	SreekrishnaJayanthi
9	26-08-2019 To 30-08-2019	26 Aug	**First Internal Exam**
			First Internal Exam
		28 Aug	AyyankaliJayanthi
			First Internal Exam
			First Internal Exam
			First Internal Exam
10	02-09-2019 To 06-09-2019		**First Internal Exam**
		48	Correlation and Regression Analysis
		49	Method of least squares
		50	Fitting of linear
			Onam Celebration
11	09-09-2019 To 13-09-2019		Muharram
			First Onam
			Thiruvonam
			Third Onam
			Fourth Onam - SreeNarayana Guru Jayanthi
12	16-09-2019	51	Examples

No of Weeks	Dates	Session	Topic
	To 20-09-2019	52	Quadratic and exponential curves
		53	Examples
		54	Regression analysis
		55	Linear regression
		56	Fitting of regression lines,
13	23-09-2019 To 27-09-2019	57	Regression coefficients and their properties
		58	Class test
		59	Correlation analysis
		60	Definition and properties of correlation coefficient
		61	Rank correlation coefficient-formula and problems only
		62	Definitions of partial and multiple correlation coefficients(trivariate case only)
14	30-09-2019 To 04-10-2019	63	Time Series and Index Numbers
		64	Time series - Meaning, need, components and models of time series
		2 Oct	Gandhi Jayanthi
		65	Estimation of linear trend by moving average 53 method and least square method
		66	Index numbers - Meaning and uses of index numbers
		67	weighted index numbers
		68	Laspeyer's, Paasche's and Fisher's index numbers
15	07-10-2019 To 11-10-2019	07 Oct	Mahanavami
		08 Oct	Vijayadashami
		69	Time reversal and factor reversal tests.
		70	Time reversal and factor reversal tests.
		71	Examples
		72	Class test
16	14-10-2019 To 18-10-2019	14 Oct	**Second Internal**
			Second Internal
			Second Internal
			Second Internal
			Second Internal
			Second Internal
17	21-10-2019 To 25-10-2019		Study Leave
			Study Leave
			Study Leave
			Study Leave

No of Weeks	Dates	Session	Topic
			Study Leave
18	28-10-2019 To 01-11-2019		Study Leave
			Study Leave
		30 Oct	University Exam Begin

Subject Code:	**1C 01 CSC**
Subject Name:	**Introduction To Computers And Programming**
No. of Credits:	**2**
No. of Contact Hours:	**72**
Hours per Week:	**4**
Name of Faculty:	**Vineetha Mathew**

Objective: -

1: Familiarize with the hardware components of a digital computer
2: Understand the basic idea of how data is represented in computers
3: Familiarize with types of software
4: Ability to design algorithmic solutions to problems

Unit I:

Introduction to Computers

Characteristics of Computers, Computer System Hardware, Basic Concepts of CPU,ALU, Registers, Control Unit and System Bus, Components Inside a Computer Cabinet(Motherboard, BIOS, CMOS Chip, Ports and Interfaces, Expansion Slots, MemoryChips, Storage Devices, Processor - Basic functions), Computer Memory Representation,Memory Hierarchy, Basic Concepts of Cache Memory, Primary Memory (RAM andROM), Secondary Memory Types (Working principle is not required).

Unit II:

Number System and Codes

Decimal, Binary, Hexa-Decimal and Octal Number Systems, Conversion BetweenNumber Systems, Binary Arithmetic, Complements of Binary Numbers (1's Complementand 2's Complement), Signed Numbers, Floating Point Numbers, Binary Coded Decimal(8421 BCD Code, Applications, BCD Addition), Gray Code, ASCII Code, Unicode

Unit III:

Types of Software and Networking

System Software, Operating System (Functions of Operating Systems), ApplicationSoftware, Software Acquisition (Retail, OEM, Demo, Shareware, Freeware, Open-SourceSoftware), Computer Networks (Importance, Types of Networks – LAN, MAN, WAN).

Unit IV:

Introduction to Programming

Types of Computer Languages (Machine Language, Assembly Language, High-level Language), Basic Concepts of Compiler, Assembler, Interpreter, Linker and Loader. Program Development Life Cycle, Algorithm, Flowcharts, Program Control Structures(Sequential, Selection, Loop), Programming Paradigms (Structured

Programming, BasicIdea of Object-Oriented Programming), Characteristics of a Good Program

Books for Study:

1. Anita Goel, Computer Fundamentals, Pearson
2. Thomas L. Floyd, Digital Fundamentals, 11th Edition, Pearson

Books for Reference:

1. Rajaraman V and Adabala N, Fundementals of Computers, PHI
2. Brian W Kernighan, D is for Digital: What a well-informed person should know about computers and communications, CreateSpace Independent PublishingPlatform
3. Stewart Venit and Elizabeth Drake, Prelude to Programming (6th Edition),Pearson

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	01-07-2019 To 05-07-2019	1	**Introduction to Computers:** Characteristics of Computers,
		2	Computer System Hardware, Basic Concepts of CPU
		3 July	St. Thomas Day
		3	ALU, Registers, Control Unit
		4	System Bus
		5	Components Inside a Computer Cabinet(Motherboard, BIOS, CMOS Chip, Ports and Interfaces, Expansion Slots, Memory Chips, Storage Devices, Processor - Basic functions)
		6	Components Inside a Computer Cabinet(Motherboard, BIOS, CMOS Chip, Ports and Interfaces, Expansion Slots, Memory Chips, Storage Devices, Processor - Basic functions)
2	08-07-2019 To 12-07-2019	7	Computer Memory Representation, Memory Hierarchy
		8	Basic Concepts of Cache Memory, Primary Memory (RAM and ROM)
		9	Secondary Memory Types
		10	Secondary Memory Types
		11	Revision
		12	**Module I Exam**
3	15-07-2019 To 19-07-2019	13	**Number System and Codes :** Decimal, Binary, Hexa-Decimal and Octal Number Systems
		14	Conversion Between Number Systems
		15	Conversion Between Number Systems
		16	Conversion Between Number Systems
		17	Binary Arithmetic, Complements of Binary Numbers (1's Complementand 2's Complement)
		18	Signed Numbers, Floating Point Numbers
4	22-07-2019 To 26-07-2019	19	Binary Coded Decimal(8421 BCD Code, Applications, BCD Addition)
		20	Gray Code, ASCII Code, Unicode
		21	Question Paper Discussion
		22	Revision
		23	**Module II Exam**
		24	**Types of Software and Networking:** System Software
5	29-07-2019	25	Operating System (Functions of Operating Systems)
		26	Application Software

No of Weeks	Dates	Session	Topic
	To 02-08-2019	27	Software Acquisition (Retail, OEM, Demo, Shareware, Freeware, Open-Source Software)
		31 July	KarkadakaVavu
		28	Computer Networks (Importance, Types of Networks – LAN, MAN, WAN).
		29	Computer Networks (Importance, Types of Networks – LAN, MAN, WAN).
		30	Question Paper Discussion
6	05-08-2019 To 09-08-2019	31	Revision
		32	**Module III Exam**
		33	**Introduction to Programming**
		34	Types of Computer Languages (Machine Language, Assembly Language, High-level Language)
		35	Types of Computer Languages (Machine Language, Assembly Language, High-level Language)
		36	Basic Concepts of Compiler
		37	Assembler
7	12-08-2019 To 16-08-2019	38	Interpreter
		39	Linker and Loader
		15 Aug	Independence day
		40	Program Development Life Cycle
		41	Algorithm
		42	Algorithm
8	19-08-2019 To 23-08-2019	43	Algorithm
		44	Algorithm
		45	Flowcharts
		46	Flowcharts
		47	Flowcharts
		23 Aug	SreekrishnaJayanthi
9	26-08-2019 To 30-08-2019	26 Aug	**First Internal Exam**
			First Internal Exam
		28 Aug	AyyankaliJayanthi
			First Internal Exam
			First Internal Exam
			First Internal Exam
10	02-09-2019 To		**First Internal Exam**
		48	Flowcharts
		49	Program Control Structures(Sequential, Selection, Loop)

No of Weeks	Dates	Session	Topic
	06-09-2019	50	Program Control Structures(Sequential, Selection, Loop)
			Onam Celebration
11	09-09-2019 To 13-09-2019		**Muharram**
			First Onam
			Thiruvonam
			Third Onam
			Fourth Onam - SreeNarayana Guru Jayanthi
12	16-09-2019 To 20-09-2019	51	Program Control Structures(Sequential, Selection, Loop)
		52	Programming Paradigms (Structured Programming, Basic Idea of Object-Oriented Programming)
		53	Programming Paradigms (Structured Programming, Basic Idea of Object-Oriented Programming)
		54	Programming Paradigms (Structured Programming, Basic Idea of Object-Oriented Programming)
		55	Characteristics of a Good Program
		56	Question Paper Discussion
13	23-09-2019 To 27-09-2019	57	Revision
		58	**Module IV Exam**
		59	Seminar
		60	Seminar
		61	Seminar
		62	Seminar
14	30-09-2019 To 04-10-2019	63	Question Paper Discussion
		64	Question Paper Discussion
		2 Oct	**Gandhi Jayanthi**
		65	Question Paper Discussion
		66	Question Paper Discussion
		67	Question Paper Discussion
		68	Revision
15	07-10-2019 To 11-10-2019	07 Oct	**Mahanavami**
		08 Oct	**Vijayadashami**
		69	Revision
		70	Revision
		71	Revision
		72	Revision
16	14-10-2019 To	14 Oct	**Second Internal**
			Second Internal

No of Weeks	Dates	Session	Topic
	18-10-2019		Second Internal
			Second Internal
			Second Internal
			Second Internal
17	21-10-2019 To 25-10-2019		Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
18	28-10-2019 To 01-11-2019		Study Leave
			Study Leave
		30 Oct	University Exam Begin