I - BCA
Batch: 2023 - 26

SEMESTER – II											
S. No	Course Code	Course Title	Category	Periods			Credits	Max. Marks			
				L	T	P		CAM	ESM	Total	
Theory											
1	A23TAT202C / A23FRT202C	TAMIL II / FRENCH - II	MIL	3	0	0	3	25	75	100	
2	A23GET202C	GENERAL ENGLISH - II	ENG	3	0	0	3	25	75	100	
3	A23CPT203C	FUNDAMENTALS OF INFORMATION TECHNOLOGY	DSC	4	0	0	4	25	75	100	
4	A23CPT204C	DATA STRUCTURE AND ALGORITHMS	DSC	4	0	0	4	25	75	100	
5	A23MAD205C	DISCRETE MATHEMATICS	IDC	3	1	0	4	25	75	100	
Practical											
6	A23CPL203C	FUNDAMENTALS OF IT LAB	DSC	0	0	4	2	50	50	100	
7	A23CPL204C	DATA STRUCTURES LAB	DSC	0	0	4	2	50	50	100	
Skill Enhancement Course											
8	A23ENSA01C	Communication Skills	SEC	0	0	4	2	100	0	100	
Ability Enhancement Course											
9	A23AETA02C	ENVIRONMENTAL STUDIES	AEC	0	0	2	1	100	0	100	
Extension Activities											
10	A23EAS201C	National Service Scheme	EA	0	0	2	0	100	0	100	
Employment Enhancement Course											
11	A23CAC202D	Databases	EEC	0	0	4	0	100	0	100	
							25	**625**	**475**	**1100**	

Department	**TAMIL**	Programme: **BCA**						
Semester	**SECOND**	Course Category Code: **MIL**			*End Semester Exam Type: **TE**			
Course Code	**A23TAT202C**	Periods/Week			Credit	MaximumMarks		
		L	T	P	C	CAM	ESE	TM
Course Name	**TAMIL – II**	**3**	**0**	**0**	**3**	**25**	**75**	**100**
(Common to **B.A, B.Sc., BBA., B.COM., BCA., B.COM CS.,)**								

Prerequisite	பன்னிரெண்டாம் வகுப்பில் தமிழை ஒரு பாடமாகப் பயின்றிருக்க வேண்டும்.
Course Objectives	• செவ்விலக்கிய தன்மை கொண்ட தமிழ்மொழியின் சிறப்பினை எடுத்துரைப்பதாக இப்பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
	• இரண்டாயிரம் ஆண்டுகாலத் தமிழின் தொன்மையையும் வரலாற்றையும் அதன் விழுமியங்களையும் பண்பாட்டையும் எடுத்துரைப்பதாக இப்பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
	• தமிழ் இலக்கியம் உள்ளடக்கத்திலும், வடிவத்திலும் பெற்றமாற்றங்கள், அதன் சிந்தனைகள், அடையாளங்கள் ஆகியவற்றைக் காலந்தோறும் எழுதப்பட்ட இக்கியங்களின் வழியாகக் கூறுவதற்கு இப்பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.
	• வாழ்வியல் சிந்தனைகள், ஒழுக்கவியல் கோட்பாடுகள், சமத்துவம், சூழலியல் எனப் பல கூறுகளை மாணவர்களுக்கு எடுத்துரைக்கும் விதத்தில் இப்பாடத்திட்டம் உருவாக்கப்பட்டுள்ளது.
	• சிந்தனை ஆற்றலைப் பெருக்குவதற்குத் தாய்மொழியின் பங்களிப்பினை உணர்த்த இப்பாடத்திட்டம் அமைக்கப்பட்டுள்ளது.

Course Outcome	**On completion of the course, the students will be able to**		BT Mapping (Highest Level)
	CO1	இலக்கியங்கள் உணர்த்தும் வாழ்வியல் நெறிமுறைகளைப் பேணிநடத்தல்.	**K3**
	CO2	நமது எண்ணத்தை வெளிப்படுத்தும் கருவியாகத் தாய்மொழியைப் பயன்படுத்துதல்.	**K3**
	CO3	தகவல் தெடர்புக்குத் தாய்மொழியின் முக்கியத்துவத்தை உணர்தல்.	**K2**
	CO4	தாய்மொழியின் சிறப்பை அறிதல்.	**K3**
	CO5	இலக்கிய இன்பங்களை நுகரும் திறன்களை வளர்த்தல்.	**K3**

UNIT-I	**காப்பியம்**	**Periods: 09**	
சிலப்பதிகாரம்	- வழக்குரைகாதை–காவியுகுநீரும்...முதல் தோற்றான் உயிர்வரை (8 வரிகள்)		**CO1**
மணிமேகலை	- பளிக்கறை புக்ககாதை–மதுமலர்க் கூந்தல்...முதல் புறமறிப் பாராய் வரை (106-121வரிகள்)		
பெரியபுராணம்	- இளையான்குடிமாறநாயனார்புராணம் - உள்ளம் அன்புகொண்டு...(17ஆவது பாடல்மட்டும்)		
கம்பராமாயணம்	- கும்பகர்ணவதைப்படலம் - உறங்குகின்ற கும்பகன்ன... (45ஆவதுபாடல் மட்டும்)		
தேம்பாவணி	- பாலமாட்சிப்படலம் - ஊட்டினார்அருள்...(229 பாடல் மட்டும்)		
சீறாப்புராணம்	- மழையழைப்பித்தப் படலம் - வேயினை முறித்து எனத் தொடங்கும் (15ஆவது பாடல் மட்டும்)		

UNIT-II	**பதினெண் கீழ்க்கணக்கு நூல்கள்**	**Periods: 09**	
திருக்குறள்	- வலியறிதல் (48),நெஞ்சொடுகிளத்தல் (125)		**CO2**
நாலடியார்	- அரும்பெறல்...(பாடல் எண்:34)		
சிறுபஞ்சமூலம்	- பூவாது காய்க்கும்...(பாடல் எண்:22)		
ஐந்திணைஐம்பது	- சுனைவாய்ச் சிறுநீரை...(பாடல் எண்:38)		
கார்நாற்பது	- கருவிளை கண்மலர்போல் பூத்தன...(பாடல் எண்:34)		
களவழிநாற்பது	- ஞாட்பினுளெஞ்சிய (பாடல் எண்:2)		

UNIT-III	**சங்க இலக்கியம் - எட்டுத்தொகை**	**Periods: 09**	
ஐங்குறுநூறு	- பாடல் எண்:44 - தோழி கூற்று		**CO3**
குறுந்தொகை	- பாடல் எண்:224 - தலைவி கூற்று		
நற்றிணை	- பாடல் எண்:284 - தலைவன் கூற்று		
அகநானூறு	- பாடல் எண்:145 - செவிலி கூற்று		
புறநானூறு	- பாடல் எண்:102 - ஔவையார்		
பரிபாடல்	- பாடல் எண்:3 - திருமால் வாழ்த்து (1-11வரிகள்)		

UNIT-IV	**பத்துப்பாட்டு**	**Periods: 09**	
பொருநராற்றுப்படை	- வாரியும் வடித்தும்...முதல் பெருந்தகு பாடினி வரை (25-47)		**CO4**
சிறுபாணாற்றுப்படை	- பைந்தனை அவரை...முதல் வென்றிவேலூர் எய்தின் வரை (164-173)		
பெரும்பாணாற்றுப்படை	-பார்வையாத்த...முதல் பதம் மிகப் பருகுவீர் வரை (95-105)		
குறிஞ்சிப்பாட்டு	- அண்ணல் நெடுங்கோடு...முதல் சிவந்தகண்ணோம் வரை(54-61)		
மதுரைக்காஞ்சி	- மைபடுபெருந்தோள்...முதல் பெரும்பெயர் மதுரை வரை (687-699)		
நெடுநல்வாடை	- குளிர்காலக்காட்சி- கல்லென் துவலைத்...முதல் பண்ணுமுறை நிறுப்ப வரை (64-70)		

UNIT-V	**மொழிப்பயிற்சி, இலக்கியவரலாறு**	**Periods: 09**	
1.முதல், கரு, உரிப்பொருள் அறிதல் 2.அலகிட்டு வாய்ப்பாடு 3.அணிகள் அறிதல்			**CO5**

இலக்கிய வரலாறு

காப்பியம், அறஇலக்கியம், சங்க இலக்கியம் குறித்தப் பாடப்பகுதியை ஒட்டிய இலக்கிய வரலாறு.

Lecture Periods: 45	Tutorial Periods:-	Practical Periods:-	TotalPeriods:45

Text Books

1. **சிவகுமார்,எஸ்., -கொங்குதேர்வாழ்க்கை,** பாடல் தொகுப்பு நூல் - தொகுதி -1, யுனைடெட் ரைட்டர்ஸ்,சென்னை -86. முதற்பதிப்பு.2003.
2. **சாமிநாதையர் டாக்டர் உ.வே. குறுந்தொகை மூலமும் உரையும்,** டாக்டர் உ.வே.சாமிநாதையர் நூல் நிலையம், வெளியீட்டெண்: 277,பெசன்ட் நகர், சென்னை– 600 090.எட்டாம் பதிப்பு– 2020.
3. **வேங்கடராமன், வித்துவான்.ஹெச். (பதி.) - நற்றிணை மூலமும் உரையும்,**டாக்டர்உ.வே.சாமிநாதையர் நூல் நிலையம், வெளியீட்டெண்: 277,பெசன்ட் நகர்,சென்னை– 600 090. எட்டாம் பதிப்பு– 2020.
4. **திருவள்ளுவர்- சேயோன் டாக்டர் - திருக்குறள்,**மயிலைத் திருவள்ளுவர்தமிழ்ச் சங்கம்,184,பிராட்வே,சென்னை 600 108
5. **வேங்கடசாமிநாட்டார்,ந.மு., - கார்நாற்பது,களவழிநாற்பது–**சாரதாபதிப்பகம்,சாந்திஅடுக்ககம், ஸ்ரீகிருஷ்ணபுரம் தெரு, இராயப்பேட்டை,சென்னை -14. முதற்பதிப்பு: 2005.

Reference Books

1. **சிற்பிபாலசுப்பிரமணியம் மற்றும் நீலபத்மநாபன் (ப.ஆசி.) –புதியதமிழ் இலக்கியவரலாறு, தொகுதி-1,2,3,** சாகித்திய அகாதெமி, புதுடெல்லி, 2013.
2. **பாக்கியமேரி, வகைமை நோக்கில் தமிழ் இலக்கிய வரலாறு (செம்மை மற்றும் விரிவுப் பதிப்பு),** பாரிநிலையம். சென்னை,
3. **ஆனந்தன். சு. முனைவர்., - தமிழ் இலக்கியவரலாறு,**கண்மணிபதீப்பகம், திருச்சி-2. இருபத்தி மூன்றாம் பதிப்பு– 2015.
4. **பரந்தாமனார்,அ.கி.,நல்லதமிழ் எழுதவேண்டுமா,**பாரிநிலையம்,சென்னை, 1998.
5. **சம்பத், இரா., (பதி) -தொல்காப்பியக் கவிதையியல் வடிவம்-பாடுபொருள்-உத்தி-வகைமை,**புதுச்சேரிமொழியியல் பண்பாட்டுஆராய்ச்சிநிறுவனம், புதுச்சேரி-605 001. முதற்பதிப்பு–அக்டோபர் 2015.

Web References

1. http://www.tamilvu.org
2. http://www.tamilweb.com
3. http://www.tamilkodal.com
4. www.store.tamillexican.com
5. www.kala.tamilforu.blogspot.com
6. www.noolagam.com

* TE – Theory Exam, LE – Lab Exam

COs/POs/PSOs Mapping

Cos	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO 3
1	3	3	3	3	3	3	3	3
2	3	3	3	3	3	3	3	3
3	3	2	3	3	2	3	3	3
4	2	3	2	3	2	2	3	2
5	3	2	3	2	3	3	3	3

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Assignment*	Attendance		
Marks	10		5	5	5	75	100

* Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

Department	**French**	Programme: **BCA**						
Semester	**SECOND**	Course Category Code: **MIL**			*End Semester Exam Type: **TE**			
Course Code	**A23FRT202C**	Periods/Week			Credit	MaximumMarks		
		L	T	P	C	CAM	ESE	TM
Course Name	**FRENCH II**	**3**	**0**	**0**	**3**	**25**	**75**	**100**
(Common to **B.A, B.Sc., BBA., B.COM., BCA., B.COM CS.,)**								

Prerequisite	French-I		
Course Objectives	• To introduce the basics of French language to the students		
	• To enable the students to read, understand and write simple sentences		
	• To help them to learn the fundamentals of French grammar		
	• To make the students to formulate correct phrases		
	• To introduce them French and Francophone countries and their cultures		
Course Outcome	**On completion of the course, the students will be able to**		BT Mapping (Highest Level)
	CO1	Have a general understanding of the language	**K3**
	CO2	Analyze and interpret simple phrases written in French	**K3**
	CO3	Have the basics of French grammar	**K2**
	CO4	Communicate and ask basic questions in French language	**K3**
	CO5	Appreciate the diversity and multiplicity of French and Francophone world	**K3**

UNIT-I	**Periods: 09**	
1. Qu'est-ce qu'on offre? 2. L'interro-négation. 3. On Solde 4. Le comparatif. Les fêtes		**CO1**
UNIT-II	**Periods: 09**	
1. Découvrir Paris en bus avec l'open tour. 2. Les verbes pronominaux 3. Si vous gagnez, vous ferez quoi? 4. Le futur simple Les superlatifs.		**CO2**
UNIT-III	**Periods: 09**	
1. Parasol ou parapluie 2. Le climat en France. 3. Quand il est midi à Paris? 4. L'emploi du temps:métro, boulot, restau. Parler du temps qu'il fait.		**CO3**
UNIT-IV	**Periods: 09**	
1. Vous allez vivre à Paris? 2. Les régions de France 3. L'avenir du français. 4. La place des adjectifs. Souvenirs d'enfance.		**CO4**
UNIT-V	**Periods: 09**	
1. J'ai fait mes études à Lyon. 2. Retour des Antilles 3. Raconter ses vacances. 4. Au voleur! Au voleur! Les journaux en France.		**CO5**

Lecture Periods: 45	**Tutorial Periods:-**	**Practical Periods:-**	**TotalPeriods:45**

Text Books

1. Sylvie Poisson Quinton and Michèle Maheo, ***Festival 1 Méthode de Français***, CLE editions, 2009 (Leçon-13 to Leçon-24) (p.74-131)

Reference Books

1. Régine Mérieux and Yves Loiseau, *Latitudes 1*, Didier editions, 2017
2. Annie Berthet and Emmanuelle Daili, *Alter Ego + A1*, Hachette editions, 2012
Bruno Giradeau, *Réussir le Delf A1*, Didier editions, 2019

Web References

1. https://www.tv5monde.com
2. https://www.rfi.fr
3. https://www.lemonde.fr
4. https://www.frenchpodcasts.com
5. https://www.coursera.org

* TE – Theory Exam, LE – Lab Exam

COs/POs/PSOs Mapping

COs	Program Outcomes (PO)					Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
1	3	3	3	3	3	1	2	3
2	3	3	3	3	3	1	2	3
3	3	3	3	3	3	1	2	3
4	2	3	3	3	3	1	2	3
5	1	2	1	1	1	1	2	3

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Assignment*	Attendance		
Marks	10		5	5	5	75	100

***** Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

Department	**ENGLISH**	Programme: **BCA**						
Semester	**Second**	Course Category Code: **ENG**			End Semester Exam Type: **TE**			
Course Code	**A23GET201C**	Periods / Week			Credit	Maximum Marks		
		L	T	P	C	CAM	ESE	TM
Course Name	**GENERAL ENGLISH - II**	**3**	**0**	**0**	**3**	**25**	**75**	**100**
(Common to B.A.., B.SC., AND BCA Branches)								

Prerequisite	Basic part-two language and knowledge gained from Grammar and Composition	
Course Objectives	To train students to identify poetic forms and issues related to contexts	
	To enable the student in the skill of reading for ideas	
	To enable the students to enjoy the literature through the work of great writer	
	To introduce drama as a social product and a literary form	
	To hone composition skills in students	
Course Outcomes	***On completion of the course, the students will be able to***	BT Mapping (Highest Level)
	CO1 comprehend and discuss the various facets of selected poems	**K3**
	CO2 evaluate and Criticize the prose texts.	**K3**
	CO3 illustrate various reflections and instances in short stories with personal experiences	**K3**
	CO4 develop critical appreciation based on the understanding of the prescribed texts	**K3**
	CO5 enhance the writing skills for specific purposes	**K3**

UNIT-I	**POETRY**	**Periods: 09**
1. Nissim Ezekiel - *Minority Poem* 2. Sarojini Naidu – *Indian Weaver* 3. Walt Whitman – *O Captain My Captain* 4. William Blake – *Tyger* 5. Rabindranath Tagore – *Paper Boat*		**CO1**
UNIT-II	**PROSE**	**Periods: 09**
1. Jawaharlal Nehru – *A Tryst With Destiny* 2. Martin Luther King – *I have a dream* 3. Swami Vivekananda – *Speech at world Parliament of Religion Chicago*		**CO2**
UNIT-III	**SHORT STORIES**	**Periods: 09**
1. Arthur Canon Doyle – *A Scandal in Bohemia* 2. Stephen Crane – *The Open Boat*		**CO3**
UNIT-IV	**DRAMA**	**Periods: 09**
1. Cedric Mount Short – *The Never Never Nest* 2. Fritz Karinthy – *Refund*		**CO4**
UNIT-V	**GRAMMAR AND COMPOSITION**	**Periods: 09**
1. Cause and Effect Analysis 2. Note Making 3. Picture Comprehension 4. Sentence Pattern 5. Sentence Punctuation		**CO5**

Lecture Periods: 45	**Tutorial Periods: 0**	**Practical Periods: -**	**Total Periods: 45**

Text Books

1. Pegasus, *Scandal in Bohemia & Other Stories*, B Jain Publisher, 2016.
2. Stephen Crane, *The Open Boat and Other Stories*, Createspace Independent Publisher, 2017.
3. Wren & Martin, *Primary School English Grammar and Composition*, Generics Publication, 2023.

Reference Books

1. Anjli Sehrawat, *Mother's Day : Bhagat Phoolsingh Women's University,* Notion Press Publication, 2022.
2. Martin Luther, Heming Daoudi, *Martin Luther King's I have a dream speech*, Kindle Edition, 2020.
3. Stephen Crane, *The Open Boat Stephen Crane*, Createspace Independent Publication, 2013.
4. Rabindranath Tagore, William Radice, *Selected Poems: Rabindranath Tagore*, Penguin Publication, 2000.
5. Swami Tapasyananda, *Swami Vivekananda his life and Legacy*, Ramakrishna Math Publication, 2008.

Web References

1. https://allpoetry.com/Minority-Poem
2. http://www.sourcecodeonline.com/list?q=the_never_never_nest_author_cedric_mount
3. https://www.cam.ac.uk/files/a-tryst-with-destiny/index.html
4. https://poets.org/poem/tyger
5. https://www.poetryfoundation.org/poems/45474/o-captain-my-captain

COs/POs/PSOs Mapping

COs	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO 1	PO 2	PO 3	PO 4	PO 5	PSO 1	PSO 2	PSO 3
1	3	2	3	2	3	3	3	3
2	2	3	3	3	2	2	2	2
3	3	2	2	3	1	3	2	3
4	2	3	3	2	1	2	3	2
5	3	3	3	3	3	2	2	3

Correlation Level

High	Moderate	Low
3	2	1

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Assignment*	Attendance		
Marks	10		5	5	5	75	100

***** Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

Department	**Computational Studies**	Programme: **BCA**						
Semester	**SECOND**	Course Category Code: **DSC**			*End Semester Exam Type: **LE**			
Course Code	**A23CPT203C**	Periods / Week			Credit	Maximum Marks		
		L	T	P	C	CAM	ESE	TM
Course Name	**FUNDAMENTALS OF INFORMATION TECHNOLOGY**	**4**	**0**	**0**	**4**	**25**	**75**	**100**
(Common to B.Sc (CS) & BCA)								
Prerequisite	Basic knowledge about information Technology							

Course Objectives

- To provide an in-depth understanding of Information Technology Concepts.
- To explain purpose and types of Data Resource Management.
- To be familiar with Telecommunications and Computer Networks.
- To understand the Electronic Commerce Systems.
- To understand the E-governance.

Course Outcome	*After the completion of this course, the students will be able to:*		BT Mapping (Highest Level)
	CO1	Demonstrate their conceptual understanding and component of Modern Computer Systems.	**K2**
	CO2	Appreciate the purpose and types of Data Resource Management.	**K3**
	CO3	Develop skills and ability to work with Telecommunications and Computer Networks	**K3**
	CO4	Demonstrate their ability in concepts related to Electronic Commerce Systems.	**K4**
	CO5	Understand the importance of E-governance	**K4**

UNIT-I	**MODERN COMPUTER SYSTEMS**	**Periods: 12**
Computer Peripherals, Input, Output and Storage technologies: Voice Recognition and Response Optical Scanning - Video Output - Word Processing - Desktop Publishing - System Software - Operating Systems - Programming Language.		**CO1**
UNIT-II	**DATA RESOURCE MANAGEMENT**	**Periods: 12**
Introduction to DBMS, Types of DBMS, Application of DBMS, Concept of Data Warehouses and Data Marts, Introduction to Data Centers. Storage Technologies.		**CO2**
UNIT-III	**TELECOMMUNICATIONS AND COMPUTER NETWORKS**	**Periods: 12**
Types of networks, Advantages of Network Environment, Business Uses of Internet, Intranet and Extranet, Web 2.0/3.0/4.0/5.0, Distributed/Cloud/Grid Computing, GSM & CDMA, GPRS, 3G, 4G &5G technologies, VOIP and IPTV.		**CO3**
UNIT-IV	**ELECTRONIC COMMERCE SYSTEMS**	**Periods: 12**
Introduction to e-Commerce and M-Commerce, Advantages and Disadvantages. Concept of B2B, B2C, C2C. Concept of Internet Banking and Online Shopping, Electronic Payment Systems.		**CO4**
UNIT-V	**E-GOVERNANCE**	**Periods: 12**
Concept of e-governance, Technologies for e-governance, e- governance as an effective tool to manage the country's citizens and resources, Advantages and Disadvantage of E-governance, E-governance perspective in India.		**CO5**

Lecture Periods: 60	**Tutorial Periods: -**	**Practical Periods: -**	**Total Periods: 60**

Text Books

1. Norton P (2010), Introduction to Computers, Tata McGraw-Hill
2. Potter T (2010), Introduction to Computers, John Wiley & Sons (Asia) Pvt Ltd
3. Morley D & Parker CS (2009), Understanding Computers – Today and Tomorrow, Thompson Press.

Reference Books

1. Jawadekar, WS (2009); Management Information System; Tata McGraw Hill
2. Mclead R & Schell G (2009), Management Information Systems; Pearson Prentice Hall
3. O'Brein, JA (2009); Introduction to Information Systems; Tata McGraw Hill

Web References

1. https://crk.umn.edu/academics/math-science-and-technology-department/information-technology-management/online
2. https://www.igi-global.com/journal/information-technology-management/1074
3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5787626/

* TE – Theory Exam, LE – Lab Exam

COs/POs/PSOs Mapping

COs	Program Outcomes (POs)						Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PO6	PSO1	PSO2	PSO3
1	3	2	3	3	2	2	2	2	3
2	3	2	2	3	3	3	2	2	2
3	2	2	2	2	3	3	3	2	2
4	3	3	2	2	2	2	2	2	3
5	2	3	2	2	3	3	3	3	3

Correlation Level: 1 - Low, 2 - Medium, 3 – High

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Assignment*	Attendance		
Marks	10		5	5	5	75	100

***** Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

Department	**Computational Studies**	Programme: **BCA**						
Semester	**SECOND**	Course Category Code: **SEC**				*End Semester Exam Type: **TE**		
Course Code	**A23CPT204C**	Periods / Week			Credit	Maximum Marks		
		L	T	P	C	CAM	ESE	TM
Course Name	**DATA STRUCTURES AND ALGORITHMS**	**4**	**0**	**0**	**4**	**100**	**-**	**100**
Prerequisite	**Basic knowledge in data structure**							

Course Outcome		*After completion of the course, the students will be able to*	BT Mapping (Highest Level)
	CO1	Analyze algorithms based on time and space complexity.	**K2**
	CO2	Implement and Apply linear data structures to solve simple problems.	**K2**
	CO3	Represent and Apply Non-linear data structures to solve complex problems.	**K3**
	CO4	Use Graphs and Trees to solve various problems.	**K3**
	CO5	Use Divide and Conquer Method and Greedy techniques to solve real time problems.	**K4**

UNIT-I	**DATA STRUCTURE AND ALGORITHM**	**Periods: 12**	
Types of data structures – Abstract Data Type (ADT) – Analysis of algorithm – Time and space complexity – Recurrence relation – Asymptotic Notation. Sorting – Searching			**CO1**
UNIT-II	**LIST AND ADT**	**Periods: 12**	
Static and dynamic Representation – Types – Single Linked List - Doubly Linked List – Circular Linked List – Operations and Applications.			**CO2**
UNIT-III	**STACKADT**	**Periods: 12**	
Static and Dynamic Representation – Operations – Applications- Balancing Parenthesis – Evaluation of Arithmetic Expression- Infix to Postfix conversion. Queue ADT: Static and dynamic Representation – Linear queue – circular queue.			**CO3**
UNIT-IV	**TREE ADT**	**Periods: 12**	
Representation – Types – Binary Tree – Threaded Binary Tree -Binary Search Tree – Operation and Application. Graph: Representation – Types – Graph Traversal – Depth First Search – Breadth First Search – Application – Minimum cost spanning tree – Topological Sorting.			**CO4**
UNIT-V	**ALGORITHM DESIGN TECHNIQUES**	**Periods: 12**	
Divide and Conquer – General method – Finding Minimum Maximum – Greedy Method: General Method– knapsack problem – Single source shortest path – Dijkstra's: Job sequencing.			**CO5**

Lecture Periods: 60	**Tutorial Periods: -**	**Practical Periods: -**	**Total Periods: 60**

Text Books

1. Mark Allen Weiss, "Data Structures and Algorithm Analysis in C++", 4th Edition, Pearson Education, 2013.
2. E. Horowitz, S. Sahni and S. Rajasekaran, "Computer Algorithms/C++", 2rd Edition, The Orient Blackswan, 2019.
3. A Puntambekar, "Data Structures", Third Revised Edition, Technical Publications Pune, 200

Reference Books

1. ReemaThareja, "Data Structures Using C",1st Edition, Oxford University Press, 2017.
2. Gilles Brassard, "Fundamentals of Algorithms", Pearson Education, 2015.
3. Alfred V. Aho, John E. Hopcroft, Jeffrey D. Ullman, "Data Structures and Algorithms", Pearson Education, Reprint, 2006.
4. Ellis Horowitz, Sartaj Sahni, Susan Anderson-Freed, "Fundamentals of Data Structures in C", 2rd Edition, University Press, 2008

Department	**MATHEMATICS**	Programme: **BCA**						
Semester	**Second**	Course Category Code: I**DC**			*End Semester Exam Type: **TE**			
Course Code	**A23MAD205C**	Periods / Week			Credit	Maximum Marks		
		L	T	P	C	CAM	ESE	TM
Course Name	**DISCRETE MATHEMATICS**	**3**	**1**	**0**	**4**	**25**	**75**	**100**
(Common to B.Sc. (CS) and BCA Branches)								

Prerequisite	Basic Mathematics Knowledge.	
Course Objectives	To understand the concepts of Logical operations and Prepositions.	
	To familiarize the concept of set theory and their relations.	
	To understand the basic concepts of functions.	
	To familiarize the applications of algebraic structures.	
	To understand the concepts and significance of Graph theory.	
Course Outcome	**On completion of the course, the students will be able to**	BT Mapping (Highest Level)
	CO1 Acquire the knowledge about the concepts needed to test the logic of a program.	**K2**
	CO2 Understand to identifying the sets and relations.	**K3**
	CO3 Understand to identifying the functions and algorithm.	**K3**
	CO4 Apply the concept of algebraic and groups.	**K3**
	CO5 Understand the basic concepts of graph theory and paths.	**K3**

UNIT-I	**PROPOSITIONAL CALCULUS**	**Periods: 12**	
Propositional calculus: Propositions and compound propositions, connectives, Logical operations - Propositions and Truth tables, Tautologies and contradictions, Logical equivalence - Algebra of proposition - conditional and Bi-conditional statements.			**CO1**
UNIT-II	**SET THEORY**	**Periods: 12**	
Set Theory: Sets Basic concepts, notation, inclusion and equality of sets - Power set, set operations – Relations - composition of relations, Equivalence relations, partial order relation.			**CO2**
UNIT-III	**FUNCTIONS**	**Periods: 12**	
Functions: one-to-one, onto and invertible functions – Composition of function - Mathematical functions, Exponential and Logarithmic functions.			**CO3**
UNIT-IV	**ALGEBRAIC STRUCTURES**	**Periods: 12**	
Semi groups - monoids - Groups – Subgroups – Normal Subgroup - cosets – Lagrange's theorem – Cyclic Group – Group Homomorphism's.			**CO4**
UNIT-V	**GRAPH THEORY**	**Periods: 12**	
Graphs and graph models – Graph terminology and special types of graphs – Matrix representation of graphs and graph isomorphism – Connectivity – Euler and Hamilton paths			**CO5**

Lecture Periods: 45	**Tutorial Periods: 15**	**Practical Periods: -**	**Total Periods: 60**

Text Books

1. Venkatraman M K, Sridharan N and Chandrasekaran N, Discrete Mathematics, The National Publishing Company, 2000.
2. Rosen, K.H., "Discrete Mathematics and its Applications", 7 Edition, Tata McGraw Hill Pub. Co. Ltd., New Delhi, Special Indian Edition,2011.
3. Tremblay, J.P. and Manohar. R, "Discrete Mathematical Structures with Applications to Computer Science", Tata McGraw Hill Pub. Co. Ltd, New Delhi, 30th Reprint, 2011.
4. Kenneth H. Rosen, "Discrete Mathematics and its Applications", 5th Edition, Tata McGraw - Hill Publishing Company, Pvt. Ltd., New Delhi, 2003.

Reference Books

1. Grimaldi.R .P."Discrete and Combinatorial Mathematics: An Applied Introduction",4th Edition, Pearson Education Asia, Delhi, 2007.
2. Lipschutz. S and Mark Lipson, "Discrete Mathematics", Schaum'sOutlines, Tata McGraw Hill Pub.Co. Ltd., New Delhi, 3rd Edition, 2010.
3. Koshy. T, "Discrete Mathematics with Applications "Elsevier Publications, 2006.
4. C.L. Liu, "Elements of Discrete Mathematics", 3rd Edition, Tata McGraw - Hill Education Pvt. Ltd., 2008.
5. Kenneth H. Rosen," Discrete Mathematics and Its Applications, Published September 9th 2002 by McGraw-Hill Science/Engineering/Math (first published April 1st 2000).

Web References

1. https://nptel.ac.in/courses/111/107/111107058/
2. https://nptel.ac.in/courses/111/104/111104026/
3. https://nptel.ac.in/courses/106/106/106106183/
4. http://www.math-cs.gordon.edu/courses/mat230/notes/graphs.pdf
5. https://www.cs.utexas.edu/~isil/cs311h/lecture-graph1b-6up.pdf

* TE – Theory Exam, LE – Lab Exam

COs/POs/PSOs Mapping

Cos	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
1	2	2	3	3	3	2	3	1
2	3	2	3	3	1	3	3	2
3	2	2	3	3	2	2	3	1
4	2	3	2	3	3	3	2	2
5	3	3	3	2	1	3	3	1

Correlation Level: 1 - Low, 2 - Medium, 3 – High

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Assignment*	Attendance		
Marks	10		5	5	5	75	100

* Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

Department	**Computational Studies**	Programme: **BCA**						
Semester	**SECOND**	Course Category Code: **DSC**			*End Semester Exam Type: **LE**			
Course Code	**A23CPL203C**	Periods / Week			Credit	Maximum Marks		
		L	T	P	C	IM	ESE	TM
Course Name	**Fundamentals of IT Lab**	**0**	**0**	**4**	**2**	**50**	**50**	**100**

(common to B.Sc (CS) & BCA)

Prerequisite	Basic Knowledge in C programming
Course Objectives	• To provide an in-depth understanding of Information Technology Concepts. • To explain purpose and types of Data Resource Management. • To be familiar with Telecommunications and Computer Networks. • To understand the Electronic Commerce Systems. • To understand the E-governance.

Course Outcome	*After completion of the course, the students will be able to*	BT Mapping (Highest Level)
	CO1 Demonstrate their conceptual understanding and component of Modern Computer Systems.	**K3**
	CO2 Appreciate the purpose and types of Data Resource Management.	**K3**
	CO3 Develop skills and ability to work with Telecommunications and Computer Networks	**K3**
	CO4 Demonstrate their ability in concepts related to Electronic Commerce Systems.	**K4**
	CO5 Understand the importance of E-governance	**K4**

List of Experiment

1. Create a News-Paper Document with at least 300 words
   - Use Margins as top:1.5, Bottom:2, Left:2, Right:1 Inches.
   - Use heading “Republic day”, Font Size: 16, Font Color: Red, Font Face: Times new roman
   - Use three columns from the second paragraph onwards till the half of the page.
2. Create a Marklist for the student.
   - Enter the following details in a workbook: Roll No, Name, Marks of 4 subjects
   - Calculate Total Mark,Average and Result(50% mark is needed to pass)
   - Also Find Grade and Rank. (Grade A+: >=90%, A: >=80%, B+: >=70%, B: >=60%, C+:>=55%, C: >=50%, F: <50%)
3. Create a power-point presentation with minimum 5 slides.
   - The first slide must contain the topic of the presentation and name of the presentation.
   - Must contain at least one table.
   - Must contain at least 5 bullets, 5 numbers.
   - The body must be, font size: 24, font-face: Comic Sans MS, font-color: green.
   - Last slide must contain „thank you“.
4. Mail merge the Data Excel Data to Word format.
5. Installation of Operating Systems-Windows.
6. Installing and uninstalling of device drivers using control panel.
7. Procedure of disk partition and its operation (Shrinking, Extending, Delete, Format).
8. Installation of application software’s – Office Automation.
9. Installation of modem and network cards in Windows
10. Configure Internet connection, Email Account creation, reading, writing and sending emails with attachment.
11. Assembly and disassembly of printer, installing a printer, taking test page, and using printer under Windows.
12. User Account creation and its feature on Windows Operating System and Changing resolution, color, appearances, and Changing System Date and Time.

Lecture Periods: -	Tutorial Periods: -	Practical Periods: 30	Total Periods: 30

Text Books

1. Norton P (2010), Introduction to Computers, Tata McGraw-Hill
2. Potter T (2010), Introduction to Computers, John Wiley & Sons (Asia) Pvt Ltd
3. Morley D & Parker CS (2009), Understanding Computers – Today and Tomorrow, Thompson Press.

Reference Books

1. Jawadekar, WS (2009); Management Information System; Tata McGraw Hill
2. Mclead R & Schell G (2009), Management Information Systems; Pearson Prentice Hall
3. O'Brein, JA (2009); Introduction to Information Systems; Tata McGraw Hill

Web References

1. https://crk.umn.edu/academics/math-science-and-technology-department/information-technology-management/online
2. https://www.igi-global.com/journal/information-technology-management/1074
3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5787626/

*LE – Lab Exam

COs/POs/PSOs Mapping

COs	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
1	3	2	3	3	2	2	2	2
2	2	2	2	3	2	3	2	2
3	2	2	2	2	2	3	3	2
4	3	3	2	2	2	2	2	2
5	3	2	2	2	3	3	3	3

Correlation Level: 1 - Low, 2 - Medium, 3 – High

Evaluation Method

Assessment	Internal Marks			End Semester Examination (ESE) Marks	Total Marks
	Model Exam	Record	Attendance	50	100
Marks	30	10	10		

***** Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

Department	**Computational Studies**	Programme: **BCA**						
Semester	**SECOND**	Course Category Code: **SEC**			*End Semester Exam Type: **TE**			
Course Code	**A23CPL204C**	Periods / Week			Credit	Maximum Marks		
		L	T	P	C	CAM	ESE	TM
Course Name	**DATA STRUCTURES LAB**	**0**	**0**	**4**	**2**	**100**	**-**	**100**
Prerequisite	**Basic knowledge in data structure**							

Course Outcome	*After completion of the course, the students will be able to*	BT Mapping (Highest Level)
	CO1 Analyze the algorithm's / program's efficiency in terms of time and space complexity.	**K2**
	CO2 Solve the given problem by identifying the appropriate Data Structure.	**K2**
	CO3 Solve problems in linear and non-linear Data Structures.	**K3**
	CO4 Develop programs using various searching methods.	**K3**
	CO5 Sole the problems using Linked List.	**K4**

1. Write a C program to implement recursive and non-recursive i) Linear search ii) Binary Search.
2. Write a C program to implement i) Bubble sort ii) Selection sort iii) Insertion sort iv) Shell sort v) Heap sort.
3. Write a C program to implement the following using an array. a) Stack ADT b) Queue ADT
4. Write a C program to implement list ADT to perform following operations.
    a) Insert an element into a list.
    b) Delete an element from list
    c) Search for a key element in list
    d) Count number of nodes in list.
5. Write a C program to implement the following using a singly linked list. a) Stack ADT b) Queue ADT.
6. Write a C program to implement the dequeue (double ended queue) ADT using a doubly linked list and anarray.
7. Write a C program to perform the following operations:
    a) Insert an element into a binary search tree.
    b) Delete an element from a binary search tree.
    c) Search for a key element in a binary search tree.
8. Write a C program that use recursive functions to traverse the given binary tree in
    a) Preorder
    b) Inorder and
    c) Postorder.
9. Write a C program to perform the AVL tree operations.
10. Write a C program to implement Graph Traversal Techniques

Lecture Periods: 30	**Tutorial Periods: -**	**Practical Periods: -**	**Total Periods: 30**

Reference Books

1. Ellis Horowitz, SartajSahni, "Fundamentals of Data Structures", Illustrated Edition, Computer Science Press, 2018
2. Rohit Khurana, "Data structures using C", 1st Edition, Vikas Publishing, 2014.
3. S.K.Srivastava, Deepali Srivastava, "Data Structures through C in Depth" BPB Publications in the year 2011

Web References

1. https://www.tutorialspoint.com/data_structures_algorithms/
2. https://www.w3schools.in/data-structures-tutorial/intro/
3. https://nptel.ac.in/courses/106103069/
4. https://swayam.gov.in/nd1_noc20_cs70/preview

Department	**ENGLISH**	Programme: **BCA**						
Semester	**Second**	Course Category Code: **SEC**			End Semester Exam Type:-			
Course Code	**A23ENSA01C**	Periods / Week			Credit	Maximum Marks		
		L	T	P	C	CAM	ESE	TM
Course Name	**COMMUNICATION SKILLS**	**0**	**0**	**4**	**2**	**100**	**0**	**100**

Prerequisite	Knowledge gained from Communication and New paper reading	
Course Objectives	To improve the skill of rapid reading and communicate efficiently	
	To decode and impart speaking skills with confidence	
	To train students in analyzing articles and Newspaper	
	To enhance the sense of social responsibility and accountability of the students	
	To expound the significance in Managerial skills	

Course Outcomes	***On completion of the course, the students will be able to***	BT Mapping (Highest Level)
	CO1 understand the pattern to communicate effectively	**K3**
	CO2 impart Speaking skills with self-confidence	**K3**
	CO3 enhance their strategies in analyzing articles and Newspaper	**K3**
	CO4 the sense of social responsibility and accountability of the students	**K3**
	CO5 expertise in Managerial skills	**K3**

UNIT-I	**COMMUNICATION SKILLS - SPEAKING**	**Periods: 06**
1. Aspects of speaking 2. Process of effective Speech 3. Techniques for effectual Presentation		**CO1**
UNIT-II	**SELF-MANAGEMENT SKILLS**	**Periods: 06**
1. Time Management 2. Stress Management 3. Emotional Management		**CO2**
UNIT-III	**COMMUNICATION SKILLS - READING**	**Periods: 06**
1. Article analysis 2. Comprehension 3. Skimming and Scanning		**CO3**
UNIT-IV	**SOCIAL SKILLS**	**Periods: 06**
1. Leadership 2. Teamwork 3. Decision making		**CO4**
UNIT-V	**PUBLIC SPEAKING AND PRESENTATION**	**Periods: 06**
1. Rules and Techniques for Public Speaking 2. Practice session (both, Public Speaking and Presentation)		**CO5**

Lecture Periods: -	**Tutorial Periods: -**	**Practical Periods: 30**	**Total Periods: 30**

Text Books

1. **Barun K. Mitra, *Personality Development and Soft skills*, Oxford University Press, 2nd Edition, 2016.**
2. Syamala, V, *Effective English Communication for you*, Chennai: Emerald Publisher, 1st Edition, 2002.
3. Sanjay Kumar &PusphLata. *Communication Skills*, Oxford University Press, 2nd Edition, 2015.

Reference Books

1. *Murphy, John J, Pulling Together: 10 Rules for High-Performance Teamwork, Simple Truth Publication, 1st Edition, 2010.*
2. Balasubramanian, T, *A Textbook of English Phonetics for Indian Students*, Trinity Press, 1st Ed, 1981.
3. Sardana,C.K, *The Challenge of Public Relations*, New Delhi: Harnand Publication,1st Edition, 1995.
4. Sabina Pillai, Agna Fernandez, *Soft Skills and Employability Skills*, Cambridge University Press, 2017.
5. Jeff Butterfield, *Soft Skills for Everyone*, Cengage India Private Limited, 2nd Edition, 2020.

Web References

1. https://blog.dce.harvard.edu/professional-development/10-tips-improving-your-public-speaking-skills
2. https://corporatefinanceinstitute.com/resources/careers/soft-skills/management-skills/
3. https://zety.com/blog/how-to-introduce-yourself
4. https://www.butte.edu/departments/cas/tipsheets/readingstrategies/skimming_scanning.html
5. https://www.mayoclinic.org/tests-procedures/stress-management/about/pac-20384898

COs/POs/PSOs Mapping

COs	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO 1	PO 2	PO 3	PO 4	PO 5	PSO 1	PSO 2	PSO 3
1	3	3	3	2	3	1	3	3
2	3	3	3	2	3	1	3	2
3	3	3	3	2	2	1	3	2
4	3	3	3	3	3	1	3	2
5	3	3	2	2	2	1	2	2

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Assignment*	Attendance		
Marks	80		-	10	10	-	100

***** Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

Department	**Computational Studies**	Programme: **BCA**						
Semester	**SECOND**	Course Category Code: **AEC**			End Semester Exam Type:**TE**			
Course Code	**A23AETA02C**	Periods/Week			Credit	MaximumMarks		
		L	T	P	C	CAM	ESE	TM
Course Name	**ENVIRONMENTAL STUDIES**	**2**	**0**	**0**	**1**	**100**	**0**	**100**

(Common to B.A.., B.SC.,B.Com ., B.B.A and BCA Programmes)

Prerequisite	Basic Knowledge and awareness on Environmental Studies
Course Objectives	To gain knowledge on the importance of natural resources and energy.
	To know the structure and function of an ecosystem.
	To imbibe an aesthetic value with respect to biodiversity, understand the threats and its conservation and appreciate the concept of interdependence.
	To know the causes of types of pollution and disaster management.
	To observe and discover the surrounding environment through field work.

Course Outcomes		***On completion of the course, the students will be able to***	BT Mapping (Highest Level)
	CO1	Understand about the various resources	**K1**
	CO2	Learn about the biodiversity	**K1**
	CO3	Learn the different types of pollution and to prevent the pollution	**K2**
	CO4	Know about the pollution Act	**K2**
	CO5	Observe various environmental issues in surroundings	**K3**

UNIT-I	**ENVIRONMENTAL SCIENCES: NATURAL RESOURCES**	**Periods:06**
Environmental Sciences - Relevance - Significance - Public awareness - Forest resources - Water resources - Mineral resources - Food resources - conflicts over resource sharing - Exploitation - Land use pattern - Environmental impact - fertilizer - Pesticide Problems - case studies		**CO1**

UNIT-II	**ECOSYSTEM, BIODIVERSITY AND ITS CONSERVATION**	**Periods:06**
Ecosystem - concept - structure and function - producers, consumers and decomposers - Food chain - Food web - Ecological pyramids - Energy flow - Forest, Grassland, desert and aquatic ecosystem. Biodiversity - Definition - genetic, species and ecosystem diversity - Values and uses of biodiversity - biodiversity at global, national (India) and local levels - Hotspots, threats to biodiversity - conservation of biodiversity –Insitu&Exsitu.		**CO2**

UNIT-III	**ENVIRONMENTAL POLLUTION AND MANAGEMENT**	**Periods:06**
Environmental Pollution - Causes - Effects and control measures of Air, Water, Marine, soil, solid waste, Thermal, Nuclear pollution and Disaster Management - Floods, Earth quake, Cyclone and Landslides. Role of individuals in prevention of pollution - pollution case studies.		**CO3**

UNIT-IV	**SOCIAL ISSUES - HUMAN POPULATION**	**Periods:06**
Urban issues - Energy - water conservation - Environmental Ethics - Global warming - Resettlement and Rehabilitation issues - Environmental legislations - Environmental production Act. 1986 - Air, Water, Wildlife and forest conservation Act - Population growth and Explosion - Human rights and Value Education - Environmental Health - HIV/AIDS - Role of IT in Environment and Human Health - Women and child welfare - Public awareness - Case studies.		**CO4**

UNIT-V	**FIELD WORK**	**Periods:06**
Visit to a local area / local polluted site / local simple ecosystem - Report submission.		**CO5**

Lecture Periods:30	**Tutorial Periods:0**	**Practical Periods:-**	**Total Periods:30**

TextBooks

1. BharuchaErach, "Textbook of Environmental Studies for Undergraduate Courses", Orient Black Swan, 2nd Edition, 2013.
2. BasuMahua, Savarimuthu Xavier, "Fundamentals of Environmental Studies", Cambridge, 2nd Edition, 2017.
3. Agarwal, K.C. "Environmental Biology", Nidi Publications, 1st Edition, 2004.

ReferenceBooks

1. Kumarasam, Alagappa Moses &Vasanthy, "Environmental Studies", Bharathidasan University Publications, 1st Edition, 2004.
2. Rajamannar, "Environmental Studies", EVR College Publications, 1st Edition, 2004.
3. Kalavathy, S, "Environmental Studies", Bishop Heber College Publications, 1st Edition, 2004.

Web References

1. https://aits-tpt.edu.in/wp-content/uploads/2018/08/Environmental-Studies-Lecture-notes.doc-I_Betech_-ECE-CSE-EEE-CEME_III-Sem_BR.pdf
2. http://eagri.org/eagri50/ENVS302/pdf/lec05.pdf
3. https://www.youtube.com/watch?v=78prsPYm98g
4. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2792934/
5. https://www.frontiersin.org/articles/505570

COs	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO 1	PO 2	PO 3	PO 4	PO 5	PSO 1	PSO 2	PSO 3
1	1	2	2	1	2	3	3	3
2	3	2	3	3	3	3	3	3
3	3	2	2	3	2	3	3	3
4	2	3	2	2	2	2	3	2
5	3	3	3	3	3	3	3	3

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Report*	Attendance		
Marks	70		-	20	10		100

***** Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

Department	**Computational Studies**	Programme: **BCA**						
Semester	**Second**	Course Category Code: **EA**			End Semester Exam Type: **LE**			
Course Code	**A23EAS201C**	Periods / Week			Credit	Maximum Marks		
		L	T	P	C	CAM	ESE	TM
Course Name	**NATIONAL SERVICE SCHEME**	**0**	**0**	**2**	**0**	**100**	**0**	**100**

Prerequisite	Understand the administrative policies of the government for the welfare of people.	
Course Objectives	To introduce about various activities carried out by national service scheme.	
	To gain life skills through community service.	
	To gain awareness about various service activities performed in higher educational institutions.	
	To give exposure about the use of technology to uplift the living standards of rural community.	
	To induce the feeling of oneness through harmony of self and society.	
Course Outcomes	***On completion of the course, the students will be able to***	BT Mapping (Highest Level)
	CO1 Recognize the importance of national service in community development.	**K2**
	CO2 Convert existing skills into socially relevant life skills.	**K3**
	CO3 Differentiate various schemes provided by the government for the social development	**K3**
	CO4 Identify the relevant technology to solve the problems of rural community.	**K3**
	CO5 Associate the importance harmony of nation with long term development	**K3**

UNIT-I	**INTRODUCTION TO NATIONAL SERVICE SCHEME**	**Periods: 06**
History and objectives, NSS symbol, Regular activities, Special camping activities, Village adaptation programme, Days of National and International Importance, Hierarchy of NSS unit in college. Social survey method and Data Analysis. NSS awards and recognition. Importance of Awareness about Environment, Health, Safety, Gender issues, Government schemes for social development and inclusion policy etc.		**CO1**

UNIT-II	**LIFE SKILLS AND SERVICE LEARNING OF VOLUNTEER**	**Periods: 06**
Communication and rapport building, problem solving, critical thinking, effective communication skills, decision making, creative thinking, interpersonal relationship skills, self- awareness building skills, empathy, coping with stress and coping with emotions. Understanding the concept and application of core skills in social work practice, Team work, Leadership, Event organizing, resource planning and management, time management, gender equality, understanding rural community and channelizing the power of youth.		**CO2**

UNIT-III	**EXTENSION ACTIVITIES FOR HIGHER EDUCATIONAL INSTITUTIONS**	**Periods: 06**
Objective and functions of Red Ribbon Club, Swatchh Bharath Abhiyan, Unnat Bharat Abhiyan, Jal Shakthi Abhiyan, Road Safety Club, Environmental club and Electoral literacy club.		**CO3**

UNIT-IV	**USE OF TECHNOLOGY IN SOLVING ISSUES OF RURAL INDIA**	**Periods: 06**
Understanding community issues, economic development through technological development. Selection of appropriate technology, Understanding issues in agriculture, fishing, artisans, domestic animals, health and environment.		**CO4**

UNIT-V	**NATIONAL INTEGRATION AND COMMUNAL HARMONY**	**Periods: 06**
The roleof Youth organizations in national integration, NGOs, Diversity of Indian Nation, Importance of National integration communal harmony for the development of nation,Indian Constitution, Building Ethical human Relationships, Universal Human Values, Harmony of self and Harmony of nation.		**CO5**

Lecture Periods: -	**Tutorial Periods: -**	**Practical Periods: 30**	**Total Periods: 30**

Text Books

4. Joseph, Siby K and Mahodaya Bharat (Ed.), (2007), Essays on Conflict Resolution, Institute of Gandhian Studies, Wardha
5. Barman Prateeti and Goswami Triveni (Ed.), (2009), Document on Peace Education, Akansha Publishing House, New Delhi
6. Sharma Anand, (2007), Gandhian Way, Academic Foundation, New Delhi Myers G.Davi (2007). Social Psychology. New Delhi: Tata Mc.Graw Hill.
7. Taylor E.Shelly et.al (2006), Social Psychology (12th Edn.), New Delhi, Pearson Prentice Hall Singh.

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6. Madhu (2003), Understanding Life Skills, background paper prepared for education for all: The leap to equality, Government of India report, New Delhi.
7. Sandhan (2005), Life Skilss Education, Training Module, Society for education and development, Jaipur. Radakrishnan Nair and SunithaRajan (2012), Life Skill Education: Evidences form the field, RGNIYD publication, Sriperumbudur
8. National Service Scheme Manual (Revised) , Government of India, Ministry of Youth Affairs and Sports, New Delhi.
9. National Service Scheme in India: A Case study of Karnataka, M. B. Dishad, Trust Publications, 2001

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6. http://www.thebetterindia.com/140/national-service-scheme-nss/
7. http://en.wikipedia.org/wiki/national-service-scheme 19=http://nss.nic.in/adminstruct
8. http://nss.nic.in/propexpan
9. http://nss.nic. in
10. http://socialworknss.org/about.html

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Report*	Attendance		
Marks	60		-	30	10		100

***** Application oriented / Problem solving / Design / Analytical in content beyond the syllabus