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 - II

ACADEMIC YEAR - (2019-20)

II Semester BSc Mathematics (2019 - 22)			
SL. No.	Name of Subjects with Code	Name of the Teacher	Duty Hours per week
1.	2A03 ENG Readings on Life and Nature	Amrutha Lakshmanan N.V.	5
2.	2A04 ENG Readings on Gender	Surabhi Raveendran	4
3.	2A08 MAL Kavitha Mathrukakal	Vineesh T.K.	4
4.	2A08 HIN Rachana Thatha Prayog	Rabina V.	
5.	2B02 MAT Integral Calculus and Logic	Remya Raj	4
6.	2C02 STA Probability Theory & Random Variables	Noble Philip	4
7.	2C02 CSC Programming in C	Vineetha Mathew	2
8.	2C02CSC Lab1: Programming in C, Web Programming and Python Programming	Vineetha Mathew	2
	Name of 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	II sem ENG/MAT/PHY	Amrutha Lakshmanan N.V. 2A03ENG	Remya Raj 2B02MAT	Vineetha Mathew 2C02CSC	Noble Philip 2C02STA
2	Amrutha Lakshmanan N.V. 2A03ENG	Noble Philip 2C02STA	Vineetha Mathew 2C02CSC	Surabhi Raveendran 2A04ENG	II sem ENG/MAT/PHY
3	Vineetha Mathew 2C02CSC(P)	Remya Raj 2B02MAT	Amrutha Lakshmanan N.V. 2A03ENG	II sem ENG/MAT/PHY	Surabhi Raveendran 2A04ENG
4	Noble Philip 2C02STA	Surabhi Raveendran 2A04ENG	II sem ENG/MAT/PHY	Amrutha Lakshmanan N.V. 2A03ENG	Remya Raj 2B02MAT
5	Remya Raj 2B02MAT	Surabhi Raveendran 2A04ENG	Noble Philip 2C02STA	Vineetha Mathew 2C02CSC(P)	Amrutha Lakshmanan N.V. 2A03ENG

Subject Code:	**2A03 ENG**
Subject Name:	**Readings on Life and Nature**
No. of Credits:	**4**
No. of Contact Hours:	**90**
Hours per Week:	**5**
Name of the Teacher:	**Amrutha Lakshmanan N.V.**

Objective: -

1. Understand the basic themes and issues related to ecology through articles, poems, stories, life writings, and historical narratives.
2. Assume ecologically friendly attitudes in events related to everyday life.
3. Identify the specific ecological problems related to Kerala.
4. Identify the major ecological movements around the world and within the country.
5. Ability to express specific opinions when confronted with ecology/development binary.
6. Identify the major or minor ecological issues happening around the students' native place.

Module –I:

1. Environmental Studies: Definition, Scope and Importance
2. Concept of an Ecosystem
3. The Fish – Elizabeth Bishop
4. Trophic Cascade – Camille T. Dungy
5. The Rightful inheritors of the Earth – Vaikom Muhammad Basheer

Module – II:

1. Biodiversity
2. Disaster Management: Floods, Earthquakes, Cyclones, Landslides
3. Real Estate – Sebastian
4. The Truth about the Floods – Nissim Ezekiel
5. Matsyagandhi – M Sajitha

Module – III:

1. Role of an Individual in Prevention of Pollution
2. Environmental Values
3. The End of Living – The Beginning of Survival: Chief of Seattle
4. Going Local – Helena Norberg-Hodge

Assignment Topics

1. Document the list of products we use in our daily life that could have originated from a forest ecosystem.
2. Identify the different fish that the local fishermen have caught. Find out from them if the fish catch has decreased, remained the same, or has increased during the last decade or two.

3. Prepare a report on a flood affected area with details on how it happened, the people's reactions, and the steps to be taken to prevent it in the future.
4. Highlight the environmental health hazards caused by e-waste.
5. Prepare a report on how globalization and liberalization affected coconut/rubber/cardamom farmers in Kerala. Make a field study for any one of the farming sector and document it.
6. Impact of globalization on the local economies.
7. Sustainable development is the only way forward.
8. Identify a river nearby and provide a historical profile of and the changes in its environmental status over the years by talking to the local people.
9. Are the natural resources overused due to the number of people that depend on it, or the greed of a few, or both?
10. List out the products you use in your daily life from a grassland ecosystem.
11. Document the environmental assets in your neighbourhood.
12. "Linking of Indian Rivers" – Your comment on it.
13. Corporate Hijack of Agriculture – Prepare a report.
14. Plastic Pollution in your surroundings.
15. Air pollution in your village/town/city.

People in Environment

Ralph Emerson
Henry Thoreau
John Muir
Edward Abbey
Annie Dillard
Leslie Marmon Silko
Aldo Leopald
Rachel Carson
E O Wilson
Salim Ali
Madhav Gadgil
M C Mehta
Anil Agarwal
Medha Patkar
Sunderlal Bahuguna
Kallen Pokkudan
Sugathakumari
Vandana Shiva
Sunita Narain
Greta Thunberg

Major environmental movements in India

Chipko Movement
Jungle Bachao Andholan
Narmada Bachao Andholan
Silent Valley Movement

Prescribed Textbook

Nature Matters: Readings on Life and Nature, **Board of Editors. MainSpring Publishers, 2019.**

Environmental Literature for Further Reference

1. Pilgrim at Tender Creek – Annie Dillard, 1975.
2. Walden – Henry David Thoreau, 1854
3. Under the Sea Wind – Rachel Carson, 1941.
4. Silent Spring – Rachel Carson, 1962.
5. Small is Beautiful – E F Schumacher
6. Earth Policy Reader – Lester R Brown
7. Eco Economy – Lester R Brown
8. No Logo – Naomi Klein
9. Desert Solitaire – Edward Abbey, 1968
10. Biophilia – E O Wilson
11. The Biodiversity of India – Erach Barucha
12. Down to Earth – Centre for Science and Environment
13. Water in Crisis – H P Gleick
14. Global Biodiversity Assessment – Heywood & Waston, 1995
15. The Call of the Wild – Jack London, 1903
16. I am not a Plastic Bag – Rahel Hope, 2012
17. The Great Derangement – Amitav Ghosh
18. The End of Food – Paul Roberts, 2008
19. The End of Oil – Paul Roberts
20. The World Without Us – Alan Weisman, 2008
21. The One-Straw Revolution – Fukuoka, 2009
22. The End of Nature – Bill McKibben, 1989
23. The Good Earth – Pearl S Buck, 2005
24. Carbon – Daniel Boyd, 2014.
25. Peak – Roland Smith, 2007
26. The Tomorrow Code – Brian Falkner, 2008.
27. The Water Wars – Cameron Stracher, 2011
28. Fast Food Nation – Eric Schlosser, 2001
29. Last Child in the Woods – Richard Louv, 2005

Web Resources on Environment

www.earth-policy.org
www.corecentre.co.in – fact sheet on air pollution
www.dialcomfort.com – online guide to air pollution
www.sciencemuseum.og.uk
www.tedtalk.com

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	18-11-2019 To 23-11-2019	1	Introduction to the syllabus
		19 Nov	Union Inauguration
		2	Environmental Studies: Definition, Scope and Importance
		3	Environmental Studies: Definition, Scope and Importance
		4	Environmental Studies: Definition, Scope and Importance
		5	Group Discussion
		23 Nov	Sports Day
2	25-11-2019 To 29-11-2019		Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
3	01-12-2019 To 05-12-2019		Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
4	09-12-2019 To 13-12-2019	6	The Rightful inheritors of the Earth – Vaikom Muhammad Basheer
		7	The Rightful inheritors of the Earth – Vaikom Muhammad Basheer
		8	The Rightful inheritors of the Earth – Vaikom Muhammad Basheer
		9	Concept of an Ecosystem
		10	Concept of an Ecosystem
		11	Class Test
		12 Dec	Arts Day
		13 Dec	Arts Day
5	16-12-2019	12	The Fish – Elizabeth Bishop

No of Weeks	Dates	Session	Topic
	To 20-12-2019	13	The Fish – Elizabeth Bishop
		14	The Fish – Elizabeth Bishop
		15	Trophic Cascade – Camille T. Dungy
		16	Trophic Cascade – Camille T. Dungy
		20 Dec	Christmas Celebration
6	23-12-2019 To 28-12-2019		Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
7	30-12-2019 To 03-01-2020	17	Seminar
		18	Seminar
		19	Seminar
		20	Seminar
		21	Seminar
		02 Jan	Mannam Jayanthi – Holiday
		22	Biodiversity
8	06-01-2020 To 10-01-2020	23	Biodiversity
		24	Biodiversity
		25	Class Test
		26	Disaster Management: Floods, Earthquakes, Cyclones, Landslides
		27	Disaster Management: Floods, Earthquakes, Cyclones, Landslides
		28	Disaster Management: Floods, Earthquakes, Cyclones, Landslides
		29	Disaster Management: Floods, Earthquakes, Cyclones, Landslides
		30	Group Discussion
9	13-01-2020 To 17-01-2020	31	Real Estate – Sebastian
		32	Real Estate – Sebastian
		33	The Truth about the Floods – Nissim Ezekiel
		34	The Truth about the Floods – Nissim Ezekiel
		35	The Truth about the Floods – Nissim Ezekiel
		36	Matsyagandhi – M Sajitha
		37	Matsyagandhi – M Sajitha

No of Weeks	Dates	Session	Topic
		38	Matsyagandhi – M Sajitha
		39	Matsyagandhi – M Sajitha
10	20-01-2020 To 24-01-2020	20 Jan	First Internal II Semester UG
			First Internal II Semester UG
		22 Jan	First Internal II Semester UG
		40	Role of an Individual in Prevention of Pollution
		41	Role of an Individual in Prevention of Pollution
		42	Seminar
		43	Seminar
		44	Seminar
11	27-01-2020 To 31-01-2020	45	Seminar
		46	Environmental Values
		47	Environmental Values
		48	Environmental Values
		49	Class Test
		50	The End of Living – The Beginning of Survival: Chief of Seattle
		51	The End of Living – The Beginning of Survival: Chief of Seattle
12	03-02-2020 To 07-02-2020	52	The End of Living – The Beginning of Survival: Chief of Seattle
		53	The End of Living – The Beginning of Survival: Chief of Seattle
		54	Assignment
		55	Going Local – Helena Norberg-Hodge
		56	Going Local – Helena Norberg-Hodge
		57	Going Local – Helena Norberg-Hodge
13	10-02-2020 To 14-02-2020	58	Class Test
		59	Ralph Emerson Henry Thoreau John Muir
		60	People in Environment Ralph Emerson Henry Thoreau John Muir
		61	Edward Abbey Annie Dillard Leslie Marmon Silko
		62	Edward Abbey Annie Dillard Leslie Marmon Silko

No of Weeks	Dates	Session	Topic
		63	Aldo Leopald Rachel Carson E O Wilson
14	17-02-2020 To 22-02-2020	64	Aldo Leopald Rachel Carson E O Wilson
		65	Salim Ali Madhav Gadgil M C Mehta
		66	Salim Ali Madhav Gadgil M C Mehta
		21 Feb	Mahasivaratri – Holiday
		67	Group Discussion
15	24-02-2020 To 28-02-2020	24 Feb	College Day
		68	Anil Agarwal Medha Patkar Sunderlal Bahuguna
		69	Anil Agarwal Medha Patkar Sunderlal Bahuguna
		70	Kallen Pokkudan Sugathakumari Vandana Shiva
		71	Kallen Pokkudan Sugathakumari Vandana Shiva
		72	Sunita Narain Greta Thunberg
16	02-03-2020 To 07-03-2020	73	Sunita Narain Greta Thunberg
		74	Assignment
		75	Assignment
		76	Assignment
		77	Major environmental movements in India Chipko Movement
		78	Chipko Movement
17	09-03-2020 To 13-03-2020	79	Jungle Bachao Andholan
		80	Jungle Bachao Andholan
		81	Narmada Bachao Andholan
		82	Narmada Bachao Andholan
		83	Silent Valley Movement

No of Weeks	Dates	Session	Topic
		84	Silent Valley Movement
18	16-03-2020 To 20-03-2020	85	Question Paper Discussion
		86	Question Paper Discussion
		87	Question Paper Discussion
		88	Revision
		89	Revision
		90	Revision
19	23-03-2020 To 27-03-2020	23 Mar	Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
20	30-03-2020 To 03-04-2020		Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
21	06-04-2020	06 April	University Exam II Semester UG Begin

Subject Code:	**2A04 ENG**
Subject Name:	**Readings on Gender**
No. of Credits:	**3**
No. of Contact Hours:	**72**
Hours per Week:	**4**
Name of the Teacher:	**Surabhi Raveendran**

Objective:
To understand the basic gender issues faced by Kerala through articles, poems, stories, life writings and historical narratives.

Module I:
1. An Introduction - Kamala Das
2. Kitchen Rags - Vijila
3. Daskshayani Velayudhan - A Biographical Sketch – Meera Velayudhan
4. Learning to be a Mother - Shashi Deshpande
5. Is this Desirable? - Lalithambika Antharjanam

Module II:
1. Still I Rise - Maya Angelou
2. I Am Not That Woman - Kishwar Naheed
3. Structural Violence and the Trans Struggle for Dignity – Gee Imaan Semmalar
4. Gender Justice and the Media - Ammu Joseph
5. Clothing Matters: Visiting the Melmundusamaram in Keralam - Sheeba K M

Prescribed Textbook; Plural perspectives:
Readings on Gender by Rakhi Raghavan

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	18-11-2019 To 23-11-2019	1	An Introduction - Kamala Das
		19 Nov	Union Inauguration
		2	An Introduction - Kamala Das
		3	An Introduction - Kamala Das
		4	An Introduction - Kamala Das
		5	An Introduction - Kamala Das
		23 Nov	Sports Day
2	25-11-2019 To 29-11-2019		Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
3	01-12-2019 To 05-12-2019		Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
4	09-12-2019 To 13-12-2019	6	An Introduction - Kamala Das
		7	Assignment
		8	**Class Test**
		9	Kitchen Rags-
		10	Kitchen Rags
		11	Kitchen Rags
		12 Dec	Arts Day
		13 Dec	Arts Day
5	16-12-2019 To	12	Kitchen Rags
		13	Assignment
		14	Revision

No of Weeks	Dates	Session	Topic
	20-12-2019	15	**Class Test**
		20 Dec	Christmas Celebration
6	23-12-2019 To 28-12-2019		Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
7	30-12-2019 To 03-01-2020	16	Daskshayani Velayudhan - A Biographical Sketch
		17	Daskshayani Velayudhan - A Biographical Sketch
		18	Daskshayani Velayudhan - A Biographical Sketch
		19	Daskshayani Velayudhan - A Biographical Sketch
		02 Jan	Mannam Jayanthi – Holiday
		20	Daskshayani Velayudhan - A Biographical Sketch
8	06-01-2020 To 10-01-2020	21	Assignment
		22	**Class Test**
		23	Learning to be a Mother
		24	Learning to be a Mother
		25	Learning to be a Mother
		26	Learning to be a Mother
9	13-01-2020 To 17-01-2020	27	Assignment
		28	**Class Test**
		29	Is this Desirable?
		30	Is this Desirable?
		31	Is this Desirable?
		32	Is this Desirable?
10	20-01-2020 To 24-01-2020	20 Jan	First Internal II Semester UG
			First Internal II Semester UG
		22 Jan	First Internal II Semester UG
		33	Is this Desirable?
		34	Is this Desirable?
		35	Assignment
11	27-01-2020 To 31-01-2020	36	**Class Test**
		37	I Am Not That Woman
		38	I Am Not That Woman
		39	I Am Not That Woman
		40	I Am Not That Woman

No of Weeks	Dates	Session	Topic
12	03-02-2020 To 07-02-2020	41	I Am Not That Woman
		42	Assignment
		43	Seminar
		44	**Class Test**
		45	Structural Violence and the Trans Struggle for Dignity
13	10-02-2020 To 14-02-2020	46	Structural Violence and the Trans Struggle for Dignity
		47	Structural Violence and the Trans Struggle for Dignity
		48	Structural Violence and the Trans Struggle for Dignity
		49	Structural Violence and the Trans Struggle for Dignity
14	17-02-2020 To 22-02-2020	50	Seminar
		51	**Class Test**
		52	Gender Justice and the Media
		21 Feb	Gender Justice and the Media
		53	**Mahasivaratri – Holiday**
15	24-02-2020 To 28-02-2020	**24 Feb**	Gender Justice and the Media
		54	**College Day**
		55	Gender Justice and the Media
		56	Gender Justice and the Media
		57	Gender Justice and the Media
16	02-03-2020 To 07-03-2020	58	Assignment
		59	Seminar
		60	**Class Test**
		61	Clothing Matters: Visiting the Melmundusamaram in Keralam
		62	Clothing Matters: Visiting the Melmundusamaram in Keralam
17	09-03-2020 To 13-03-2020	63	Clothing Matters: Visiting the Melmundusamaram in Keralam
		64	Clothing Matters: Visiting the Melmundusamaram in Keralam
		65	Clothing Matters: Visiting the Melmundusamaram in Keralam
		66	Clothing Matters: Visiting the Melmundusamaram in Keralam
		67	Clothing Matters: Visiting the Melmundusamaram in Keralam
18	16-03-2020 To	68	Assignment
		69	**Class Test**
		70	Revision

No of Weeks	Dates	Session	Topic
	20-03-2020	71	Revision
		72	Revision
19	23-03-2020 To 27-03-2020	23 Mar	
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
20	30-03-2020 To 03-04-2020		Second Internal II Semester UG
			Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
21	06-04-2020	06 April	Study Leave
			University Exam II Semester UG Begin

Subject Code:	**2B02 MAT**
Subject Name:	**Integral Calculus and Logic**
No. of Credits:	**4**
No. of Contact Hours:	**72**
Hours per Week:	**4**
Name of the Teacher:	**Remya Raj**

Objective: -

1 Understand Hyperbolic functions
2 Understand Reduction formulae for trigonometric functions and evaluation of definite integrals , and .
3 Understand Polar coordinates
4 Understand Double integrals in Cartesian and polar form.
5 Understand triple integrals in rectangular, cylindrical and spherical co-ordinates
6 Understand Substitution in multiple integrals
7 Understand Numerical integration: Trapezoidal rule, Simpson's 1/3rd rule
8 Understand Logic and methods of proofs
9 Understand Propositional functions, truth set and Negation of quantified statements

Module –I:

Unit I – Integration of hyperbolic functions, Reduction formulae (20 hours)
Hyperbolic functions (Section 7.7 of Text 1). Reduction formulae, Integration of $\sin^n x$ evaluation of the definite integral $\int_0^{\pi/2} sin^n\, x\, dx$, Integration of $\cos^n x$, evaluation of the definite integral $\int_0^{\pi/2} cos^n\, x\, dx$, Integration of $\sin^n x \cos^n x$ evaluation of the definite integral $\int_0^{\pi/2} sin^n\, x\, cos^n\, x\, dx$, integration of $\tan^n x$, integration of $\cot^n x$, integration of $\sec^n x$, integration of $\operatorname{cosec}^n x$ (Sections 2.8, 4.1, 4.1.1, 4.2, 4.2.1, 4.3, 4.3.1, 4.4.1, 4.4.2, 4.5.1, 4.5.2 of Text 2)

Module – II:

Unit II – Multiple integrals (20 hours)
Polar coordinates (Sections 11.3 of Text 1). Multiple integrals: Double and iterated integrals over rectangles, double integrals over general regions, area by double integration, double integrals in polar form, triple integrals in rectangular coordinates, triple integrals in cylindrical and spherical co-ordinates, substitution in multiple integrals (Sections 11.3, 15.1, 15.2, 15.3, 15.4, 15.5, 15.7, 15.8 of Text 1).

Module – III:

Unit III - Numerical integration (12 hours)
Numerical integration, Trapezoidal rule, Simpson's 1/3 rd rule (Sections 6.3, 6.3.1, 6.3.2 of Text 3).

Module – IV:

Unit IV – Logic and proofs (20 hours)
Logic and proofs (Appendix A of Text 4). Propositional functions and truth set, Negation of quantified statements (Section 10.11, 10.12 of Text 5).

Prescribed Textbook

1. G.B, Thomas Jr., M.D. Weir and J.R. Hass, Thomas' Calculus (12^{th} edition), Pearson Education
2. S. Narayan and P.K. Mittal, Integral Calculus, S. Chand
3. S. R. K. Iyengar and R. K. Jain, Mathematical methods (2nd edition), Narosa Publishing House
4. R.G. Bartle and D.R. Sherbert, Introduction to Real Analysis (4^{th} edition), Wiley
5. S. Lipschutz, Set Theory and Related Topics (2nd edition), Schaum's Series.

Books for Reference

1. S.S. Sastry, Introductory Methods of Numerical Analysis (5th edition), PHI.
2. F.B. Hidebrand, Introduction to Numerical Analysis, TMH.
3. E. Kreyzig, Advanced Engineering Mathematics (10th Edition), Wiley
4. V.N. Vedamurthy and N.Ch.S.N. Iyengar, Numerical Methods, Vikas Publishing House.

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	18-11-2019 To 23-11-2019	1	Hyperbolic functions, introduction, examples
		19 Nov	Union Inauguration
		2	Problems
		3	Problems
		4	Reduction formulae, problems
		5	Problems
		23 Nov	Sports Day
2	25-11-2019 To 29-11-2019		Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
3	01-12-2019 To 05-12-2019		Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
4	09-12-2019 To 13-12-2019	6	Problems
		7	Integration of $\sin^n x$-*problems*
		8	Problems
		9	Evaluation of the definite integral $\int_0^{\pi/2} sin^n\ x\ dx$, problems
		10	Problems
		11	Integration of $\cos^n x$, *problems*

No of Weeks	Dates	Session	Topic
		12 Dec	Arts Day
		13 Dec	Arts Day
5	16-12-2019 To 20-12-2019	12	Evaluation of the definite integral $\int_0^{\pi/2} cos^n\, x\, dx$,problems
		13	Problems
		14	Integration of $\sin^n x \cos^n x$, *problems*
		15	Evaluation of the definite integral $\int_0^{\pi/2} sin^n\, x\, cos^n\, x\, dx$,problems
		20 Dec	Christmas Celebration
6	23-12-2019 To 28-12-2019		Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
7	30-12-2019 To 03-01-2020	16	integration of $\tan^n x$, *problems*
		17	integration of $\cot^n x$, problems
		18	integration of $\sec^n x$, problems
		19	integration of $\text{cosec}^n x$, *problems*
		02 Jan	Mannam Jayanthi – Holiday
		20	**Class test**
8	06-01-2020 To 10-01-2020	21	Polar coordinates,introduction,examples
		22	Problems
		23	Problems
		24	Multiple integrals: Double and iterated integrals over rectangles,problems
		25	Problems
		26	Double integrals over general regions,problems
9	13-01-2020 To 17-01-2020	27	problems
		28	Area by double integration, introduction,examples
		29	Double integrals in polar form, problems
		30	Problems
		31	Triple integrals in rectangular coordinates, problems
		32	Problems
10	20-01-2020	20 Jan	First Internal II Semester UG
			First Internal II Semester UG

No of Weeks	Dates	Session	Topic
	To 24-01-2020	22 Jan	First Internal II Semester UG
		33	Triple integrals in cylindrical and spherical co-ordinates,introduction,examples
		34	Problems
		35	Problems
11	27-01-2020 To 31-01-2020	36	Substitution in multiple integrals,problems
		37	Problems
		38	Problems
		39	**Revision**
		40	**Class test**
12	03-02-2020 To 07-02-2020	41	Numerical integration, introduction
		42	Examples
		43	Problems
		44	Trapezoidal rule, problems
		45	Problems
13	10-02-2020 To 14-02-2020	46	Problems
		47	Problems
		48	Simpson's 1/3 rd rule,problems
		49	Problems
14	17-02-2020 To 22-02-2020	50	Problems
		51	**Revision**
		52	**Class test**
		21 Feb	Mahasivaratri – Holiday
		53	Logic and proofs ,introduction,examples
15	24-02-2020 To 28-02-2020	24 Feb	College Day
		54	Problems
		55	Problems
		56	Propositional functions and truth set, examples
		57	Problems
16	02-03-2020 To 07-03-2020	58	Problems
		59	Problems
		60	Negation of quantified statements,examples
		61	Problems
		62	Problems
17	09-03-2020 To 13-03-2020	63	Problems
		64	Problems
		65	**Revision**
		66	**Class test**

No of Weeks	Dates	Session	Topic
		67	**Revision of module 1**
18	**16-03-2020 To 20-03-2020**	68	**Revision of module 1**
		69	**Revision of module 2**
		70	**Revision of module 2**
		71	**Class test**
		72	**Class test**
19	**23-03-2020 To 27-03-2020**	**23 Mar**	**Second Internal II Semester UG**
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
20	**30-03-2020 To 03-04-2020**		**Study Leave**
			Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
21	**06-04-2020**	**06 April**	**University Exam II Semester UG Begin**

Subject Code:	**2C02 STA**
Subject Name:	**Probability Theory & Random Variables**
No. of Credits:	**3**
No. of Contact Hours:	**72**
Hours per Week:	**4**
Name of the Teacher:	**Noble Philip**

Objective: -

Student should be able to
1: evaluate the probability of events.
2: understand the concept of random variables with examples in real life
3: calculate the probability distribution of discrete and continuous random variables.
4: understand the change of variable technique.

Module –I:

Unit I: Probability Theory-I
Random experiments, sample space, events, classical definition and frequency approach to probability, laws of events, sigma field, axiomatic definition of probability, probability space, addition theorem (2 and 3 events), Boole's inequalities. **(25 Hrs)**

Module – II:

Unit II: Probability Theory-II
Conditional probability, multiplication theorem, independence of events, pair wise and mutual independence, Baye's theorem and its applications. **(18 Hrs)**

Module – III:

Unit III: Random Variables - Discrete and continuous random variables, probability mass function and probability density function, distribution function - definition and properties, transformation of random variables-discrete and continuous. **(17 Hrs)**

Module – IV:

Unit IV: Bivariate Random Variables - Definitions, joint probability distributions, marginal and conditional distributions, independence of random variables, transformations of bivariate random variables. **(12 Hrs)**

Prescribed Textbook

1. Gupta, S. C. &Kapoor, V. K. (1980). Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi.

Books for Reference

1. Rao, C. R. (1973). Linear Statistical Inference and its Applications, 2/e, Wiley, New York.
2. Dudewicz, E. J. & Mishra S. N. (1988). Modern Mathematical Statistics, John Wiley & Sons, New York.
3. Pitman, J. (1993). Probability, Narosa Publishing House, New Delhi.
4. Rohatgi, V. K. (1993). An Introduction to Probability Theory and Mathematical Statistics, Wiley Eastern, New Delhi. Hsu, H. P. (1997).
5. Hsu,H.P.(1997) Schaum's Outline of Theory and Problems of Probability, Random Variables and Random Processes, The McGraw-Hill Companies, Inc., New York.
6. Lipschutz, S.& Schiller, J. J. (1998). Schaum's Outline of Theory and Problems of Introduction to Probability and Statistics, The McGraw-Hill Companies, Inc., New York.

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	18-11-2019 To 23-11-2019	1	Introduction
		19 Nov	Union Inauguration
		2	Introduction of probability
		3	Basic problems of probability
		4	Random experiments
		5	Random experiments
		23 Nov	Sports Day
2	25-11-2019 To 29-11-2019		Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
3	01-12-2019 To 05-12-2019		Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
4	09-12-2019 To 13-12-2019	6	Sample space, Events
		7	Cassical definition and frequency approach to probability
		8	Classical definition and frequency approach to probability
		9	Laws of events
		10	Sigma field
		11	Axiomatic definition of probability
		12 Dec	Arts Day
		13 Dec	Arts Day
5	16-12-2019 To 20-12-2019	12	Probability space
		13	Addition theorem (2 and 3 events)
		14	Boole’s inequalities
		15	Class test

No of Weeks	Dates	Session	Topic
		20 Dec	Christmas Celebration
6	23-12-2019 To 28-12-2019		Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
7	30-12-2019 To 03-01-2020	16	Introduction to Conditional probability
		17	Multiplication theorem
		18	Independence of events
		19	Assignment
		02 Jan	Mannam Jayanthi – Holiday
		20	**Seminar**
8	06-01-2020 To 10-01-2020	21	Pair wise and mutual independence
		22	Pair wise and mutual independence
		23	Assignment
		24	Assignment
		25	Baye's theorem and its applications
		26	Problems
9	13-01-2020 To 17-01-2020	27	Problems
		28	Seminar
		29	Seminar
		30	Seminar
		31	Viva
		32	Class test
10	20-01-2020 To 24-01-2020	20 Jan	First Internal II Semester UG
			First Internal II Semester UG
		22 Jan	First Internal II Semester UG
		33	Inrtoduction to Random Variables
		34	Discrete and continuous random variables
		35	Discrete and continuous random variables
11	27-01-2020 To 31-01-2020	36	Probability mass function and probability density function
		37	Probability mass function and probability density function
		38	Probability mass function and probability density function
		39	Problems
		40	Problems
12	03-02-2020	41	Assignment

No of Weeks	Dates	Session	Topic
	To 07-02-2020	42	Seminar
		43	**Seminar**
		44	Seminar
		45	Seminar
13	10-02-2020 To 14-02-2020	46	Distribution function - definition and properties
		47	Distribution function - definition and properties
		48	Distribution function - definition and properties
		49	Problems
14	17-02-2020 To 22-02-2020	50	Problems
		51	Problems
		52	Transformations of bivariate random variables
		21 Feb	Mahasivaratri – Holiday
		53	Class test
15	24-02-2020 To 28-02-2020	24 Feb	College Day
		54	Inroduction to Bivariate Random Variables
		55	Definitions
		56	Definitions
		57	Joint probability distributions
16	02-03-2020 To 07-03-2020	58	Joint probability distributions
		59	**Problems**
		60	Problems
		61	Marginal and conditional distributions
		62	Marginal and conditional distributions
17	09-03-2020 To 13-03-2020	63	Marginal and conditional distributions
		64	Independence of random variables
		65	Independence of random variables
		66	Transformations of bivariate random variables
		67	Transformations of bivariate random variables
18	16-03-2020 To 20-03-2020	68	Assignment
		69	Seminar
		70	Seminar
		71	Seminar
		72	Class test
19	23-03-2020 To 27-03-2020	23 Mar	Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG

No of Weeks	Dates	Session	Topic
			Second Internal II Semester UG
20	30-03-2020 To 03-04-2020		Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
21	06-04-2020	06 April	University Exam II Semester UG Begin

Subject Code:	**2C02 CSC**
Subject Name:	**Programming in C**
No. of Credits:	**2**
No. of Contact Hours:	**36**
Hours per Week:	**2**
Name of the Teacher:	**Vineetha Mathew**

Objective: -

1: Understand the building blocks of C programming language
2: Familiarize with program control structures in C
3: Learn procedural programming using functions
4: Understand user defined data types

Module –I:

Unit I: Introduction to C
C Character Set, Constants, Variables, Keywords, Instructions in C (Type Declaration, Arithmetic, Integer and Float Conversions), Operators in C (Arithmetic, Relational, Logical, Increment/Decrement, Assignment, Bitwise), Operator Precedence, Data Types (int, char, float, double, void), Compiling and Running C Programs in Linux. **(7 Hrs)**

Module – II:

Unit II: Inputs and Control Statements
Formatted Console I/O Functions (printf, scanf), Escape Sequences, Unformatted Console I/O Functions (getch, putch, gets, puts), Decision control structures (Different forms of if statement), Conditional Operator, Case Control Structure (switch), Loop control structure (while, do-while, for), break and continue statements. **(10 Hrs)**

Module – III:

Unit III: Functions and Pointers
User defined Functions (Advantages, Definition, Calling and Prototype), Library Functions, Pointers (Introduction to Pointers, Pointer Notation, Pointer Declaration and Initialization, Accessing Variable through Pointer), Call by Value and Call by Reference, Recursion **(10 Hrs)**

Module – IV:

Unit IV: Arrays, Strings and Structures
Arrays (Introduction, One Dimensional Arrays, Two Dimensional Arrays), Strings, Standard Library String Functions (strlen, strcpy, strcat, strcmp), Two-Dimensional Array of Characters. Storage Classes in C, Structures (Declaration, Initialization, Accessing Structure Elements), Array of Structures, Array Within Structure, Renaming Data Types with Typedef, C Preprocessors (#define, #include). **(9 Hrs)**

Prescribed Textbook

1. Yashavant P. Kanetkar, Let Us C, 16th Edition, BPB

Books for Reference

1. Brian W. Kernighan and Dennis M. Ritchie, The C Programming Language, Prentice Hall of India
2. E. Balaguruswamy, Programming in ANSI C, Tata McGraw-Hill
3. Byron Gottfried, Schaum's Outline of Programming with C, McGraw-Hill

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	18-11-2019 To 23-11-2019	1	C Character Set, Constants, Variables, Keywords,
		19 Nov	Union Inauguration
		2	Instructions in C (Type Declaration, Arithmetic, Integer and Float Conversions)
		3	Operators in C (Arithmetic, Relational, Logical, Increment/Decrement, Assignment, Bitwise), Operator Precedence
		23 Nov	Sports Day
2	25-11-2019 To 29-11-2019		Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
3	01-12-2019 To 05-12-2019		Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
4	09-12-2019 To 13-12-2019	4	Data Types (int, char, float, double, void)
		12 Dec	Arts Day
		13 Dec	Arts Day
5	16-12-2019 To 20-12-2019	5	Compiling and Running C Programs in Linux.
		6	Revision and Question Paper Discussion
		20 Dec	Christmas Celebration
6	23-12-2019 To		Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday

No of Weeks	Dates	Session	Topic
	28-12-2019		Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
7	30-12-2019 To 03-01-2020	7	Module I Exam
		8	Formatted Console I/O Functions (printf, scanf)
		02 Jan	Mannam Jayanthi – Holiday
8	06-01-2020 To 10-01-2020	9	Escape Sequences, Unformatted Console I/O Functions (getch, putch, gets, puts)
		10	Decision control structures (Different forms of if statement)
		11	Conditional Operator, Case Control Structure (switch)
9	13-01-2020 To 17-01-2020	12	Loop control structure (while, do-while, for)
		13	Loop control structure (while, do-while, for)
		14	Exercise
10	20-01-2020 To 24-01-2020	20 Jan	First Internal II Semester UG
			First Internal II Semester UG
		22 Jan	First Internal II Semester UG
11	27-01-2020 To 31-01-2020	15	Break and continue statements.
		16	Revision and Question Paper Discussion
		17	Module II Exam
12	03-02-2020 To 07-02-2020	18	User defined Functions-Advantages, Definition, Calling
		19	User defined Functions Prototype
		20	User defined Functions- Program
13	10-02-2020 To 14-02-2020	21	Library Functions
		22	Pointers-Introduction to Pointers, Pointer Notation, Pointer Declaration and Initialization
		23	Accessing Variable through Pointer)
14	17-02-2020 To 22-02-2020	24	Call by Value and Call by Reference
		21 Feb	Mahasivaratri – Holiday
		25	Recursion
15	24-02-2020 To 28-02-2020	24 Feb	College Day
		26	Revision and Question Paper Discussion
		27	Module III Exam
16	02-03-2020 To	28	Arrays (Introduction, One Dimensional Arrays, Two Dimensional Arrays)
		29	Strings, Standard Library String Functions (strlen, strcpy,

No of Weeks	Dates	Session	Topic
	07-03-2020		strcat, strcmp)
		30	Two-Dimensional Array of Characters. Storage Classes in C
17	09-03-2020 To 13-03-2020	31	Structures (Declaration, Initialization, Accessing Structure Elements)
		32	Array of Structures, Array Within Structure, Renaming
		33	Data Types with Typedef
18	16-03-2020 To 20-03-2020	34	C Preprocessors (#define, #include)
		35	Revision and Question Paper Discussion
		36	Module IV Exam
19	23-03-2020 To 27-03-2020	23 Mar	Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
20	30-03-2020 To 03-04-2020		Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
21	06-04-2020	06 April	University Exam II Semester UG Begin

Subject Code:	**2C02CSC Lab1**
Subject Name:	**Programming in C, Web Programming and Python Programming**
No. of Credits:	**4**
No. of Contact Hours:	**36**
Hours per Week:	**2**
Name of the Teacher:	**Vineetha Mathew**

Objective: -

1: Achieve skills to use C language for problem solving
2: Understand SQL and basic web programming
3: Achieve skills to use Python for problem solving

Part I: C Programming

1. Write a program to receive an angle in degrees and check whether sum of the squares of sines and cosines of the angle is equal to 1. (Hint: Convert the angle in degrees to radians and apply mathematical functions).

2. Write a C program to check whether a year entered through the keyboard is leap year or not.

3. Write a program to reverse the digits of a positive integer number up to 5 digits. Display an error message if any other number is entered.

4. Write a program to enter numbers till the user wants. At the end, it should display the count of positive, negative and zeros entered.

5. Given the value of n, write a program to generate n Fibonacci numbers.

6. Create a menu driven calculator using switch statement. The menu should contain options for Addition, Subtraction, Multiplication, Division and Exit. The program should end only when the user enters the choice as Exit.

7. Create function which takes an integer value as parameter and returns 1 if the number is prime and 0 otherwise. Write a program which uses this function to generate first 100 prime numbers.

8. Write a program using recursion to find the factorial of a number.

9. Write a program to sort n numbers in ascending/descending order.

10. Write a program to check whether a string is palindrome or not.

11. Write a program to add two matrices. Display an error message if the matrices cannot be added due to incompatibility.

12. Create a structure student with membersroll_no, name and year_of_admn. Write a program to read n students into an array of the structure student. Write a function which takes year as argument and displays the names of students who joined that year. Get an input year from the user and display the student list using this function. (Hint: Make student array and number of students as global variables).

TEACHING SCHEDULE

No of Weeks	Dates	Session	Topic
1	18-11-2019 To 23-11-2019	1	Sample program
		19 Nov	Union Inauguration
		2	Sample program
		3	Sample program
		23 Nov	Sports Day
2	25-11-2019 To 29-11-2019		Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
3	01-12-2019 To 05-12-2019		Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
			Semester Break
4	09-12-2019 To 13-12-2019	4	Sample program
		12 Dec	Arts Day
		13 Dec	Arts Day
5	16-12-2019 To 20-12-2019	5	Sample program
		6	Sample program
		20 Dec	Christmas Celebration
6	23-12-2019 To 28-12-2019		Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday
			Christmas – Holiday

No of Weeks	Dates	Session	Topic
			Christmas – Holiday
7	**30-12-2019 To 03-01-2020**	7	Sample program
		8	Write a program to receive an angle in degrees and check whether sum of the squares of sines and cosines of the angle is equal to 1. (Hint: Convert the angle in degrees to radians and apply mathematical functions).
		02 Jan	**Mannam Jayanthi – Holiday**
8	**06-01-2020 To 10-01-2020**	9	Write a C program to check whether a year entered through the keyboard is leap year or not.
		10	Write a program to reverse the digits of a positive integer number up to 5 digits. Display an error message if any other number is entered.
		11	Write a program to enter numbers till the user wants. At the end, it should display the count of positive, negative and zeros entered.
9	**13-01-2020 To 17-01-2020**	12	Given the value of n, write a program to generate n Fibonacci numbers.
		13	Create a menu driven calculator using switch statement. The menu should contain options for Addition, Subtraction, Multiplication, Division and Exit. The program should end only when the user enters the choice as Exit.
		14	Create a menu driven calculator using switch statement. The menu should contain options for Addition, Subtraction, Multiplication, Division and Exit. The program should end only when the user enters the choice as Exit.
10	**20-01-2020 To 24-01-2020**	**20 Jan**	**First Internal II Semester UG**
			First Internal II Semester UG
		22 Jan	**First Internal II Semester UG**
11	**27-01-2020 To 31-01-2020**	15	Create function which takes an integer value as parameter and returns 1 if the number is prime and 0 otherwise. Write a program which uses this function to generate first 100 prime numbers.
		16	Create function which takes an integer value as parameter and returns 1 if the number is prime and 0 otherwise. Write a program which uses this function to generate first 100 prime numbers.
		17	Write a program using recursion to find the factorial of a number.
12	**03-02-2020 To**	18	Write a program to sort n numbers in ascending/descending order.
		19	Write a program to check whether a string is palindrome

No of Weeks	Dates	Session	Topic
	07-02-2020		or not.
		20	Write a program to add two matrices. Display an error message if the matrices cannot be added due to incompatibility.
13	10-02-2020 To 14-02-2020	21	Write a program to add two matrices. Display an error message if the matrices cannot be added due to incompatibility.
		22	Create a structure student with membersroll_no, name and year_of_admn. Write a program to read n students into an array of the structure student. Write a function which takes year as argument and displays the names of students who joined that year. Get an input year from the user and display the student list using this function. (Hint: Make student array and number of students as global variables).
		23	Create a structure student with membersroll_no, name and year_of_admn. Write a program to read n students into an array of the structure student. Write a function which takes year as argument and displays the names of students who joined that year. Get an input year from the user and display the student list using this function. (Hint: Make student array and number of students as global variables).
14	17-02-2020 To 22-02-2020	24	Create a structure student with membersroll_no, name and year_of_admn. Write a program to read n students into an array of the structure student. Write a function which takes year as argument and displays the names of students who joined that year. Get an input year from the user and display the student list using this function. (Hint: Make student array and number of students as global variables).
		21 Feb	Mahasivaratri – Holiday
		25	Practice
15	24-02-2020 To 28-02-2020	24 Feb	College Day
		26	Practice
		27	Practice
16	02-03-2020 To 07-03-2020	28	Practice
		29	Practice
		30	Practice
17	09-03-2020 To 13-03-2020	31	Practice
		32	Practice
		33	Practice
18	16-03-2020	34	Practice
		35	Practice

No of Weeks	Dates	Session	Topic
	To 20-03-2020	36	Lab Exam
19	23-03-2020 To 27-03-2020	23 Mar	Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
			Second Internal II Semester UG
20	30-03-2020 To 03-04-2020		Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
			Study Leave
21	06-04-2020	06 April	University Exam II Semester UG Begin