SAROJINI NAIDU VANITA MAHA VIDYALAYA

DEPARTMENT OF BIOCHEMISTRY

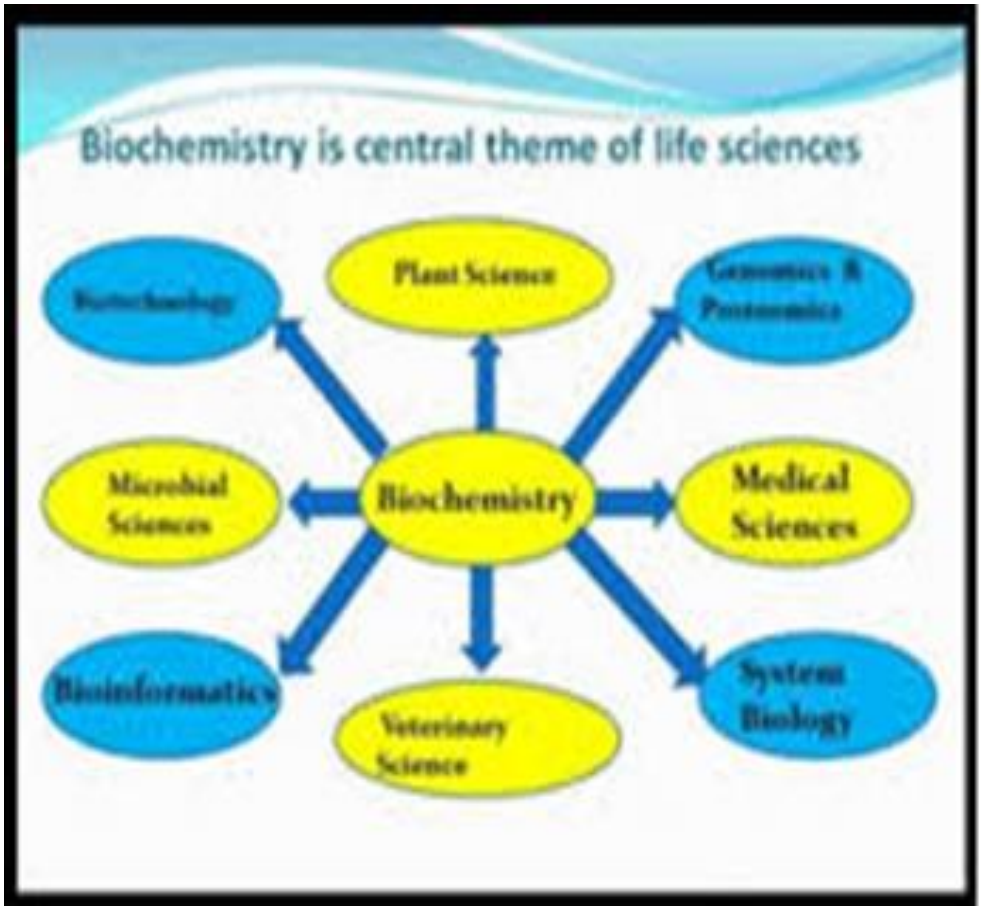
Biochemistry is the alchemy of nature, transforming simple elements into the majestic tapestry of life.

-Aloo Denish

INTRODUCTION

Biochemistry is the science concerned with chemical nature and chemical behavior of the living matter. It takes into account the studies related to the nature of chemical constituents of living matter, their transformations in biological systems and the energy changes associated with these transformation.

Biochemistry is the collection of every organic chemical reaction in living organisms. Without functioning biochemical reactions, life in any form would not exist.



HISTORY

Inception :Sarojini Naidu Vanita MahaVidyalaya established Department of Biochemistry in 2005 as **BBC –Biotechnology, Biochemistry and Chemistry subjects.** The three year degree program was offered in Biotechnology, combination with Biochemistry and Chemistry subjects. (BBC)

In the year 2010-2011, **Applied Nutrition and Public Health** was started and the three year degree program was offered as BCAN - Applied Nutrition and Public Health in combination with Biochemistry and Chemistry subjects.

The faculty are dedicated and passionate to teach and always devise new methods to teach difficult topics and daunting structures in Metabolism in a very easy and interesting way.

The department conducts various events and competitions to instill passion towards the subject and department consistently secured 100 % pass percentage from the last 5 years in the University examinations.

Biochemistry has a well-furnished lab for conduction of practicals. **It was inaugurated by Sri.K.JanaReddy, Hon'ble Minister of Home, Jails and Services &Sainik Welfare on 27th August 2007.**

In 2010 BCAN – Biochemistry, Chemistry and Applied Nutrition was started.

VISION

The Department envisions to be recognized as a center for excellence in Biochemistry, imparting in depth knowledge to the students, facilitating research activities and cater to the ever-changing industrial demand and societal needs.

MISSION

- Endeavor towards better learning and constantly encourage the students towards higher studies and to have research zeal.
- Provide a learning environment that helps the students to enhance problem solving skills, be successful in their professional lives.
- To prepare students to be lifelong learners by offering solid theoretical practical foundation in various disciplines of Biochemistry and educating them about their professional and ethical responsibilities

DEPARTMENT PROFILE

Name	Designation	Qualification	Years of Experience.
Mrs.B.Prema Pushpanjali	HoD, Asst.Prof	MSc, B.Ed	15yrs
Miss.M.Himabindu	Asst.Prof	MSc, TS SET	7yrs

Name	Designation	Qualification	Years of Experience.
K. Eshwariah	Lab attender	7th class	21 yrs
Yadamma	Lab assistant	B.Com	

ACADEMIC PROGRAMMES OFFERED - UG

(Under-graduate program)

1) The course includes theory and Practicals with year wise examination under Osmania University.

2) Osmania University introduced the Semester system in the year 2016 with a few additional courses like Ability Enhancement Compulsory Course (AECC) for 1st year, Skill Enhancement Course (SEC) for 2nd and 3rd year and Generic Elective (GE) for 3rd year.

3) There was a further syllabus revision in 2019-20 with several major changes in the syllabus and examination pattern. English and Second Language were part of the 3rd year syllabus.

4) Osmania University introduced the bucket system from the year 2020 for the first time so as to enable students choose any three optional subjects of their choice from life science subjects like Botany,Chemistry,Microbiology, Applied-Nutrition with Biochemistry.

1. **Botany, Biochemistry, Applied Nutrition(BBCAN)**
2. **Botany, Biochemistry, Chemistry (BBCC)**
3. **Biochemistry, Chemistry, Applied Nutrition (BCCAN)**
4. **Microbiology, Biochemistry, Applied Nutrition (MBBCAN)**
5. **Microbiology, Biochemistry and Chemistry (MBBCC)**

HIGHLIGHTS OF THE DEPARTMENT

1. The department since its inception has dedicated and experienced faculty.
2. The department has a departmental library with 55 books for ready reference. College library has 299 books.
3. The staff makes use of various supplementary teaching aids like ICT tools, Videos, PPTS, Google-Classrooms, charts, models.
4. Most preferred college in the region for the science courses as it offers excellent laboratories and library accommodation.
5. **"Biochemistry Day"**– an annual event commemorating the birth anniversary of Dr. Carl Neuberg, Father of Biochemistry is conducted for the students regularly since 2015. Several competitions are organized as part of celebrations to motivate and instill confidence in the students**.**
6. Regular conduct of Workshops, Seminars, Extension Lectures and projects in the department.
7. It has been striving hard to educate the weak and backward students from English and Telugu media, training them to perform well in examinations.

Faculty information

Mrs.Prema Pushpanjali
HOD, Assistant Professor

1. Mrs. B.Prema Pushpanjali has a master in Biochemistry and Bachelors in Education (B.Ed) an experience of 15years teaching.
2. Involved in teaching and evaluation of course curriculum.
3. As resource person delivered guest lectures at several colleges in the twin cities.
4. Conducted several Inter-collegiate competitions for students since the year 2015 as an event called "Biochemistry Day".
5. Attended Two Day Faculty Enrichment Program, Smart teaching & learning at ICT centre& IQAC organized by St.Ann's College for Women on December 18 & 19, 2018.
6. Attended a two day Outreach programme for Degree college lecturers, **"Hands on training on Bio analytical techniques and Bioinformatics**" under DBT Star scheme on 22 & 23 rd November, 2019. Organized by Department of Biochemistry, Bhavan's Vivekananda College of Science Humanities and Commerce Sainikpuri**.**
7. Attended one day International webinar " Teaching through the Pandemic " as part of Faculty development program organized by IQAC cell Sardar Patel College held on 18th May, 2020.
8. Attended Online guest lecture on "Immunodiagnostics – a Tool of Emerging Pandemic covid 19 " on 19th May ,2020 organized by Department of Biochemistry, Government City college.
9. Participated in Science Academies' Virtual two day lecture Workshop on "Progress in Life Sciences with Emphasis on Role of Micronutrients" organized by Department of Botany , SNVMV on 9^{th}& 10^{th} February, 2021.

10. Participated in photography contest organized by Animal welfare club on 12th November, 2022.
11. Participated in Essay writing competition 'Memoirs of Hyderabad' organized by Dept. of English on 13th February 2023.

M. Himabindu

Assistant Professor- M.Sc., SET **Experience of 7 years**

1. Attended Two Day Faculty Enrichment Program, **Smart teaching & learning.** ICT Centre& IQAC organized by St.Ann's college for women on December 18th& 19th 2018.
2. Attended Faculty Development Program(FDP) conducted by SNVMV in July13th &14, 2018
3. Attended a two day Outreachprogramme for Degree college lecturers **,"Hands on training on Bio-analytical techniques and Bioinformatics**" under DBT Star scheme on 22 & 23rd November, 2019 organized by Department of Biochemistry, Bhavan's Vivekananda College of Science Humanities and Commerce, Sainikpuri.
4. Attended online guest lecture on **"Immunodiagnostics – a Tool of Emerging Pandemic covid 19**"on 19th May, 2020 organized by Department of Biochemistry, Government City College.
5. Attended five day faculty development program on "**Art of teaching**" conducted by IQAC cell, SNVMV from 19th – 24th November 2020.
6. Participated in Science Academies' Virtual two day lecture Workshop on "**Progress in Life Sciences with Emphasis on Role of Micronutrients**" organized by Department of Botany , SNVMV on 9th& 10thFebruary, 2021.
7. Attended one week workshop of MS-office held from 3rd July to 10th July, 2023.
8. Attended 1 week Online **NEP** Orientation and Sensitization programme by UGC Malaviya Mission Teacher Training Program from Oct 12th 2023 to 21st 2023.
9. Attended one week Orientation program for Teachers conducted by Sarojini Naidu Vanita Maha Vidyalaya from 3rd Jan to 9th Jan 2024.

INFRASTRUCTURE AND FACILITIES

- The classes are conducted in internet and LCD enabled classrooms.PPT and videos are shown for an elevated learning experience.
- E -resources and study material are shared with the students to make learning easy. Practical manuals are given for practical sessions.
- All the allotted classrooms are enabled with internet and LCD.
- Department of Biochemistry has a well-equipped and spacious lab-**Krebs lab** in the ground floor in which practicals are conducted.

LIST OF EQUIPMENT/APPARATUS

S.No	Equipment / Apparatus	Total No	Stock Reg No
1	Autoclave	1	1
2	Colorimeter 8filter (Systronics)	4	13
3	Centrifuge 4 tube (Remi)	1	15
4	Digital balance (citizen)	2	29
5	Hot plate 8 rounds	1	31
6	Hot air oven 14x14 s/s	1	33
7.	Homogenizer	1	35
8.	Incubator 14x14 s/s	1	37
9.	Microscope	12	43
10.	Micro centrifuge	1	45
11.	Magnetic stirrer	1	47
12.	Micropipette	5	49
13.	Paper Electrophoresis unit (vertical)	2	51

14.	pH meter (Systronics)	1	53
15.	Rotary shaker	1	57
16.	Submarine Electrophoresis unit	2	59
17.	Spectrophotometer	1	61
18.	TLC chamber	1	62
19.	Trans illuminator	1	63
20.	Test tube holder	39	65
21.	Test tube stands 15x12	30	69
22.	Vertical Gel Electrophoresis unit	2	71
23.	Water bath	1	75
24.	Spectrophotometer-computer	1	77
25.	Round stools	46	79
26.	Hemo cytometer	9	83

LIST OF GLASSWARE

S.No	Item	Total No	Stock Reg No
1	Beaker 1000 ml	2	2
2	Beaker 500 ml	6	3
3	Boiling tube 25x150 mm	50	4
4	Droppers 8”	50	6
5	Droppers 6”	50	7
6	Glass spatula	12	8
7.	Beaker 250 ml	30	9
8.	Glass plates	52	10
9.	Beaker 150ml	30	11
10.	Plain slides	4 boxes	12
11.	Reagent bottles	40	14
12.	Dropper 125ml	50	16
13.	Conical flask 250 ml	84	17
14.	Dropper 60 bottle	50	18

15.	Graduated Pipette 10ml	15	19
16.	Dropper 250ml bottle	50	20
17.	Graduated Pipette 5 ml	34	21
18.	Glass rods		22
19.	Graduated pipette 2 ml	25	23
20.	Round bottomed flask 250 ml	10	24
21.	Graduated pipette 1 ml	30	25
22.	Funnel 2''	50	26
23.	Weighing bottles	50	27
24.	Rubber Teats	200	30
25.	Inoculation loop holder	5 no.	34
26.	Petri plates " 4"	10	55
27.	Spray ball with bulb	1	60
28.	Test tubes 15x12		67
29.	Wash bottles	16	72

LIST OF CHEMICALS

S.NO	CHEMICAL NAME	STOCK REGISTER PAGE NO
1.	ACETIC ACID	159
2.	ACETONE	5,181
3.	AMINOACID KIT	17
4.	AMMONIA SOLUTION	162
5.	ANTI ABCD	44
6.	BARFOED'S REAGENT	168
7.	BENEDICT'S REAGENT	25
8.	BIALS REAGENT	175
9.	BOVINE SERUM ALBUMIN	22
10.	BIURET REAGENT	24
11.	BORO SILICATE TEST TUBES	149
12.	CHOLESTROL	41
13.	CHLOROFORM	43
14.	CITRIC ACID	51
15.	CASEIN	79
16.	CUPRIC SULPHATE	158
17.	DIPHENYL AMINE (DPA)	47
18.	DI ETHYL ETHER	50
19.	D –XYLOSE	35
20.	D- MANNOSE	84
21.	ETHYL ALCOHOL	170
22.	2,6 DICHLORO INDO PHENOL SODIUM SULPHATE (DCPIP)	70
23.	DROPPERS	150
24.	FEHLING'S SOLUTION –A	53
25.	FEHLING'S SOLUTION-B	57
26.	D-FRUCTOSE	161
27.	FERRIC CHLORIDE	55
28.	FOLIN'S (PHENOL)REAGENT	104
29.	DEXTROSE	67
30.	HCL (CONC)	75
31.	H2SO4 SULPHURIC ACID	77

STUDENT STRENGTH 2018-2023

S.NO	YEAR	I YEAR	II YEAR	III YEAR
1.	2018	49	44	48
2.	2019	50	49	45
3.	2020	44	43	49
4.	2021	40	44	43
5.	2022	53	40	44
6.	2023	33	47	39

FACULTY ACHIEVEMENTS

S.NO	NAME	ACHIEVEMENTS
1.	B.PREMA PUSHPANJALI	Paper setter & Evaluator for 1.Osmania University 2.St. Francis College for Women, Begumpet. 3.Government City College , Old City. 4. St. Ann's College for Women,Mehdipatnam.
2.	M.HIMABINDU	TS-SET& Evaluator for Osmania University.

STUDENT ACHIEVEMENTS

S.NO	NAME	ACHIEVEMENTS
1.	M.SHRAVYA	Selected for summer internship-Indian academy science Dr .Bhor Vikrant , ICMR – National Institute for Research in Reproductive and Child Health , Mumbai . Her project was on Invitro Immuno modulation of ThP1 cells by Lacto Bacillus.
2.	AFRAH FATIMA	Completed SWAYAM course

Summer Research Fellowship Programme

Certificate

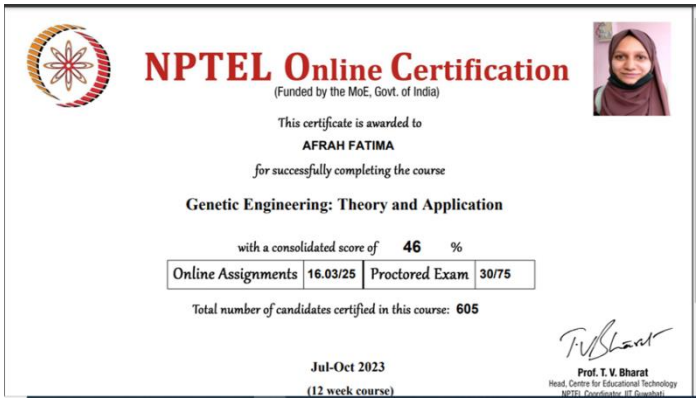
This is to certify that Ms Masula Shravya worked on a project entitled "In vitro immunomodulation of THP-1 cells by Lactobacillus isers" during Mid June – Mid August 2023 as a Summer Research Fellow under the supervision of Dr Bhor Vikrant, ICMR- National Institute for Research in Reproductive and Child Health, Mumbai. The Summer Research Fellowship Program is jointly sponsored by IASc (Bengaluru), INSA (New Delhi) and NASI (Prayagraj).

Place: Bengaluru
Date: 10-10-2023

P. K. Das
Chairman, Science Education Panel

INDIAN ACADEMY OF SCIENCES, C. V. RAMAN AVENUE, POST BOX No. 8005, RAMAN RESEARCH INSTITUTE CAMPUS, SADASHIVANAGAR P.O., BENGALURU 560 080, INDIA

Miss .M.Shravya completed her summer Internship by Indian academy of Science ,New Delhi.



NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

AFRAH FATIMA

for successfully completing the course

Genetic Engineering: Theory and Application

with a consolidated score of 46 %

Online Assignments	16.03/25	Proctored Exam	30/75

Total number of candidates certified in this course: 605

Jul-Oct 2023

(12 week course)

Prof. T. V. Bharat

Head, Centre for Educational Technology

NPTEL Coordinator, IIT Guwahati

Afrah Fatima completed NPTEL Online course on ‘’Genetic Engineering : Theory and Application “.

SYLLABUS

Telangana State Council of Higher Education, Govt. of Telangana
B.Sc., CBCS Common Core Syllabi for all Universities in Telangana (w.e.f. 2019-20)

PROPOSED SCHEME FOR CHOICE BASED CREDIT SYSTEM IN B.Sc., BIOCHEMISTRY

SEMESTER-I				
Code	**Course Type**	**Course Title**	**HPW**	**Credits**
BS 101	AECC 1	Environmental Science	2	2
BS 102	L-1A	English	4	4
BS 103	L-2A	Second Language	4	4
BS 104	**DSC - 1A**	**Chemistry of Biomolecules**	**4T+2P=6**	**4+1=5**
BS 105	DSC - 2A	Optional II	4T+2P=6	4+1=5
BS 106	DSC - 3A	Optional III	4T+2P=6	4+1=5
		TOTAL		**25**
SEMESTER-II				
BS 201	AECC 2	Basic Computer Skills	2	2
BS 202	L-1B	English	4	4
BS 203	L -2B	Second Language	4	4
BS 204	**DSC -1B**	**Chemistry of Nucleic acids and Biochemical Techniques**	**4T+2P=6**	**4+1=5**
BS 205	DSC -2B	Optional II	4T+2P=6	4+1=5
BS 206	DSC -3B	Optional III	4T+2P=6	4+1=5
		TOTAL		**25**
SEMESTER-III				
BS 301	SEC -1	Basics in Biochemical calculations and Biostatistics	2	2
BS 302	SEC - 2			
BS 303	L -1C	English	3	3
BS 304	L -2C	Second Language	3	3
BS 305	**DSC- 1C**	**Bioenergetics, Biological oxidation and Enzymology**	**4T+2P=6**	**4+1=5**
BS 306	DSC- 2C	Optional II	4T+2P=6	4+1=5
BS 307	DSC- 3C	Optional III	4T+2P=6	4+1=5
		TOTAL		**25**
SEMESTER-IV				
BS 401	SEC – 3	Applied and Computational Biochemistry	2	2

BOS Chairman
CHAIRMAN

BS 402	SEC – 4			
BS 403	L-1D	English	3	3
BS 404	L-2D	Second Language	3	3
BS 405	**DSC- 1D**	**Intermediary Metabolism**	**4T+2P=6**	**4+1=5**
BS 406	DSC- 2D	Optional II	4T+2P=6	4+1=5
BS 407	DSC- 3D	Optional III	4T+2P=6	4+1=5
		TOTAL		**25**
SEMESTER-V				
BS 501	GE	Physiology and Biochemistry	4T	4
BS 502	L-1E	English	3	3
BS 503	L-2E	Second Language	3	3
BS 504	**DSE-1E**	**A – Physiology, Nutrition and Clinical Biochemistry**	**4T+2P=6**	**4+1=5**
		B - Cell Biology, Genetics and Microbiology		
BS 505	DSE-2E	Optional II A/B	4T+2P=6	4+1=5
BS 506	DSE-3E	Optional III A/B	4T+2P=6	4+1=5
		TOTAL		**25**
	SEMESTER-VI			
BS 601	L-1F	English	3	3
BS 602	L-2F	Second Language	3	3
BS 603	**DSE-1F**	**A - Molecular Biology and Immunology**	**4T+2P=6**	**4+1=5**
		B – r-DNA technology and Biotechnology		
BS 604	DSE-2F	Optional II A/B	4T+2P=6	4+1=5
BS 605	DSE-3F	Optional III A/B	4T+2P=6	4+1=5
BS 606		Optionals (Theory) Biochemistry in Health and Disease	4	4
		TOTAL		**25**
		TOTAL CREDITS		**150**

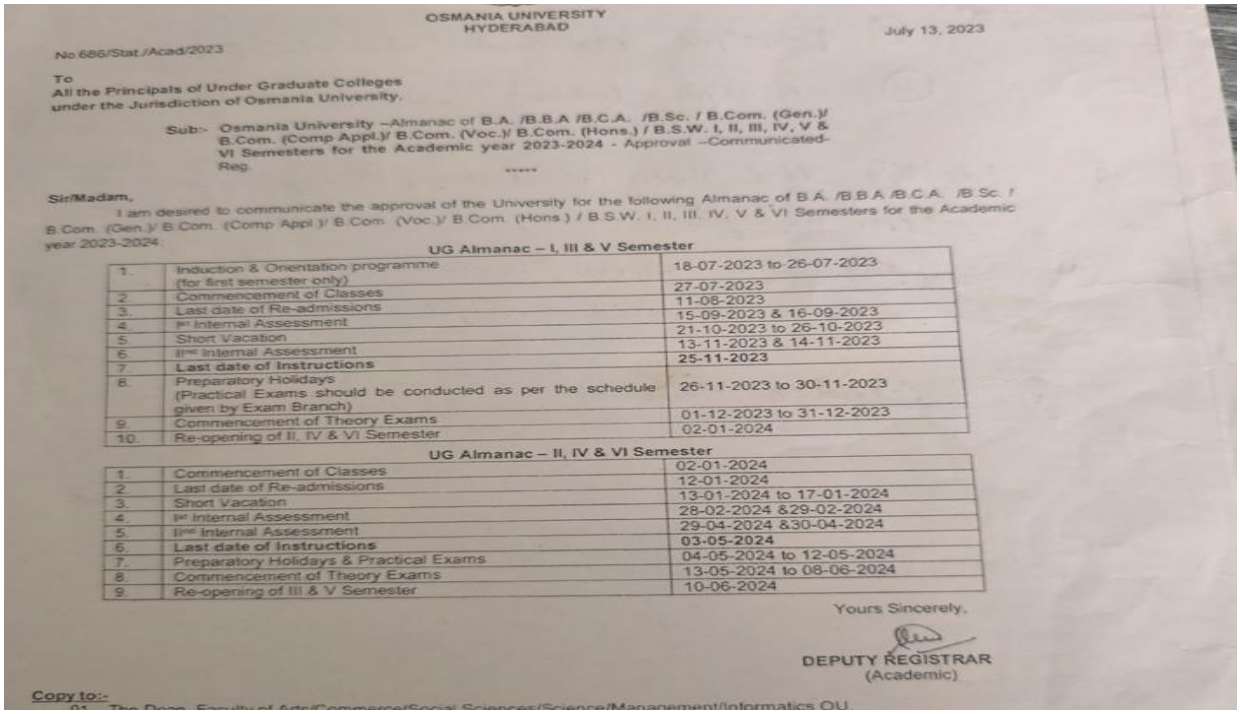
AECC- Ability Enhancement Compulsory Course
DSC- Discipline Specific Core
SEC- Skill Enhancement Course
DSE- Discipline Specific Elective
GE- Generic Elective
HPW – Hours per week
*Credits under Non-CGPA : i. NSS/NCC/Sports/Extra-curricular – 2 in each year (up to 6)
ii. Summer internship – 2 in each after I & II years (up to 4)

ACADEMIC PLAN 2023-24						
Faculty	**Semester I**	**Semester II**	**Semester III**	**Semester IV**	**Semester V**	**Semester VI**
B.Prema Pushpanjali		**Paper 2**	**SEC 2**	**Paper 4**	**Paper 5 & GE**	
M.Himabindu	**Paper 1**		**Paper 3**	**SEC4**	**GE**	**Paper 6 & Optional paper**

TIME TABLE 2023-24

DAY	SEME	10:00-11:00	11:00-12:00	12:00-1:00		1:30-2:30	2:30-3:30	3:30-4:30
MONDAY	I/II				L		BIOCHEM	
	III/IV		BIOCHEM					
	V/VI		BIOCHEM					
TUESDAY	I/II	← SEM I/II PRACTICALS →			U			
	III/IV					SEC	BIOCHEM	
	V/VI						BIOCHEM	
WEDNESDAY	I /II	BIOCHEM			N			
	III/IV					SEC		BIOCHEM
	V/VI	BIOCHEM		GE/OPTIONAL PAPER				
THURSDAY	I /II				C			BIOCHEM
	III/IV						BIOCHEM	
	V/VI			GE/OPTIONAL PAPER				
FRIDAY	I/II				H	BIOCHEM		
	III/IV					← SEM III/IVPRACTICALS → BATCH (1) MB.BC.C,MB.BC.AN & B.BC.C		
	V/VI	BIOCHEM		GE/OPTIONAL PAPER				
SATURDAY	I/II							
	III/IV	← SEM V/VI PRACTICALS →				← SEM III/IVPRACTICALS → BATCH (II) B.BC.AN & BC.C.AN		
	V/VI							GE/OPTIONAL PAPER

ALMANAC 2023



OSMANIA UNIVERSITY
HYDERABAD

July 13, 2023

No.686/Stat./Acad/2023

To
All the Principals of Under Graduate Colleges
under the Jurisdiction of Osmania University.

Sub:- Osmania University –Almanac of B.A. /B.B.A /B.C.A. /B.Sc. / B.Com. (Gen.)/ B.Com. (Comp Appl.)/ B.Com. (Voc.)/ B.Com. (Hons.) / B.S.W. I, II, III, IV, V & VI Semesters for the Academic year 2023-2024 - Approval –Communicated- Reg.

*****

Sir/Madam,

I am desired to communicate the approval of the University for the following Almanac of B.A. /B.B.A /B.C.A. /B.Sc. / B.Com. (Gen.)/ B.Com. (Comp Appl.)/ B.Com. (Voc.)/ B.Com. (Hons.) / B.S.W. I, II, III, IV, V & VI Semesters for the Academic year 2023-2024.

UG Almanac – I, III & V Semester

1.	Induction & Orientation programme (for first semester only)	18-07-2023 to 26-07-2023
2.	Commencement of Classes	27-07-2023
3.	Last date of Re-admissions	11-08-2023
4.	Ist Internal Assessment	15-09-2023 & 16-09-2023
5.	Short Vacation	21-10-2023 to 26-10-2023
6.	IInd Internal Assessment	13-11-2023 & 14-11-2023
7.	**Last date of Instructions**	**25-11-2023**
8.	Preparatory Holidays (Practical Exams should be conducted as per the schedule given by Exam Branch)	26-11-2023 to 30-11-2023
9.	Commencement of Theory Exams	01-12-2023 to 31-12-2023
10.	Re-opening of II, IV & VI Semester	02-01-2024

UG Almanac – II, IV & VI Semester

1.	Commencement of Classes	02-01-2024
2.	Last date of Re-admissions	12-01-2024
3.	Short Vacation	13-01-2024 to 17-01-2024
4.	Ist Internal Assessment	28-02-2024 &29-02-2024
5.	IInd Internal Assessment	29-04-2024 &30-04-2024
6.	**Last date of Instructions**	**03-05-2024**
7.	Preparatory Holidays & Practical Exams	04-05-2024 to 12-05-2024
8.	Commencement of Theory Exams	13-05-2024 to 08-06-2024
9.	Re-opening of III & V Semester	10-06-2024

Yours Sincerely,

DEPUTY REGISTRAR
(Academic)

Copy to:-
01. The Dean, Faculty of Arts/Commerce/Social Sciences/Science/Management/Informatics OU.

OSMANIA UNIVERSITY
HYDERABAD

January 06, 2024

No.21/Stat./Acad/2024

To
All the Principals of Under Graduate Colleges
under the Jurisdiction of Osmania University.

Sub:- Osmania University – Revised UG II, IV & VI Semesters Almanac for B.A/ B.B.A. /B.C.A /B.Sc. /B.Com. (Gen)/ B.Com.(Comp.)/B.Com (Voc.)/ B.Com (Hons) / B.Com (Business Analytics)/B.S.W for the Academic year 2023-2024 - Approval –Communicated- Reg.

*****

Sir/Madam,

I am desired to communicate the approval of the University for the following Revised UG II, IV & VI Semesters Almanac for B.A/ B.B.A. /B.C.A /B.Sc. /B.Com. (Gen)/ B.Com. (Comp.)/B.Com (Voc.)/ B.Com (Hons) / B.Com (Business Analytics)/B.S.W for the Academic year 2023-2024

Revised UG II, IV & VI Semesters Almanac

1.	Commencement of Classes	18-01-2024
2.	Last date of Re-admissions	27-01-2024
3.	Ist Internal Assessment	15-03-2024 & 16-03-2024
4.	IInd Internal Assessment	14-05-2024 & 15-05-2024
5.	Examination Notification	---
6.	**Last date of Instructions**	**16-05-2024**
7.	Preparatory Holidays & Practical Exams	17-05-2024 to 26-05-2024
8.	Commencement of Theory Exams	27-05-2024
9.	Commencement of III Semester	10-06-2024

Yours Sincerely,

DEPUTY REGISTRAR
(Academic)

Copy to:-
01. The Dean, Faculty of Arts/Commerce/Social Sciences/Science/Management/Informatics OU.
02. The Controller of Examinations, OU.
03. The Addl. Controller of Examinations, (U.G. Courses/Confidential), OU.

TEACHING METHODS

The Biochemistry subjects are taught by dedicated faculty who teach the course in two semesters per year.

B.Sc Biochemistry Program starts with Introduction of Biochemistry - Study of Biomolecules, Introduction to Biochemical Techniques, Structural and Metabolic topics.

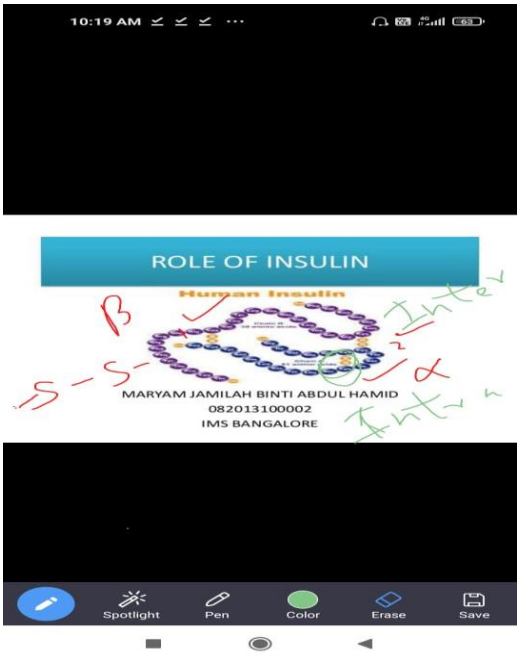
The Structural aspects include studying Amino acids ,Peptides, Protein Structures , membranes and transport, Enzymes , Vitamins Physiology and Endocrinology , Clinical Biochemistry ,Molecular Biology and Immunology .

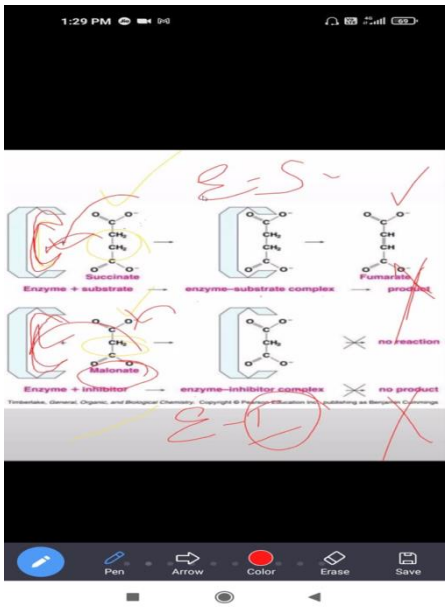
For each Course the subjects are taught by a same Biochemistry professor .

Practicals are conducted in the spacious, well equipped lab under supervision of faculty members.

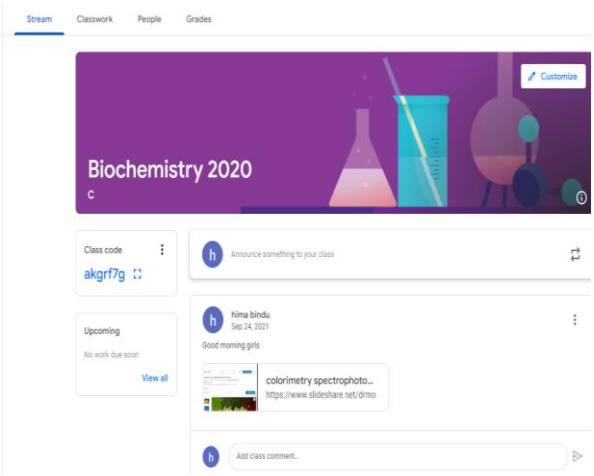
Teaching theory papers include

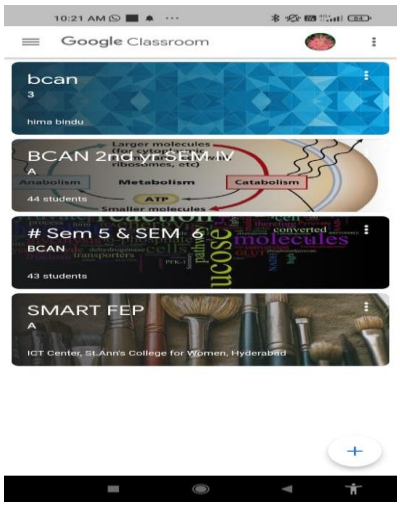
1. Traditional Blackboard and chalk method.
2. Use of ICT tools for Slide presentation, Power point and multimedia
3. Use of Charts, Posters.
4. Extension Lectures by eminent scholars and Seminars.
5. Field visits
6. Workshops
7. Google classrooms and online quizzes.





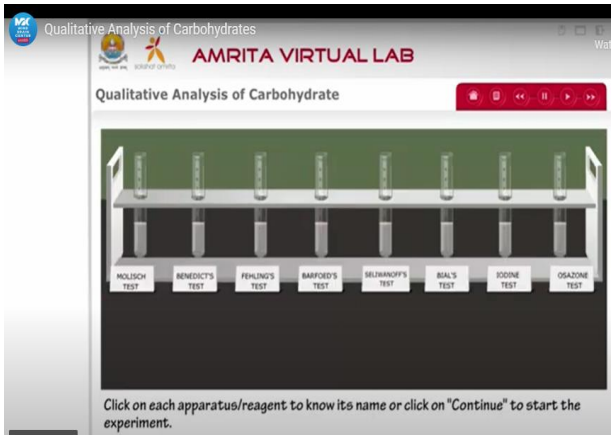
Online class in Zoom app.





Google Classroom

VIRTUAL LABS – STIMULATIONS



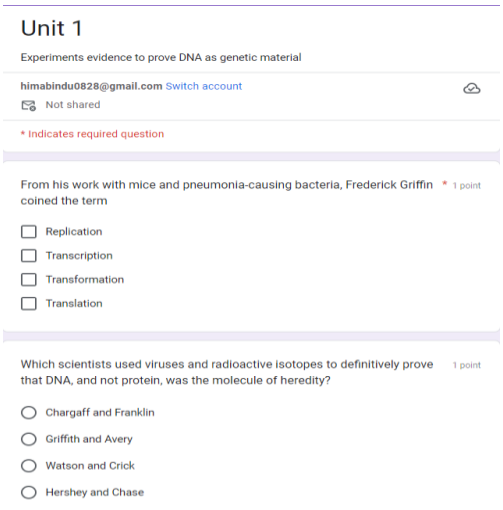
GUEST LECTURE

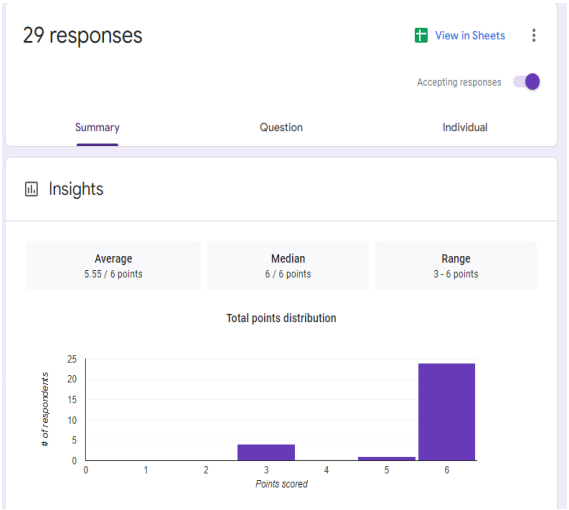
EVALUATION METHODS

Student understanding and progress is regularly monitored by the following methods.

1. Slip tests conducted after completion of each topic.
2. Conduct of Online & offline quizzes.
3. Written Assignments every month.
4. Student seminars and Interclass competitions conducted for Poster and Power Point presentation.
5. Projects done by student on a topic is supervised by faculty and evaluated.

Google form – online test Student responses & marks obtained -graphical representation

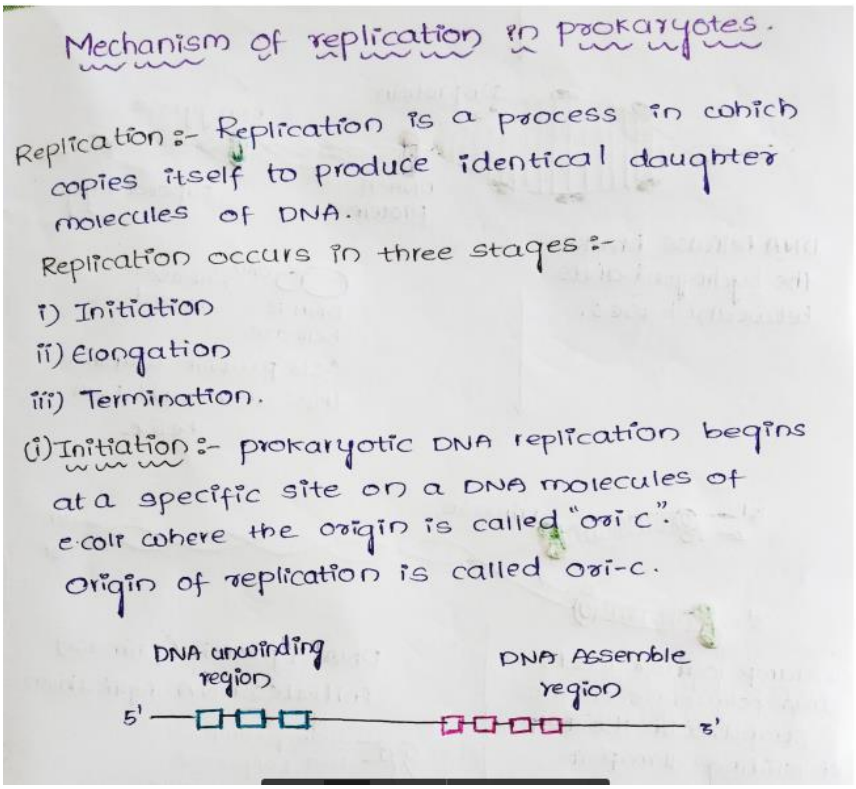




Score obtained by students-online quiz

Score	NAME
12/15	G. Navya
13 / 15	Anusha
13 / 15	Addandi srija
12/15	A.Ridhi
11 / 15	Ankitha Sahu
11/15	A.soumini
13 / 15	Ayesha Juleka
12/15	Ayesha Samar
12/15	B.Akshatha
13 / 15	B.Anusha
12/15	B.Mahimachandana
13 / 15	C. Tejaswini
12/15	D.Anusha
12/15	D.Tejashwini
13 / 15	Gajula Sushma
13 / 15	G.Rakshitha reddy
13 / 15	G.mounika
10 / 15	Shruti
12/15	Gope.Sandhya
13 / 15	Shilpa.G
13 / 15	K.Chandanasri
12/15	K.bhavana
12/15	K.Meghana
12/15	Pallavi Kolamudi
13 / 15	Komal Kumari

Written Assignment



Mechanism of replication in prokaryotes.

Replication :- Replication is a process in which copies itself to produce identical daughter molecules of DNA.

Replication occurs in three stages :-

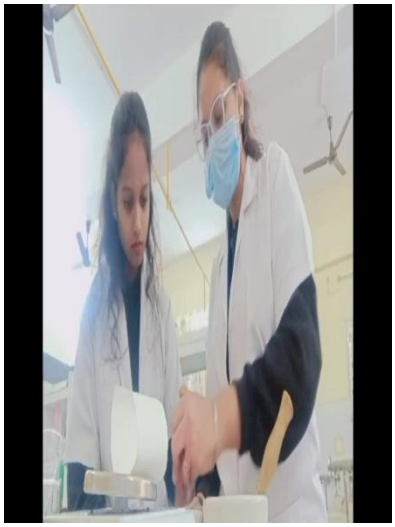
i) Initiation
ii) Elongation
iii) Termination.

(i) Initiation :- prokaryotic DNA replication begins at a specific site on a DNA molecules of e.coli where the origin is called "ori c".

Origin of replication is called ori-c.

Student Projects

Project on "Isolation of Casein from Various brands of Milk tetrapackets " by Sem 6 students.

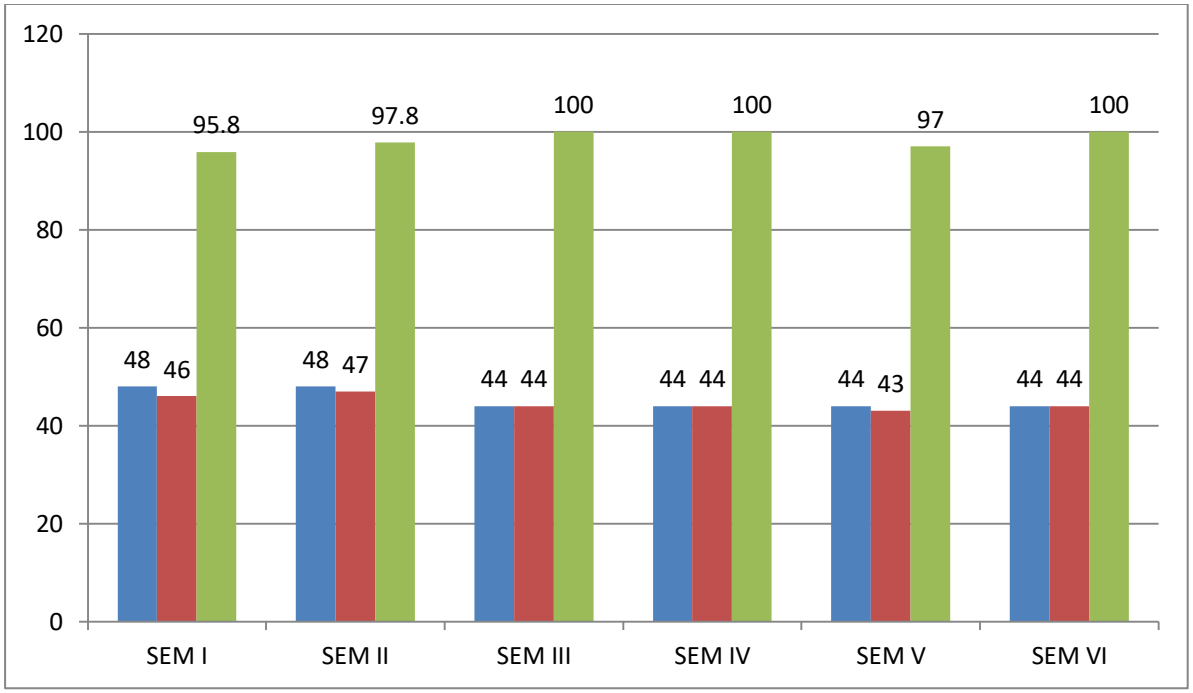


Project on " Isolation of fatty acids from various brands of Potato chips " done by BSC sem 2 students

RESULT ANALYSIS

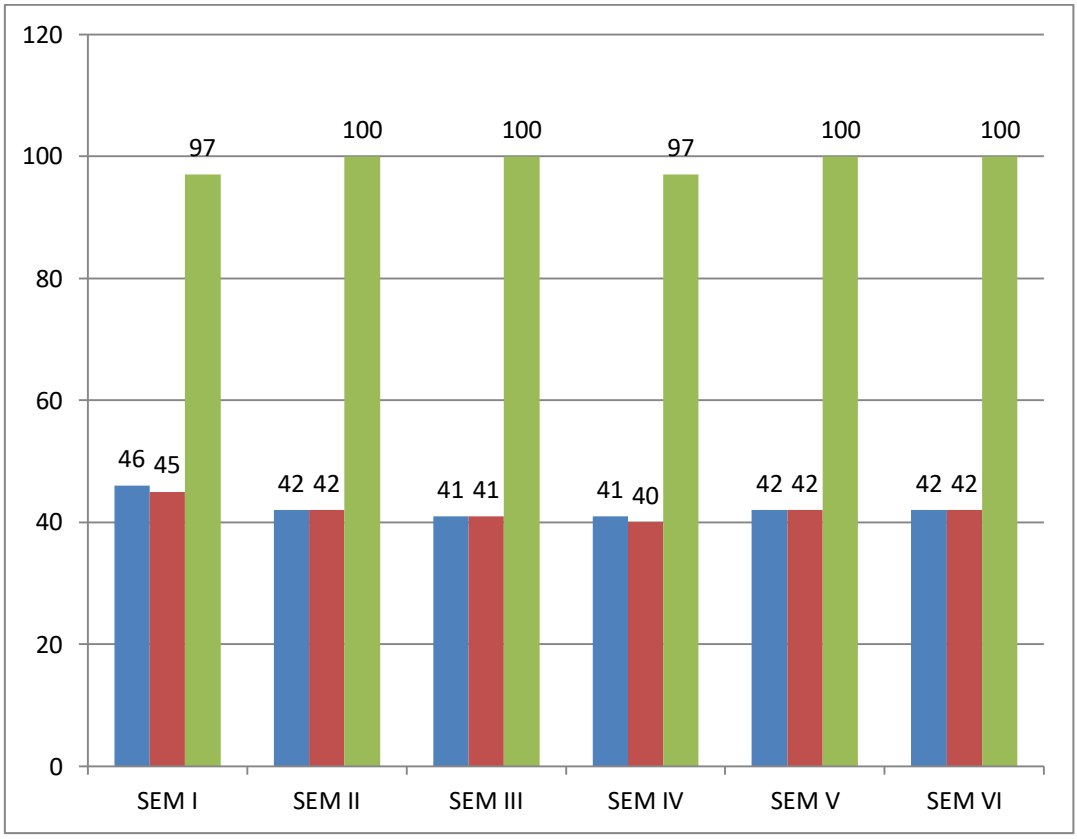
2018-21

	SEM I	SEM II	SEM III	SEM IV	SEM V	SEM VI
No. of students appeared	48	48	44	44	44	44
No.of students Passed	46	47	44	44	43	44
Pass percentage %	95.8	97.8	100	100	97	100



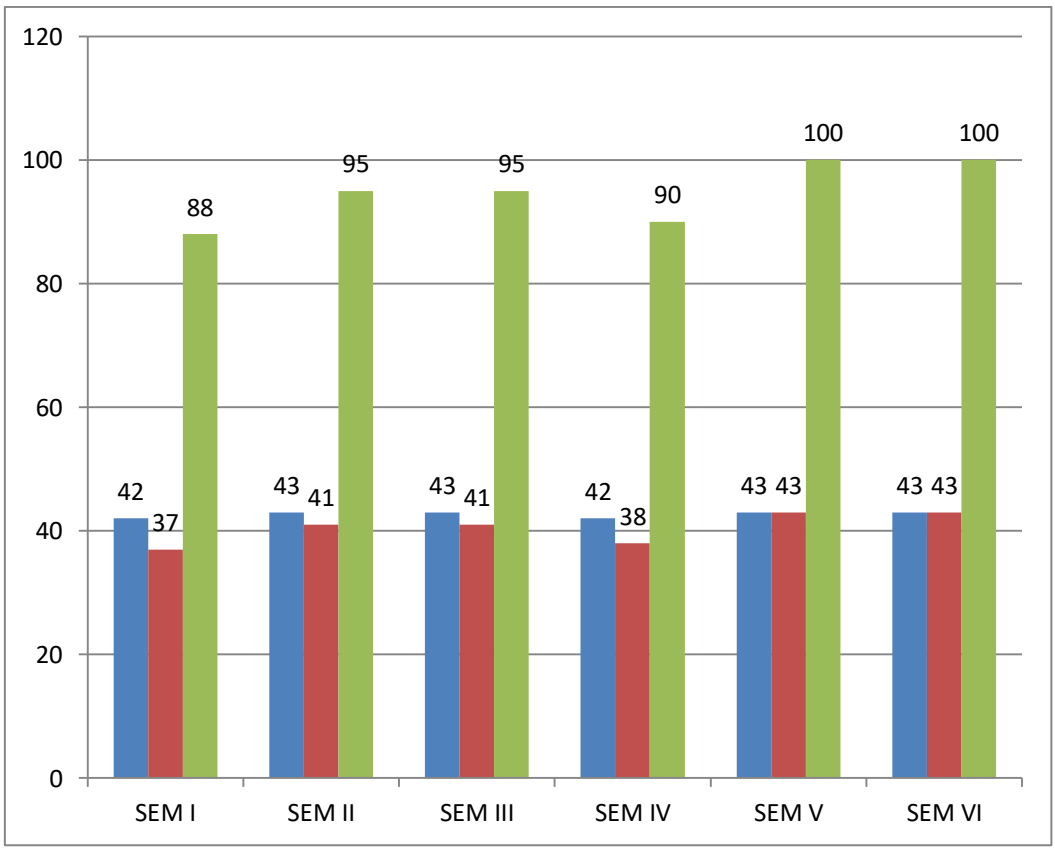
2019-22

	SEM I	SEM II	SEM III	SEM IV	SEM V	SEM VI
No.of students appeared	46	42	41	41	42	42
No.of students Passed	45	42	41	40	42	42
Pass percentage %	97	100	100	97	100	100



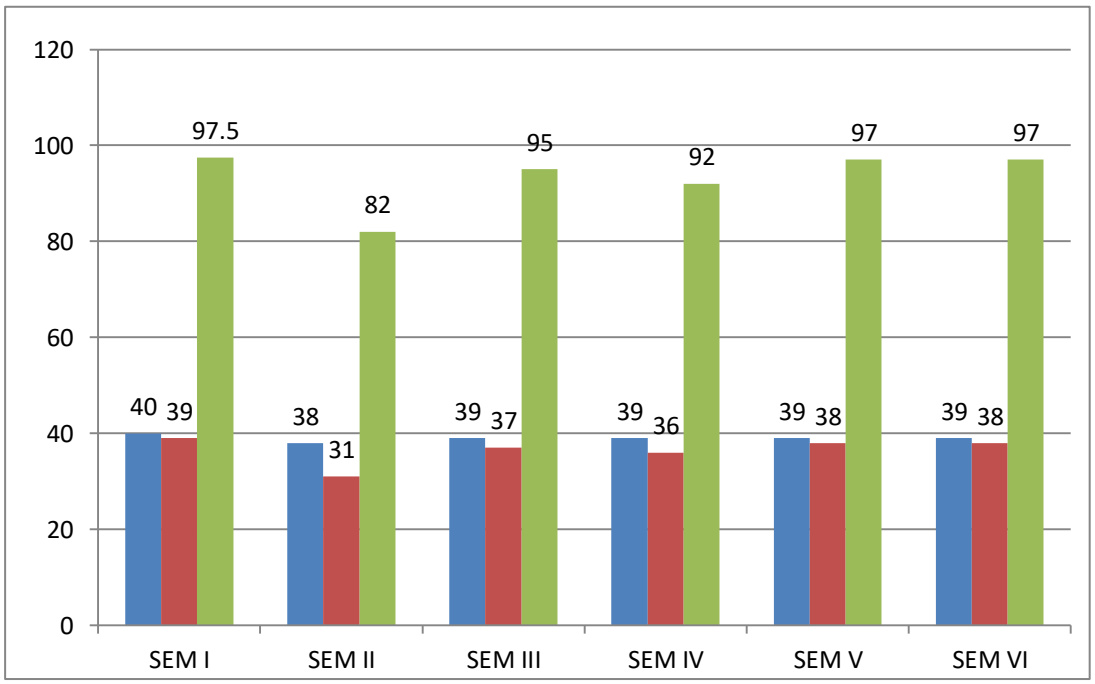
2020-23

	SEM I	SEM II	SEM III	SEM IV	SEM V	SEM VI
No.of students appeared	42	43	43	42	43	43
No.of students Passed	37	41	41	38	43	43
Pass percentage %	88	95	95	90	100	100



2021-24

	SEM I	SEM II	SEM III	SEM IV	SEM V	SEM VI
No.of students appeared	40	38	39	39	39	39
No.of students Passed	39	31	37	36	38	38
Pass percentage %	97.5	82	95	92	97	97



LIFE SCIENCES-PO

POI: Bachelor of Science focuses in inculcating theoretical as well as practical knowledge about living organisms and their nutritional needs. Students will learn how to treat plants and animals humanitarianly and ethically

P02: Students will be able to associate with the biological sciences and choose the specific areas in their career.

P03: Students develop scientific temperament which would benefit society and nation at large conducting experiments with environmental friendly materials.

P04: Students learn to analyses, interpret and devise methods to encounter the challenges posed by the environment, selection and production of fermentative and various products.

P05: Students discover the utility of microbes in various sectors like Health, Medical, and Agriculture

P06: Students enriched with knowledge will construct simulations to solve the problems produced from various spheres of life.

P07: Students learn the imperative role of nutrients in the development of physiological, psychological and biochemical domains of life without gender discrimination.

P08: Students will extend the knowledge gained for self-evaluation and formulate methods to consistently improve themselves.

Course Code:	COURSE 101
Course Name	CHEMISTRY OF BIOMOLECULES
Course Outcomes	
CO1	Understanding the importance of biochemistry in allied fields
CO2	Students will learn the structure, functions, properties and classifications of amino acids and proteins
CO3	Students will acquire detailed knowledge about Carbohydrates - classification and its function
CO4	Students will learn the structure,functions,properties and classifications of lipids

Course Code:	COURSE 102
Course Name	CHEMISTRY OF NUCLEIC ACID AND BIOCHEMICAL TECHNIQUES
Course Outcomes	
CO1	Acquired knowledge of basic structures of nitrogenous bases
CO2	Learn the molecular structure of DNA &RNA ,importance ,types and their functions
CO3	Learn the principles,instrumentation & application in various biophysical techniques
CO4	Biophysical techniques to analyse biomolecules in terms of structure , functions ,purification and their relationship

Course Code:	COURSE 103
Course Name	BIOENERGETICS,BIOLOGICAL OXIDATION AND ENZYMOLOGY
Course Outcomes	
CO1	Learn the importance of Bioenergetics.
CO2	Understanding the basics concepts of biological oxidation
CO3	Knowing in details concepts of enzyme and their catalytic functions
CO4	Analyze enzyme kinetics and enzyme actions

Course Code:	COURSE 104
Course Name	INTERMEDIATORY OF METABOLISM
Course Outcomes	
CO1	Understanding the general reactions of amino acids,metabolisms of amino acids & its inborn errors
CO2	Learns the metabolic pathway of carbohydrates and photosynthesis
CO3	Learns the metabolic pathway of lipids & its inborn errors
CO4	Learns the metabolic pathway of nucleic acids & its inborn errors

Course Code:	COURSE 105
Course Name	PHYSIOLOGY,NUTRITION AND CLINICAL BIOCHEMISTRY
Course Outcomes	
CO1	Understanding the role of physiology in humans and its importance
CO2	Learn the role of hormones & its deficiencies with clinical significance
CO3	Understanding about the fundamental concepts & processes underlying the field of nutritional biochemistry and malnutrition
CO4	Study the values of food & nutrients in health & disease & principles of clinical biochemistry in diagnosis of diseases

Course Code:	COURSE 106
Course Name	MOLECULAR BIOLOGY AND IMMUNOLOGY
Course Outcomes	
CO1	Gain knowledge of DNA replication, transcription and translation & its inhibitors
CO2	Understanding the gene regulations
CO3	Learn about the components of immune systems and mechanisms
CO4	Apply the concepts of immune response and immunodiagnostics and its immune-deficiencies

Course Code:	COURSE 107
Course Name	BIOCHEMISTRY IN HEALTH AND DISEASES (OPTIONAL PAPER)
Course Outcomes	
CO1	Students will learn the metabolic disorders of biomolecules
CO2	Understanding the genetic disorders
CO3	Students will learn the metabolic disorders of endocrine
CO4	Learn the concepts of molecular basis of cancers

PROGRAMS ATTENDED BY THE FACULTY 2018-24

YEAR & DATE	PROGRAM ATTENDED	ORGANIZED BY
2018 -18 th & 19 th Dec.	Two Day Faculty Enrichment Program, Smart teaching & learning. ICT centre& IQAC	Dept of Biochemistry St.Ann's Degree College for Women.
2019- 22nd & 23 rd Nov.	Two day Outreach programme for Degree college lecturers ,''Hands on training on Bioanalytical techniques and Bioinformatics" under DBT Star scheme	Dept of Biochemistry, Bhavan's Vivekananda College of Science Humanities and Commerce, Sainikpuri.
2020- 18 th May.	One day International webinar '' Teaching through the Pandemic " as part of Faculty development program	IQAC cell Sardar Patel College
2020- 19th May .	Online guest lecture on "Immunodiagnostics – a Tool of Emerging Pandemic Covid 19	Dept of Biochemistry, Govt City college.
2021 - 9 th & 10th Feb.	Virtual two day lecture Workshop on "Progress in Life Sciences with Emphasis on Role of Micronutrients.	Department of Botany , SNVMV
2023 - Aug 1 st.	One day workshop on 'Immunological Techniques "	Department of Zoology in collaboration with Cytomol Labs
2023 - 12 th to 21st Oct.	One week Faculty development program on "NEP "	Online NEP Orientation and Sensitization programme by UGC Malaviya Mission Teacher Training Program.

Programs Organized by the Department 2018-24

S.no	Date & year	Title of the program	Speaker /Competition	Organized by
1.	8 th & 10 th Jan 2018	Guest lecture Immunology & Clinical Biochemistry	Dr. B.Manvitha Reddy	Dept.of Biochemistry
2.	July 27,2018	Biochemistry Day	Interclass competitions	Dept.of Biochemistry
3	Sept 25 ,2018	Awareness program on "Anaemia importance of Hygiene among girls".	Dr.Latha Sashi, chief dietician from Fernandez hospitals.	Dept.of Biochemistry & applied Nutrition.
4	Sept 17 th & 18th 2019	Two day Symposium BCS-2K19 "Emerging Trends & Future Prospects in Biochemistry "	1.Dr. Karuna Rupula , Chairperson, BOS. 2.Dr. Mir Zahoor Gul ,Research Ass.	Dept.of Biochemistry
5	May 18th ,2022	Guest lecture on ''Scope of Scientific Research & Career Opportunities in Life Sciences "	Dr. Mir ZahoorGul,Research Associate Dept. of Biochemistry , University college of sciences	Dept.of Biochemistry
6	24th Feb,2022	Just a minute(JAM), Poster presentation competitions on 24th Feb ,2022 as part of National	Intercollegiate Competitions	Dept.of Biochemistry

		Science Day celebrations		
7	2nd & 3 rd May , 2023.	Two day workshop on 'Fitness and Vitamin D' for all the teaching and non teaching staff on both days.	1.Dr.Subba reddy, HoD critical care, Apollo Hosp. President ,IAPEN. 2.Chronic Fatigue- Dr.Haritha Shyam, Chief Dietician , Apollo Hosp, Jubliee Hills. 3. Ergonomics in Daily Life Preventing Pain & Injury- Dr.Nadeemuddin, CEO, Active Life. 4. Understanding Vitamin D better – Dr.Harsh Chaturvedi, Vicepresident ,Pulse Pharma.	Dept.of Biochemistry & Applied Nutrition.
8.	2023-Oct 11 th..	Biochemistry Day	PPT , Poster and Model Making competitions	Dept.of Biochemistry
9.	Feb 24th ,2023	National Science Day NSD-23	Poster and JAM competitions	Dept.of Biochemistry
10.	Feb 29 th 2024 "	National Science Day NSD-24 Science for sustainable future	Projects and Poster on Sustainable Development	Dept.of Biochemistry

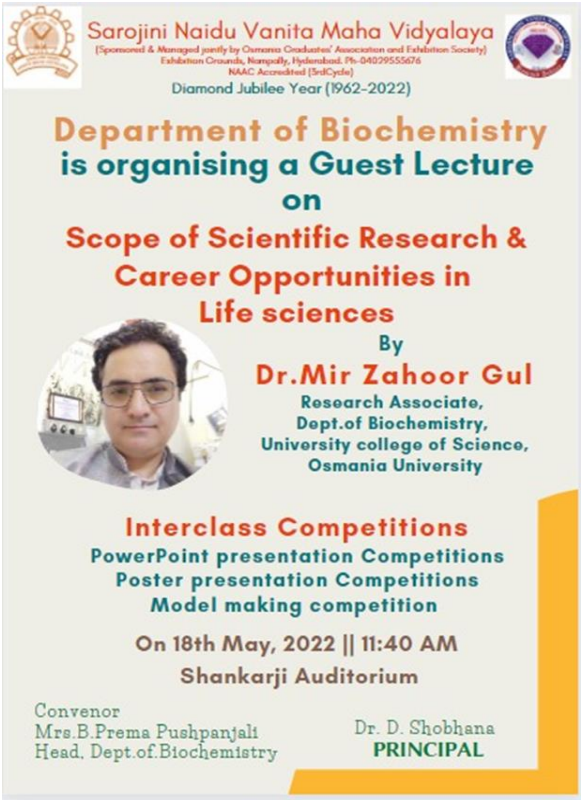
PHOTOS DEPARTMENT ACTIVITIES

National Science Day 2024

Just a Minute (JAM) competition in Biochemistry NSD-2023.

NSD- 2023 Poster presentation competition being judged by Mrs. Sumana, Associate Professor ,Dept of Biochemistry , Govt. City College .

Two day workshop for faculty on “Fitness & Vitamin D”,2023



Dr. Mir ZahurGul , Research associate , Osmania Univeristy delievering a lecture.,2022

2019 Two day Symposium BCS -2K19
Intercollegiate Poster, PPt and Quiz competitions and Guest lectures.

Awareness Program for Hostel students on " Hygiene and Health among girls " conducted in collaboration with Dept of Nutrition.

Biochemistry Day 2018

SWOC

STRENGTHS

- Experienced , dedicated faculty members.
- ICT and internet enabled classrooms to make learning effective .
- Spacious and well equipped lab to conduct practicals .
- Guiding students for various entrance exams.

WEAKNESS

- Decline in strength over the years due to subject phobia and lack of proper local industries and introduction of bucket system in University.

OPPORTUNITIES

- Funding from institution to attend / conduct - FDP / Seminars / Workshop / Conferences.
- Funding for field visits.
- Encouraging students to pursue Biochemistry as profession in future.
- Provide guidance to take up research in biochemistry future.

CHALLENGES

- Difficult to make the student practice biochemical cycles and structures in a limited timeframe of semester.
- Difficult to persuade the students to opt for Biochemistry along with Applied Nutrition (a subject in demand) for better understanding and career scope.

TESTMONIALS

SNEHA RAVALI

1.After passing out from 10+2, I had a big decision to make on my further studies, likechoosing which stream and which college.My mom being an alumni of this collegeand as it was providing the good combination of subjects, I enrolled here.

After joining I loved every subject and specially Biochemistry. The faculty and thecurriculum made me closer to this particular subject, which lead me to opt Biochemistry

in PG. My roots were always stronger. Thanks to every lecturer who helped me in what Iam today.

I’m working as Junior Research Analyst in Excelra Knowledge Solutions, Ramanthapur.

Miss.SnehaRavali

<sneharavali731@gmail.com

Junior Research Analyst in Excelra Knowledge Solutions, Ramanthapur.

J.LAVANYA

2. This is LavanyaJatavath passed out student of Bsc.BCAN 2020.

I'm pursuing masters in Applied Nutrition from ICMR-NIN(National institute of Nutrition) Osmania University.

I have learnt many things in biochemistry like biochemical nature of nutrients, their structures, metabolism, enzymology, Hormones, immunology, etc in detail which helped me to crack the Msc entrance in NIN. Even now the topics which I learnt in my bsc are very helpful in my masters. I can grasp more easily the Biochemistry subject as compared to other non biochemistry background students.

Thanking you

Yours sincerely

LavanyaJatavath.

3. KATIKALA PRIYA

Name: K.Priya

Education: M.Sc Biochemistry

Job: Medical coder

Company name: Anion health care services

I am very glad to share my experience with vanitha. I am Priya from batch 2016-2018 and course BCAN. I have a lot of new experience and learned many new things. My lecturers guided me and supported me when I am low. They taught me good lessons and made my life more stronger and brave. In my life they play a very important role. With the help of them I attended PG entrance test and I got qualified and I got a seat in counseling at st.pious x degree and pg college for women. And now I am successfully completed my post-graduation and now doing a job at anion health care services. I became a successful person with the help of my lectures. I sincerely thank my faculty. Thank you.

Regards,

Katikala.Priya

4. PRANATHI KALVAKOLU

IamPranathi,Passed out student of Bsc ,Bcan 2020. Iam pursuing msc sports Nutrition in

National institute of nutrition-ICMR. I learnt so many aspects of biochemistry through topics likehormones, Biomolecules , metabolism of Biomolecules , Enzymes , Immunology etc.whicharehelping me a lot in my Msc now. Iam able to understand topics well as we are having so manytopics which are covered during bsc.When compared to other students who are of nonBiochemistrybackground,It is easy for me to understand metabolisms , structures etc very well.

Ms. K. Pranathipranathikalvakolu@gmail.com

5. **RAHILA RAWOOF**

Batch 2011-2014

Presently working as Head, dept of the nutrition and dietetics, OU affiliated college.

The love for the subject is directly linked to the one teaching it. Prema mam's softspoken nature, discipline and student centric teaching method made us love the subject Biochemistry more.For us, Biochemistry means Prema Mam!

Her constant efforts are something which made us understand and do the subject so well. I still can't believe that I did the whole cholesterol metabolism with much ease, understanding it rather than mugging it up :D

Besides being a great teacher, she instilled moral values in us,

Getting a gold medal in biochemistry was astonishing, never thought I'd do in the subject so well. I'm beholden to her for this, I thank her for her contribution in making me what I am today.Super grateful to my College for giving us a friendly ambience and such constructive lecturers.

RahilaRawoof<rahilarawoof@gmail.com>

FUTURE PLANS

Plan to Start **Biochemistry Club.**

Plan to take MOUs with research laboratories and Industries.

Plan to conduct Two day Intercollegiate competitions in Biochemistry.

Plan to conduct Faculty development program.

Plan to conduct National level seminar.