Sarvodaya Kelavani Samaj Managed

Shri Manibhai Virani & Smt. Navalben Virani Science College, Rajkot

(An autonomous College affiliated to Saurashtra University, Rajkot)

Reaccredited at the "A" Level (CGPA 3.28) by NAAC

"STAR" College Scheme & Status by MST-DBT

A College with Potential for Excellence – CPE (Phase - II) by UGC

Accredited at the G-AAA Highest Grade 'A-1' Level by KCG, Govt. of Gujarat

UGC-DDU KAUSHAL Kendra

GPCB-Government of Gujarat approved Environmental Audit Centre

SCHEME OF LEARNING AND EVALUATION
(In light of UGC's LOCF and NEP-2020)

of

B. Sc. BIOCHEMISTRY

(w.e.f June 2021)

Enclosure I

Shri Manibhai Virani and Smt. Navalben Virani Science College, Rajkot

(An Autonomous College affiliated to Saurashtra University, Rajkot)

Department of Biochemistry

B. Sc. BIOCHEMISTRY

VISION:

To be a prime centre in area of biochemical sciences by enhancing the quality of life through holistic education and research

MISSION:

- To encourage innovation and creativity towards better understanding of life at molecular level.
- To foster the culture of scientific understanding, curiosity and critical thinking for professional as well as academic excellence.
- To promote quality research and other scholarly activities for sustainable industrial development and healthy life style.
- To inculcate leadership, morality, spirituality, accountability, integrity and social equality among the students.

OBJECTIVES OF THE PROGRAMME:

The Curriculum is designed to attain the following learning goals which students shall accomplish by the time of their graduation:

1. Understand the basic concepts of life Science from molecular to organisms' level.
2. Apply basic principle of analytical techniques and use effectively basic and modern laboratory instruments.
3. Effectively use knowledge of Biochemistry in healthy living and better management of diseases.
4. Design, perform simple experiments in clinical biochemistry and interpret data to derive conclusion.

- **Graduate attributes**
    - **Academic excellence**: Ability to identify key questions, research and pursue rigorous evidence-based arguments
    - **Critical Thinking and Effective communications:** Analysis and evaluation of information to form a judgement about a subject or idea and ability to effectively communicate the same in a structured form.

- **Global Citizenship:** Mutual understanding with others from diverse cultures, perspectives and backgrounds
- **Life Long Learning:** Open, curious, willing to investigate, and consider new knowledge and ways of thinking

PROGRAM EDUCATIONAL OBJECTIVES (PEOs):

Our programme will produce Graduates who will attain following PEOs after few years of graduation		
PEO 1	**:**	**Core competency:** will be competent in the field of biochemistry and allied areas by providing them hands on experience in basic tools and techniques.
PEO 2	**:**	**Breadth of knowledge**: will critically analyse scientific data, draw objective conclusions and apply this knowledge for human welfare.
PEO 3	**:**	**Preparedness:** Will reflect ability for research and entrepreneurship along with strong ethics and communication skills.
PEO 4	**:**	**Professionalism:** will reveal strong professional ethics and moral duties that will positively affect their profession, community, society and Nation at large.
PEO 5	**:**	**Learning environment:** will show attitude of lifelong learning to meet the ever evolving professional demands by developing ethical, interpersonal and team skills.

PROGRAM OUTCOMES:

After completion of the programme the Graduate will be able to :		
PO 1	**:**	**Domain knowledge:** Demonstrate an understanding of fundamental biochemistry principles, including topics specific to chemistry and biochemistry.
PO 2	**:**	**Problem analysis:** Identify and critically analyse pertinent problems in the various domains of life sciences.
PO 3	**:**	**Design/development of solutions:** using appropriate tools and techniques as well as approaches to arrive at viable conclusions/solutions pertaining to life sciences.
PO 4	**:**	**Conduct investigations of complex problems:** Cultivate the skills to Employ modern library search tools to locate and retrieve scientific information about a problem relating to biochemistry.
PO 5	**:**	**Modern tool usage:** Ability to handle/use appropriate chemical and biochemical experiments using tools/techniques/equipment with an understanding of the standard operating procedures, safety aspects/limitations.
PO 6	**:**	**The Biochemist and society:** Demonstrate the ability to understand the role of scientific developments, particularly, biological sciences in a changing world from the disciplinary perspective as well as in relation to its professional and everyday use.
PO 7	**:**	**Environment and sustainability:** Analyse the impact of scientific and technological advances on the environment and society and the need for sustainable development.
PO 8	**:**	**Ethics:** Commitment to professional ethics and responsibilities.
PO 9	**:**	**Individual and team work:** Exhibit the potential to effectively accomplish tasks independently and as a member or leader in diverse teams, and in multidisciplinary settings.
PO 10	**:**	**Communication:** Communicate effectively in spoken and written form as well as

		through electronic media with the scientific community as well as with society at large. Demonstrate the ability to write dissertations, reports, make effective presentations and documentation.
PO 11	**:**	**Project management and finance:** Demonstrate knowledge and scientific understanding to identify research problems, design experiments, generation of new scientific insights or to the innovation of new applications of Biochemistry research and provide solutions. Exhibit organizational skills and the ability to manage time and resources.
PO 12	**:**	**Life-long learning:** Ability to retain and build on critical thinking skills, and use them to update scientific knowledge and apply them in day to day business.

PROGRAM SPECIFIC OUTCOMES (PSOs) for B. Sc. Biochemistry program

After completion of the program the Graduate will:		
PSO1	**:**	Communicate the fundamental concepts of biomolecules, enzymes, cell structure, organ system and metabolism.
PSO2	**:**	Undertake the experiments and derive conclusions by using classical and advanced instruments employed in the area of biochemistry, biotechnology, molecular biology and immunology.
PSO3	**:**	Understand, identify, formulate and solve the problems of endocrine disorders in the area of hormone biochemistry.
PSO4	**:**	Appreciate and apply understandings and skills of molecular diagnosis as well as analytical techniques for the development of professional and research career in environment, industry, agriculture and healthcare sector.
PSO5	**:**	Become competent and eligible to appear in various competitive exams, doing jobs in government and private sector of academia, research and industries

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Department of Biochemistry

B.Sc. BIOCHEMISTRY

SCHEME OF LEARNING AND EVALUATION

For the students admitted from A.Y. 2021-2022 & onwards

Semester I									
Course Code	**Course**	**Contact Hrs/ week**			**SEE Duration (Hours)**	**Maximum Marks**			**Credit(s)**
						CIA	**SEE**	**Total**	
Part-I		**T**	**Tu**	**P**					
21ULCEN01	Development of Functional English	3	-	-	3	40	60	100	3
	Part-I Total	**3**	**0**	**0**		**40**	**60**	**100**	**3**
Part-II									
21UBCCC101	**Core-1:** Foundations of Biochemistry (F)	4	-	-	3	30	70	100	4
21UBCCC102	**Core-2**: Molecules of life (F)	4	-	-	3	30	70	100	4
21UBCID101	**IDC-1:** BOTANY- Plant Resource Utilization	3	-	-	3	30	70	100	3
21UBCCC103	**Core Practical-1**: Basic Biochemistry Practical	-	-	6	6	40	60	100	3
21UBCID102	**IDC-1 Practical**: BOTANY- Plant Resource Utilization	-	-	6	3	40	60	100	2
	Core Enrichment 1: Concept to	-	1	-	-	(20)	Evaluation at the end of Semester - IV		

	Practice Course								
	Part-II Total	**11**	**1**	**12**	**--**	**190**	**330**	**500**	**16**
Part-III: Ability Enhancement Courses									
21AESD101	**AECC I:** Introduction to SDG (Online course)	-	-	-	-	**-**	-	Remarks	Audit course
	AECC II: Environmental Conservation and Sustainable Development	1	-	-	-	Evaluation at the end of Semester II			-
	AECC III: Human Values for Holistic Living	1	2*	-	-	Evaluation at the end of Semester II			-
	FS 3: Career Acceleration Program	2*	**-**	**-**	**-**	Cumulative Evaluation at the end of Semester V			**-**
	Part-III Total	**2**	**2***	**0**		**00**	**0**	**0**	**0**
	Total (Part-I to Part-III)	**16**	**1+2***	**12**		**230**	**390**	**600**	**19**
		29				**600**			

* Out of working Hours

( ) Final Evaluation for 100 marks be made at the end of Semester IV, which includes 20 marks CIA in Semester I, II, III each and 40 marks in Semester IV.

Semester II									
Course Code	**Course**	**Contact Hrs/ week**			**SEE Duration (Hours)**	**Maximum Marks**			**Credit(s)**
						CIA	**SEE**	**Total**	
Part-I		**T**	**Tu**	**P**					
21ULCEN02	Functional English	3	-	-	3	40	60	100	3
	Part-I Total	**3**	**0**	**0**	**3**	**40**	**60**	**100**	**3**
Part-II									
21UBCCC201	**Core-3:** Cell Biology	4	-	-	3	30	70	100	4
21UBCCC202	**Core-4:** Human Physiology I	4	-	-	3	30	70	100	4
21UBCCC203	**Core-5:** Human Physiology II & Endocrinology	4	-	-	3	30	70	100	4
21UBCID201	**IDC-2:** Zoology -	3	-	-	3	30	70	100	3

Semester II									
Course Code	**Course**	**Contact Hrs/ week**			**SEE Duration (Hours)**	**Maximum Marks**			**Credit(s)**
						CIA	**SEE**	**Total**	
	Taxonomy, Histology & Applied Zoology								
21UBCCC204	**Core Practical-2**: Cell Biology & Human Physiology Practicals	-	-	6	6	40	60	100	3
21UBCID202	**IDC Practical-2:** Zoology- Taxonomy, Histology & Applied Zoology	-	-	6	3	40	60	100	2
	Core Enrichment 1: Concept to Practice Course	-	1	-	-	(20)	Evaluation at the end of Semester – IV		
	Part-II Total	**15**	**1**	**12**	**--**	**220**	**400**	**600**	**20**
Part-III: Ability Enhancement Courses									
21AEES201	**AECC II:** Environmental Conservation and Sustainable Development	1	-	-	-	Remarks			2
21AEVE201	**AECC III:** Human Values for Holistic Living	1	2*	-	-	Remarks			3
	FS 3: Career Acceleration Program	2*	-	-	-	Cumulative Evaluation at the end of Semester V			-
	Part-III Total	**2**	**2***	**0**	**-**	**0**	**0**	**0**	**5**
	Total (Part-I to Part-III)	**20**	**1+2***	**12**	**-**	**260**	**460**	**700**	**28**
		33			**-**	**700**			

*Out of working Hours

3 hours each on Day1 and Day 2.

( ) Final Evaluation for 100 marks be made at the end of Semester IV, which includes 20 marks CIA in Semester I, II, III each and 40 marks in Semester IV.

Minimum one month internship pertaining to learning for concept to practice/prototype or product development for start-up/mini and final semester project/skilling in the summer vacation/combination of semester break and summer vacation in industry/premier research institute/NGO, etc.

Semester III									
Course Code	**Course**	**Contact Hrs/ week**			**SEE Duration (Hours)**	**Maximum Marks**			**Credit(s)**
						CIA	**SEE**	**Total**	
Part-I		**T**	**Tu**	**P**					
21ULCEN03	Advanced English Language-I	3	-	-	3	40	60	100	3
	Part-I Total	**3**	**0**	**0**	**3**	**40**	**60**	**100**	**3**
Part-II									
21UBCCC301	**Core-6:** Protein Biochemistry (Ad)	4	-	-	3	30	70	100	4
21UBCCC302	**Core-7:** Enzymology (Ad)	4	-	-	3	30	70	100	4
21UBCCC303	**Core-8:** Analytical Biochemistry (Ap)	4	-	-	3	30	70	100	4
	DSE-1: Cluster ##	3	-	-	3	30	70	100	3
21UBCCC304	**Core Practical-3**: Enzymology and Bioanalytical Practicals #	-	-	6	6	40	60	100	3
	DSE-1 Cluster Practical##:	-	-	6	3	40	60	100	2
	Core Enrichment 1: Concept to Practice:	-	1	-	-	-	-	-	-
	Core Enrichment 2: Internship 1	-	-	-	-	100	-	100	1
	Part-II Total	**15**	**1**	**12**	**--**	**300**	**400**	**700**	**21**
Part-III: Ability Enhancement Courses									
	FS 3: Placement Training	-	2	-	-				Audit course
	Part-III Total	**0**	**2**	**0**	**-**	**0**	**0**	**0**	**0**
	Total (Part-I to Part-III)	**18**	**3**	**12**	**-**	**340**	**460**	**800**	**24**
		33			**-**	**800**			

*Out of working Hours

3 hours each on Day1 and Day 2.

**Minimum one month internship pertaining to learning for concept to practice/prototype or product development for start-up/mini and final semester project/skilling in the summer vacation/combination of semester break and summer vacation in industry/ premier research institute/NGO, etc.

Discipline specific Elective-DSE-1 offered by the Department to the Cluster for all B.Sc. Program Semester – III

Course Code	Course	Contact Hrs/ week			SEE Duration (Hours)	Maximum Marks			Credit(s)
						CIA	SEE	Total	
Part II		**T**	**Tu**	**P**					
21UBCDE301	**DSE-1** Fundamentals of Biochemistry (F)	3	-	-	3	30	70	100	3
21UBCDE302	**DSE-1 Practical** Fundamentals of Biochemistry (F)	-	-	4	2	40	60	100	2

Semester IV

Course Code	Course	Contact Hrs/ week			SEE Duration (Hours)	Maximum Marks			Credit(s)
						CIA	SEE	Total	
Part I		**T**	**Tu**	**P**					
21ULCEN04	Advanced English Language-II	3	-	-	3	40	60	100	3
	Part-I Total	**3**	**0**	**0**	**3**	**40**	**60**	**100**	**3**
Part-II									
21UBCCC401	**Core-9:** Intermediary Metabolism(Adv)	4	-	-	3	30	70	100	4
21UBCCC402	**Core-10:** Molecular Biology (Adv)	4	-	-	3	30	70	100	4
21UBCDC401/ 21UBCDC402	**Core Elective 1:** Microbiology(Adv)/ Membrane Biology and Bioenergetics(Adv)	4	-	-	3	30	70	100	4
	DSE 2 Cluster: ##	3	-	0	3	30	70	100	3
21UBCTD01	**TDE 1:**	2	-	-	-	100	-	100	2
21UBCCC403	**Core Practical-4: Metabolism and Molecular Biology Practicals** #	-	-	6	6	40	60	100	3
21UBCDC403/ 21UBCDC404	**Core Elective Practical-1**	-	-	4	3	40	60	100	2

	Microbiology Practicals / Membrane Biology and Bioenergetics Practicals								
	DSE-2 Cluster Practical ##	-	-	4	2	40	60	100	2
	Core Enrichment 1: Concept to Practice Course	-	1	-	-	40	-	100	1
	Part-II Total	**17**	**1**	**14**	**-**	**380**	**460**	**900**	**25**
Part-III: Ability Enhancement Courses									
	FS 3: Career Acceleration Programme –CAP (Placement Training)	-	2	-	-				Audit course
	Part-III Total	**0**	**2**	**0**	**-**	**0**	**0**	**0**	**0**
	Total (Part-I to Part III)	**20**	**1+ 2***	**14**	**-**	**420**	**520**	**1000**	**28**
		35 + 2*			**-**	**1000**			

*Out of working Hours

Minimum one-month internship pertaining to learning for concept to practice/prototype or product development for start-up/mini and final semester project/skilling in the summer vacation/combination of semester break and summer vacation in industry/premier research institute/NGO etc.

3 hours each on Day1 and Day 2.

Discipline specific Elective-DSE-1 offered by the Department to the Cluster for all B.Sc. Program Semester – IV

Trans-Disciplinary Elective & Discipline Specific Elective offered by Department to the Cluster for SEM–4 Students

Course Code	Course	Contact Hrs/ week			SEE Duration (Hours)	Maximum Marks			Credit(s)
						CIA	SEE	Total	
Part II		**T**	**Tu**	**P**					
21UBCTD01	**TDE 1:**Lifestyle Disorders	2	-	-	-	100	-	100	2
21UBCDE401	**DSE-2** Nutritional Biochemistry	3	-	-	3	30	70	100	3
21UBCDE402	**DSE-2 Practical** Nutritional Biochemistry	-	-	4	2	40	60	100	2

Semester V									
Course Code	**Course**	**Contact Hrs/ week**			**SEE Duration (Hours)**	**Maximum Marks**			**Credit**
						CIA	**SEE**	**TOTAL**	
Part-II		**T**	**Tu**	**P**					
21UBCCC501	**Core-11:** Advanced Mol Bio (App)	4	-	-	3	30	70	100	4
21UBCCC502	**Core-12:** Genetics(App)	4	-	-	3	30	70	100	4
21UBCCC503	**Core-13:** Nutritional Biochemistry - Self study (Adv)	1	-	-	3	30	70	100	4
21UBCCC504	**Core-14:** Concept Recapitulation Test (CRT) for **Core Courses of Semester I to V – (F)**	-	-	-	2	50	-	50	1
21UBCCE501/ 21UBCCE 502/ 21UBCCE503	**Core Elective 2:** Clinical Biochemistry/Bio informatics/ Pharmaceutical Biochemistry Applied Course	4	-	-	3	30	70	100	4
21UBCTD501	**TDE 2:**	2	-	-	0	100	0	100	2
21UBCCC505	**Core Practical-5** Applied Course Practical#	-	-	6	6	40	60	100	3
21UBCCE504/ 21UBCCE 505/ 21UBCCE506	**Core Elective Practical-2** Clinical Biochemistry/Bio informatics/ Pharmaceutical Biochemistry- Course Practicals	-	-	3	3	20	30	50	1
	Core Enrichment 3: Internship /Training/Mini Project 2:	-	-	-	-	100	-	100	1

	Core Enrichment 4: Minor Project/Dissertation / Review Article / Instrumental Training/Industrial Tour report	-	-	4	**To Be Evaluated in Semester VI**				
	Part-II Total	**15**	**0**	**13**	**-**	**430**	**370**	**750**	**24**
Part-III: Ability Enhancement Courses									
	FS 3: Career Acceleration Programme –CAP (Placement Training)	-	2	-	-	Remarks			Audit course
	FS 3: Community Engagement	-	2*	-	-	Remarks			Audit course
	Part-III Total	**0**	**2***	**0**	**-**	**0**	**0**	**0**	**0**
	Total (Part-I to Part-III)	**15**	**2***	**13**	**-**	**430**	**370**	**750**	**24**
		30			**-**	**750**			

*Out of working Hours

3 hours each on Day1 and Day 2.

Trans-Disciplinary Elective offered by Department to the Cluster for SEM– V Students

Course Type	Course Code	Course title	Credit
Trans-Disciplinary Elective	21UBCTD02	Food and Nutrition	2

Semester–VI

NOTE:
Student are given option to choose from any ONE of the following combinations/schemes based on his/her choice for progression either in Research in the same/ allied field **(Scheme – A)**or in higher studies and/or placement**(Scheme – B)**

A. Core 15 + Core Enrichment-4 + Core Enrichment – 5

OR

B. Core – 15 + Core – 16 + Core – 17 + Core Practical + Core Enrichment - 4

The research in the form of Project / Start-up/Skill Training will be broadly based on the two verticalskeeping in view the Local, National and Global needs: **Sustainable development / Health & Wellness.**

Semester–VI - SCHEME – A									
Course Code	**Course**	**Contact Hrs/wk.**			**SEE Duration hrs**	**Maximum Marks**			**Credits**
		T	**Tu**	**P**		**CIA**	**SEE**	**Total**	
Part–II									
21UBCCC601	**Core-15:** Advanced Cell Biology (Adv)	4	-	-	3	30	70	100	4
	Core Enrichment – 4 (Continue from Semester – V, Evaluated in Semester – 6)	-			-	100	-	100	4
	Core Enrichment 5: Project / Start-up/ Skill Training	2		24		***	***	300	14
		30						**500**	**22**
	Part-II Total							**500**	**22**
						Total Marks:500			

Semester–VI - SCHEME –B									
Course Code	**Course**	**Contact Hrs/wk.**			**SEE Duration hrs**	**Maximum Marks**			**Credits**
		T	**Tu**	**P**		**CIA**	**SEE**	**Total**	
Part–II									
21UBCCC601	**Core-15:** Advanced Cell Biology (Adv)	4	-	-	3	30	70	100	4
21UBCCC602	**Core-16:** Immunology(App)	5	-	-	3	30	70	100	5

21UBCCC603	**Core-17:** Plant Biochemistry (App)	5	-	-	3	30	70	100	5
21UBCCC604	**Core Practical-6** Applied Biochemistry Practical	-	-	9	9*	40	60	100	4
	Core Enrichment – 4 (Continue from Semester – V, Evaluated in Semester – 6)	-			-	100	-	100	4
		23				**230**	**270**	**500**	**22**
	Part-II Total							**500**	**22**
						Total Marks:500			

*6 hrs on Day – 1 and 3hrs on Day -2

Formation of Part-III

Course Code	Semester	Course / Component	Contact Hrs	No. of Courses	Credit/ Course	Total Credits
A. Ability Enhancement Course (AEC)						
(i) Ability Enhancement Compulsory Course (AECC)						
	I	**AECCI: Introduction** to SDG (online course)	-	1	Remarks	Audit Course
	I & II	**AECC II:** Environmental Conservation and Sustainable Development	1 Hr / Week / Semester	1	1+1	2
	I & II	**AECC III:** Human Values for Holistic Living	1 T + 2 Tu /Week /Semester	1	1+1+1	3
					Sub Total	**5 + Audit course**
(ii) ***Skill Enhancement Course (SEC)***						
As per common list	Any Semester between	**SEC-I** *Value Added Courses	40 Hrs	1	1	1

	II –V/VII					
	Any Semester between III – V/VII	**SEC-II** **Co-Curricular Course	80 to 120 Hrs	1	2	2
					Sub Total	3
B. Finishing School						
FS I *to* FS IV *Compulsory to Earn Degree.*						
	I	**FS I:** Student Induction Program	3 weeks Phase 1, Phase 2, Phase 3	-	Remark	Audit course
	Across I & II Semesters	**FS II:** Fundamentals of Design Thinking (Online/Offline)	40 to 60 Hrs	1	Remark	Audit course
	Semesters I to V / VII	**FS III:** Career Acceleration Programme – CAP (Placement Training)	2 Hrs / Week /Semester	As per syllabus	Remarks	Audit course
	Semester V (3 yrs program) Semester VI (4 yrs program)	**FS IV:** Community Engagement	Twice a month	1	Remarks	Audit course
FS V *to* FS VIII *Options for Advanced Learners*						
	Any semester from II to V/VII	**FS V:** Indian &Foreign Languages	-	Any number of courses	Remarks	Audit course
	Any semester from II to V/VII	**FS VI:** Any number of Online course(s) from select MOOC platforms	-	Any number of courses	Remarks	Credit as per provider/ audit course
	Any semester from III to V/VII	**FS VII:** Advanced Design Thinking	-	1	Remarks	Audit course
	Any	**FS VIII:**	Self-study	Any	As per	As per

	semester from I to VI/VIII	**#Extra Credit Course** Any number of courses from any UG program across the College		number of courses	course offered	credit(s) earned across all courses opted

***Value Added Courses** - Option to student to choose at least 1 from a list of courses offered by any department across the Institution.

****Co-Curricular Courses** - Option to students to choose 1 from a list of courses offered by any department across the Institution.

Student may opt for any course of the odd/even prevailing semester from any UG program across the Institution with the following guidelines:

a. Attending class not mandatory.
b. May be mentored by the course teacher.
c. Preparation through self-study.
d. CIA not mandatory; evaluated for total marks at the end of the semester.
e. Indicates options to appear for the course through examination application and payment of examination fees of that course.
f. Credits earned through each course indicated in the consolidated mark sheet as extra credits; not included for CGPA, percentage marks and classification.

TOTAL MARKS & CREDIT DISTRIBUTION TO EARN THE DEGREE

S. No	PART	Total Marks	Total Credits
1.	**PART I:** Language Course	400	12
2.	**PART II:** **Core**, IDC, DSE, TDE	4000	128
3.	**PART III:** AECC-I, II & III SEC- I & II FS I, II, III & IV	Remarks	08 + Credit audit
TOTAL		**4400**	**148**

VALUE ADDED COURSES (VAC) COURSES OFFERED BY THE DEPARTMENT

Sr. No.	Course Code	Course Title	Course Duration	Credits
1	**21AEVA13**	**Food Adulteration**	40 Hrs	1

CO-CURRICULAR COURSE (COC) COURSES OFFERED BY THE DEPARTMENT

Sr. No.	Course Code	Course Title	Course Duration	Credits
1	**21AECO07**	Medical Laboratory Techniques	80 Hrs	1

DISCIPLINE SPECIFIC ELECTIVE COURSE (DSE) OFFERED BY THE DEPARTMENT (SEM-4)

Sr. No.	Course Code	Course Title	Course Duration	Credits
1	21UBCDE401	**DSE-2** Nutritional Biochemistry	50 hours	3
2	21UBCDE402	**DSE-2 Practical** Nutritional Biochemistry	6hrs/week	2

TRANS DISCIPLINARY ELECTIVE (TDE) OFFERED BY THE DEPARTMENT

Semester	Course Code	Course Title	Course Duration	Credits
1	21UBCTD01	**TDE 1:**Lifestyle Disorders	40 hrs	2
2	21UBCTD02	**TDE 2: Food and Nutrition**	40 hrs	2