

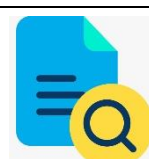




Participatory Teaching Learning Methods

2.3.1	Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experience and teachers use ICT-enabled tools including online resources for effective teaching learning process).
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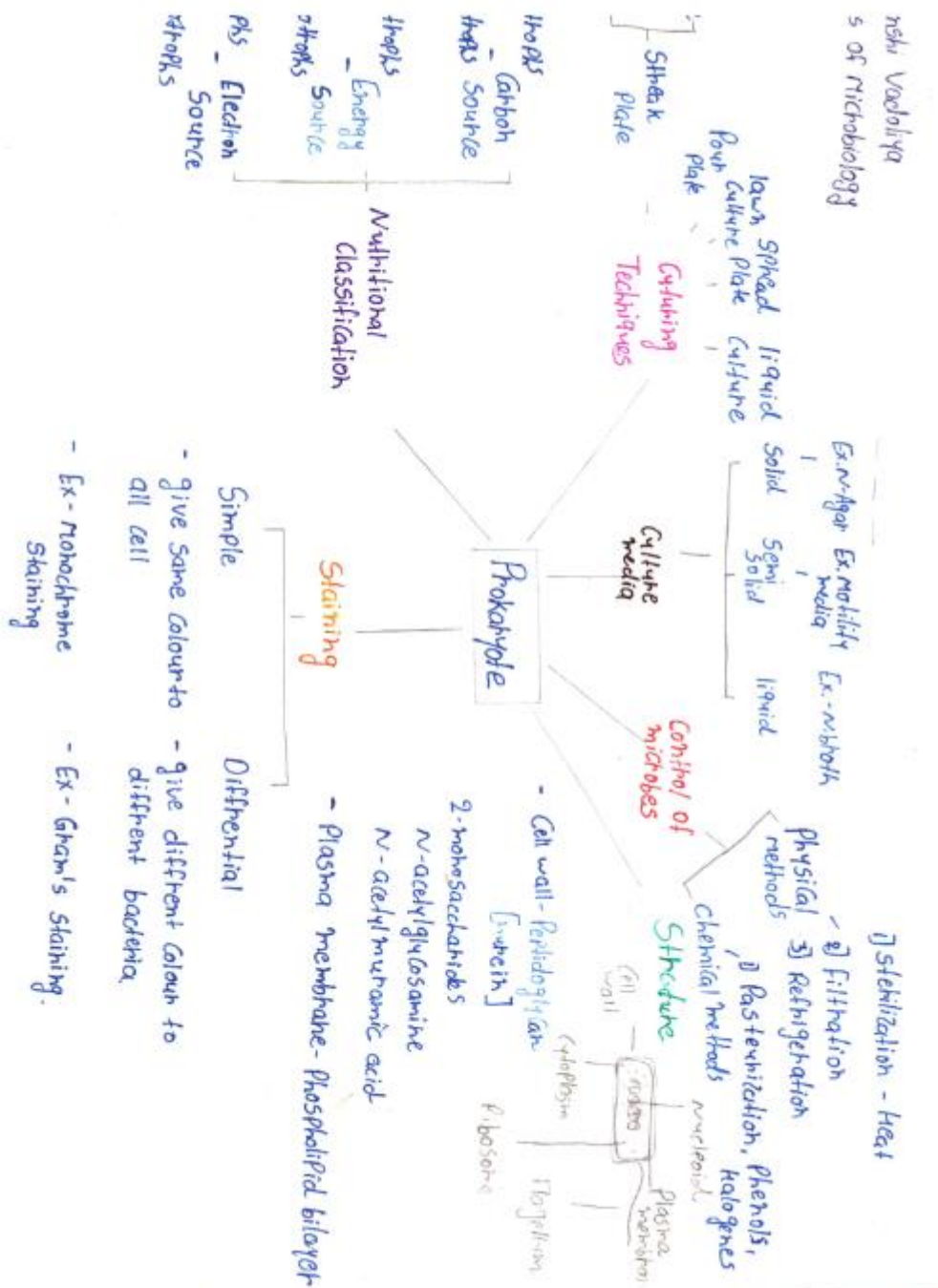
Abstract for Documentary Evidence

Details	Documentary Evidence	Page Number	
Participatory Teaching Learning Methods	Mind Maps Developed by Faculty Members for Enhanced Learning	2	
	Peer Learnings	9	
	Concept Mapping	58	

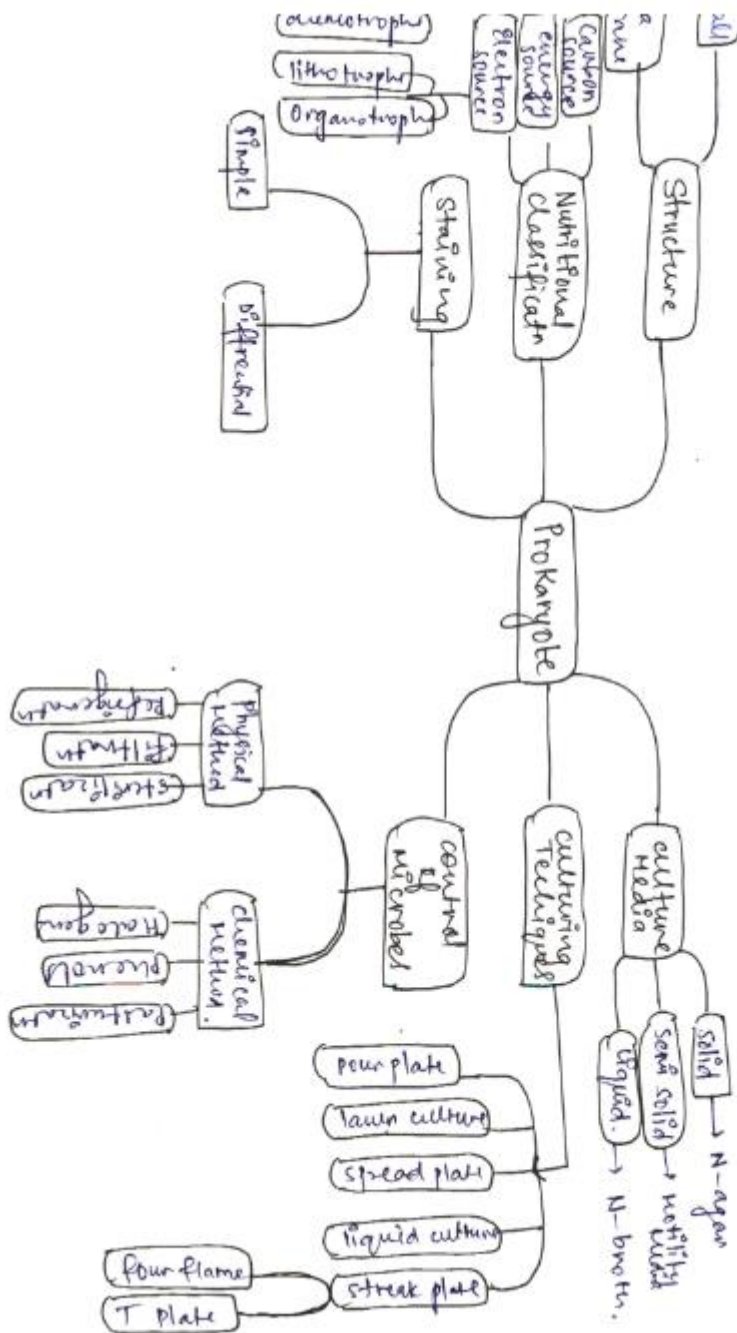


1. Mind Maps Developed by Faculty Members for Enhanced Learning

Faculty members at Atmiya University have created innovative mind maps to simplify complex topics and foster better understanding among students. These visual tools present information in a structured, concise, and interconnected format, aiding in memory retention and critical thinking.







Name - Meena Kulkarni



kanyon → nut

kanyon → nut

The prokaryotic cell structure

1. Structure external to the cell wall

a. Glycocalyx

→ capsule

→ slime layer

b. Flagella

c. Fimbriae

Filament

Hook

Basal Body

2. The cell wall

→ Peptidoglycan

- made up of two monosaccharide

1) N-acetylglucosamine (NAG)

2) N-acetylmuramic acid (NAM)

- linked together in rows of 10 to 65 molecules.

3. Structures inter the cell wall

a. The plasma memb:

1) Integral

2) Peripheral

b. cytoplasm

c. The nuclear area

d. Ribosomes

Staining Techniques

Types of stains

1) Acidic

2) Basic

3) Neutral

Types of staining

1) Negative staining

2) Positive staining

Techniques

1) Smearing Techniques

→ Heat fixation

→ Methanol fixation

2) Simple staining

→ Loeffler's methylene blue

→ Fast green methylene blue

→ Dilute carbol fuchsin

3) Gram staining

→ Gram positive bacteria

→ Gram negative bacteria

4) Acid fast staining

5) Capsule staining

6) Endospore staining

Nutritional classification of microbes

- C, O, H, N, S, P, K, Ca, Mg, Fe

→ Based on C-source

1) Autotrophs

2) Heterotrophs

→ Energy source

1) Light energy

2) Energy derived from organic or inorganic molecules

→ Photoautotrophs

→ Chemotrophs

→ Electron source

1) Lithotrophs

2) Organotrophs

→ Based on energy

C-source & electron

1) Photoheterotrophs

2) Photoorganoheterotrophs

3) Chemolithoautotrophs

4) Chemorganoheterotrophs

Types of culture

1) Based on their

a) Solid medium

b) Liquid medium

c) Semi solid med

2) Based on complexity

a) simple medium

b) complex medium

c) synthetic or def

d) special media

3) Based on oxygen

a) Aerobic media

b) Anaerobic media

Culture methods

1) streak culture

2) lawn culture

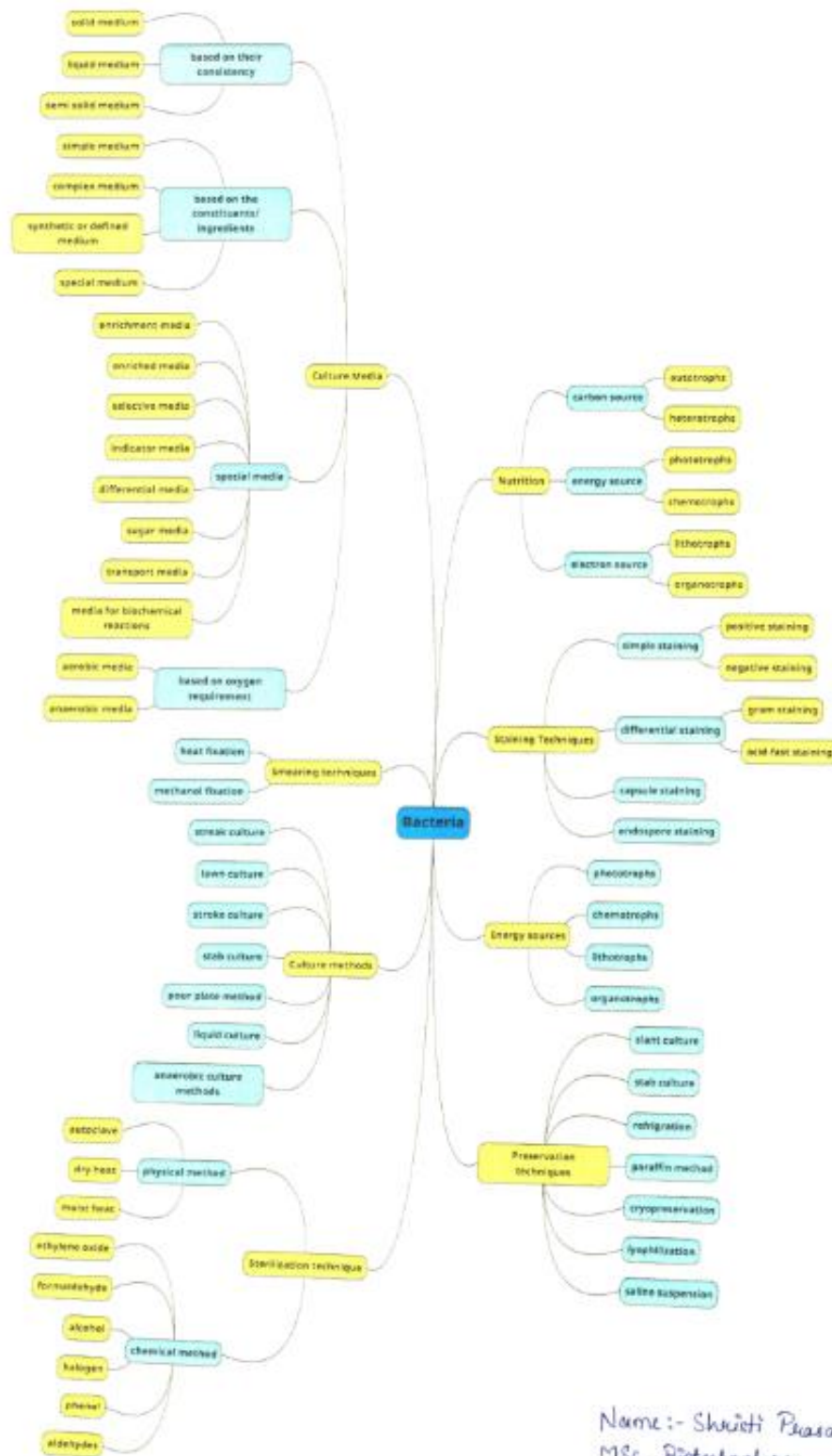
3) stroke culture

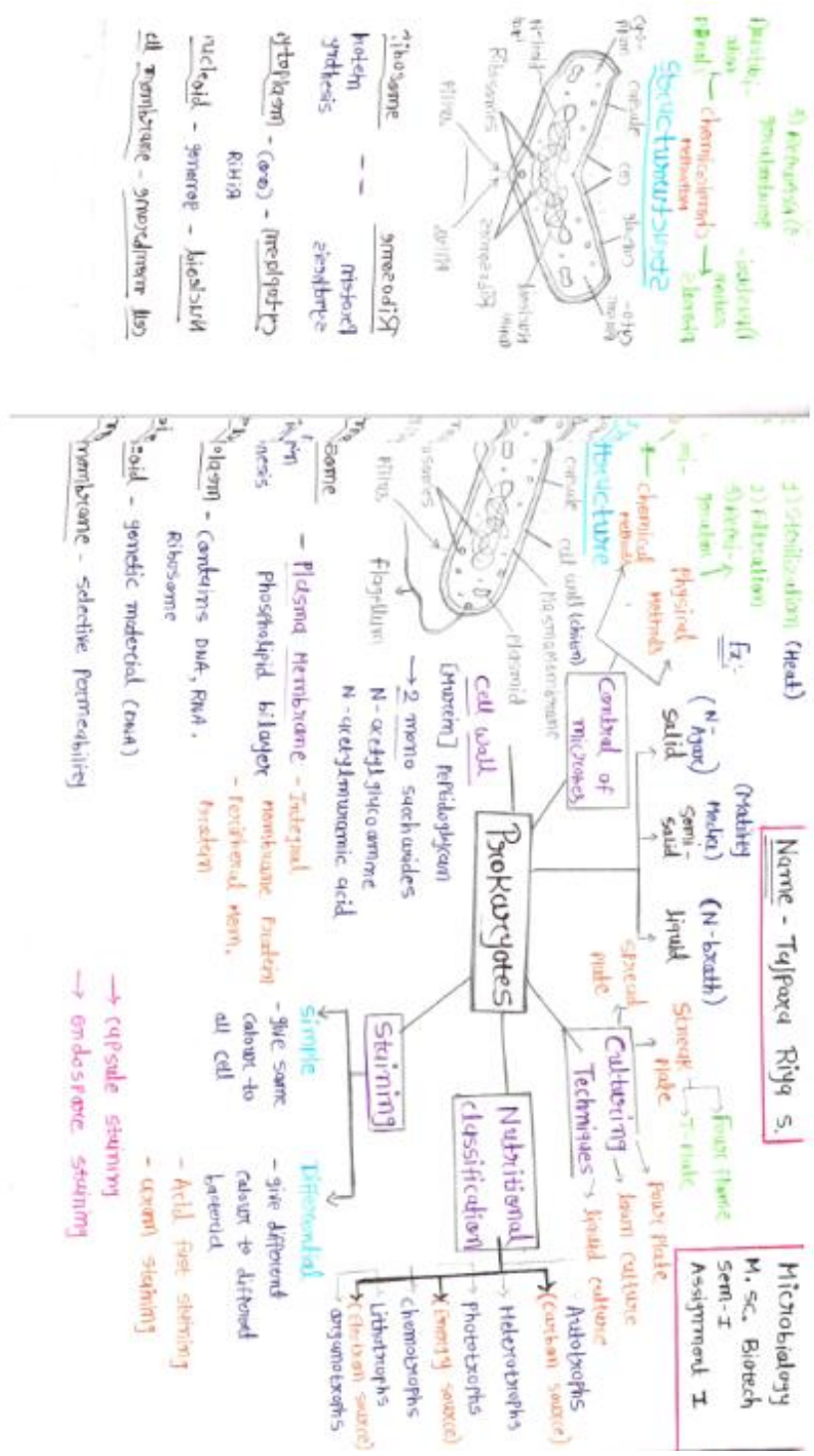
4) stab culture

5) pour plate meth

6) liquid culture

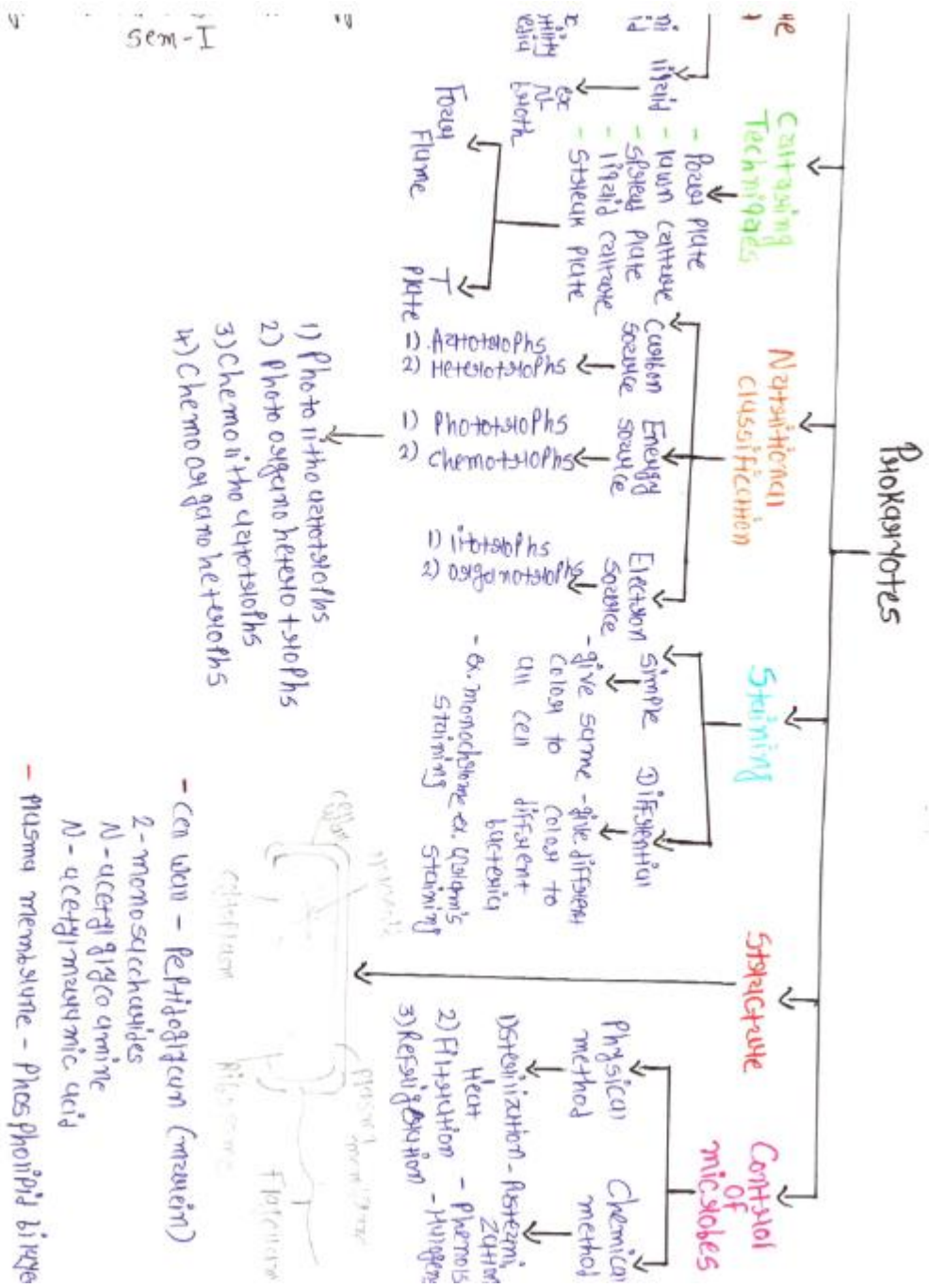
7) Anaerobic cultu.







sem-I





2. Peer Learning

At Atmiya University, peer learning fosters collaboration by encouraging students to share knowledge, solve problems together, and support each other. This approach enhances understanding, builds teamwork skills, and creates a dynamic, interactive learning environment.





Peer Learning Activity

“Develop an Android Application”

B.TECH. 7TH SEM. COMPUTER ENGINEERING
Date – 08/09/2021 & 09/09/2021

Organized by
DEPARTMENT OF COMPUTER ENGINEERING

Department of Computer engineering has arranged peer learning in small groups of students for Topic such as Develop an Android Application using android studio.

OBJECTIVES:

- Foster Problem-Solving Skills
- Real World Applications





SUMMARY REPORT

Peer Learning Activity

**“Peer Learning Session On video editing using
Adobe PremierPro”**

B.TECH. 7TH SEM. I.T. ENGINEERING

Date – 22/08/2023

Organized by

DEPARTMENT OF INFORMATION TECHNOLOGY ENGINEERING

Department of I.T. engineering has arranged peer learning in small groups of students for Topic such as fundamental knowledge about consent of Video Editing and animation using Adobe.

OBJECTIVES:

- Develop Analytical Thinking
- Guidance about class and methods





Peer Learning Activity
“Applications of .NET”

B.TECH. 6th SEM. COMPUTER ENGINEERING

Date – 18/03/2024 & 19/03/2024

**Organized by
DEPARTMENT OF COMPUTER ENGINEERING**

Department of Computer engineering has arranged peer learning in small groups of students for Topic such as real-life applications of .net.

OBJECTIVES:

- Develop analytical thinking by understanding the adaptability of .NET in diverse domains.
- Foster problem-solving skills by exploring how .NET is used to tackle real-world challenges.





Peer Learning Activity
“ Peer Learning Session on C++ ”

B.TECH. 4thTH SEM. I.T. ENGINEERING

Date - 10/12/2021

Organized by

DEPARTMENT OF INFORMATION TECHNOLOGY ENGINEERING

Department of I.T. engineering has arranged peer learning in small groups of students for Topic such as fundamental knowledge about consent of subject like C++.

OBJECTIVES:

- Develop Analytical Thinking
- Guidance about class and methods





**PEER LEARNING SESSION
ON VIDEO EDITING USING
ADOBE PREMIER PRO**

DATE :-

22/08/2023

TIME :-

07:30 AM ONWARDS

SPEAKER :-

DEVANG KANABAR

ORGANIZED BY :-

DEPARTMENT OF INFORMATION
TECHNOLOGY.









ATMIYA UNIVERSITY

(Established under the Gujarat Private University Act 15, 2016)

Yogidham Gurukul, Kalamod Road, Rajkot - 360005, Gujarat (INDIA)

Date: 29/1/2024

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Khandra Rajan Chandrakantbhai

Semester: I

Signature:

Topic Discuss:

- (1) Pharmaceutical Analysis : Acid base Neutralization curves related Problem Solution
- (2) types of Solvent for Non Aqueous Acid base titration
- (3) types of sta reference and indicator electrodes.
- (4) Discuss conductometry titration
- (5) Explain precipitation titration method like volhard, Fajans mohr's method.

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
29	230502030	Palak R. Jakasania	2 st	Palak
21	230502022	Tisha Gami	1 st	Tisha
49	230501050	Hardik edema	2 st	Hardik
35	230501036	Dhruvin kanzariya	1 st	Dhruvin
30	230501081	Jethva Nisharg	1 st	N. Y. Jethva
36	230502028	Kunzaliya musunik	2 st	Kunzaliya
40	230502042	Kotadiya Turishya	1 st	Kotadiya



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Yagnitham Gurukul, Kalawad Road, Rajkot - 360005, Gujarat (INDIA)				
27	230502028	Juduv A+41	2 st	
25	23050102	Het Kaneriya	1 st	
22	230501023	Rushi Gondha	1 st	
19	230501022	Darshil Gajera	1 st	
20	230501021	Huldip Gajera	1 st	
16	230501017	Dobariya Miraj	1 st	Miraj
11	230501011	Bharaniya Srujal	1 st	
52	230501053	Pamchumi Krish	1 st	Krish
50	230501051	Harsh Palwan	1 st	HAARIP
62	230501069	Dip Ramoliya	1 st	R.D.V.
64	230501065	Harsh Pathad.	1 st	
13	230501013	bhavya chikhaliya	1 st	
5	230501005	Darsh Daxvavu	1 st	
6	230501006	Bhalami Shyam	1 st	
14	230501015	Devchandert Meert A.	1 st	



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Vaidhram Gurukul, Kalwad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 21/10/23

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Mandavia Keyur Prakashbhai

Semester: II

Signature:

Topic Discuss:

Renal Kidney failure, Cmf, Mills, Ball mill, hammer mill, Edge runner mill etc.

Pharmaceuticals → Solubility, mixing.

Dosage form — Solid, liquid, monophasic, Biphasic, semi-solid.

HAP → Brain, skeletal system

Eye → Retina, pupil, cataract

Ear → Ear drum, mechanism of hearing

Digestive system

Ph Solubility → Factors affecting solubility

Parkinson → symptoms, pathophysiology, epidemiology

NZimer → symptoms, pathophysiology → epidemiology

depression → symptoms, pathophysiology → epidemiology

DNA

Excretory system → Urine formation. Related disease

Bernoulli

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
45	220501055	Dax Vala	2 nd	
06	220501006	Kamal bhava	2 nd	
44	220501054	Vaghachiya Parth	2 nd	
30	220501030	Mungela Mihir	2 nd	
19	220501019	Jogendra Virek	2 nd	
16	220501016	Hariyani Anish	2 nd	
1	220501001	Bugdai Ravang	2 nd	



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Yogidham Gurukul, Rajmard Road, Rajkot - 360005, Gujarat (INDIA)

Date: 23/02/2022

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: patel parth ashokbhai

Semester: 6

Signature: Parth A

Topic Discuss:

- Controlled drug delivery system
- Transdermal drug delivery system
- Mechanism of Absorption
- QA testing & packaging.
- validation

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
34	190501045	patel Harikrishan D.	6	<u>HS</u>
34	190501050	Rajesh Bhatvik	6	<u>HS</u>
10	190501011	Bansiliga Abhishek	6	<u>HS</u>
48	190501052	Rupali sarun	6	<u>HS</u>
36	190501041	patani suchin	6	<u>HS</u>
29	190501034	LALANI VIRKANT	6	<u>HS</u>



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Yogidham Gurokul, Kalawad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 29/01/24

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: - Chaghara Hearty. v.

Semester: 3rd.

Signature:

Topic Discuss:

- Centrifugation
- phenol water system.
- HLB Scale
- Naphthalene
- ⇒ Filtration
- ⇒ Aromatic amine
- ⇒ microscope introduction
- ⇒ solubility

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
18	220501020	Hareshkumar Jamiya	III	H.R. Jamiya
14	220501016	Goti Karish	III	Gk
21	220501024	Kalola Bhakti P.	III	Bkaldly
10	220501012	Devanski Dohariya	III	Devanski
36	220501045	Dhruv Shivsankari	III	Dhruv
42	220501052	Urvashi Patel	III	Urvashi
47	220501059	Vasani Harshil	III	Harshil



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Yogidham Gurukul, Kaleswad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 15/11/21

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Sakamiyal Rajini munsubhhuvi

Semester: III

Signature:

Topic Discuss:

- 1) physical pharmacy :- HLB scale, contact Angle, suspending agent, ultrabogy
- 2) pharmaceutical engineering :- size reduction, mixer, distribution, evaporation, circulation
- 3) microbiology :- culture media, hanging drop, E.coli, sterilization, aseptic tech.
- 4) organic chemistry :- homometallurene, tautomerism, isomers

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
43	200501055	Bhairvi Raval	3 rd 3rd	Bhairvi
49	200501068	Vaidyanthy Rukhmi	3	Rukhmi
45	200501060	Savaliya Sonali	3	Sonali
46	200501062	Shingam Jenisha	3	Jenisha
42	44 200501053	Ramani Vidhi	3	Vidhi
37	200501048	Pipariya Trusha	3	Trusha
47	200501066	Vedaniya Mausamee	3	Mausamee
03	200501003	Bhalodi Riya	3	Riya





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Yogidham Gurukul, Kalavad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 16/01/24

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: VASU PARESHBHAI KUTHIJIYA

Semester: 1st

Signature: *V. Kuthijiya*

Topic Discuss:

- ① Pharmaceutical Analysis - Acid base neutralization curve
- ② Cardiovascular syst.
- ③ Acid-base indicator.
- ④ Titrimetric Analysis & Types of solvent used in non eq. titn.
- ⑤ Introduction of suppository.

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
13	230501013	bhavya chikhaliya	1 st	<i>Bhavya</i>
15	230501015	Dhruvan Mahen	1 st	<i>Dhruvan</i>
49	230501049	Hardik odedara	1 st	<i>Hardik</i>
50	230501050	Pallav Harsh	1 st	<i>Pallav</i>
28	230501028	Aryan Shah	1 st	<i>Aryan</i>
24	230501024	Rohit Harsh	1 st	<i>Rohit</i>
55	230501055	Parmanv tejas	1 st	<i>Parmanv</i>



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Yogidham Gurukul, Kalwad Road, Rajkot - 360505, Gujarat (INDIA)

Roll No.	Enroll. No.	Name of Student	Semester	Sign
33	230501034	Kalpaul S. Kulkadiya	1 st	
34	230501035	KUNZ M. Kulkadiya	1 st	
36	230501037	Mayank Kamzariya	1 st	
35	230501038	Dhruvin Kamzariya	1 st	
30	230501031	Jethva Nisarg	1 st	
27	230501028	Jadev Atul	1 st	
40	230501041	Katadiya Trushul	1 st	
22	230501023	Uandha Rushi	1 st	
21	230501022	Armi Tisha	1 st	
22	230501023	Nishtha Kopalika	1 st	
40	230501027	Ravi Vinaygama	1 st	
39	230501026	Krishna Vinaygama	1 st	
34	230501025	Jay Upasariya	1 st	
63	230501024	Ravi Meethan	1 st	
62	230501023	Nip Ramiya	1 st	
57	230501022	Karoon - Tisha	1 st	



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Yogibham Gurukul, Kalavad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 11/10/21

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Vaclariya Mausamee

Semester: III

Signature:

Topic Discuss:

- pathophysiology :- Apoptosis, Necrosis, Tissue damage, Neurohumoral Transmission
- Pharmaceutical Microbiology = culture media
- Physical Pharmaceutics = solubility.
- Pharmaceutical Organic chem 2 = Aromatic Amine, Aromatic Acid
- Pharmaceutical engineering = filtration, Mixing

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
17	200501024	Keshvi Keshvi	3 rd	<i>Keshvi</i>
23	200501037	Mathani Geeta	3 rd	<i>Geeta</i>
24	200501033	Makadia Jini	3 rd	<i>Jini</i>
37	200501064	Pipariya Trushy	3 rd	<i>Trushy</i>
9	200501011	Daruniben Mansi	3 rd	<i>Mansi</i>
49	200501068	Vadodiyani Rishita	3 rd	<i>Rishita</i>
45	200501060	Savaniya Sumi	3 rd	<i>Sumi</i>



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Yogidham Gurukul, Kalawad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 12/12/23

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Sagarthiya Koiriya Rajeshbhai.

Semester: III

Signature:

Topic Discuss:

- HAP
- Ear
- Eye
- Blood component

Pharmaceuticals - Dosage Form
- Prescription

Acid-Base Titration, Sum, All Titration

CHF, Parkinson's, Gout, Renal

DNA, transcription, Translation.

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
34	22050043	Bagoriya Harj V.	3 rd	
27	22050-1031	Limbariya Shreya H.	3 rd	Shreya
38	22050278	Thakrar Sagarthiya Shivani J.	3 rd	S.S. Thakrar
04	220501004	Bhalodi Nishu P.	3	
02	220501002	Bevaliya Aperi V	3	
32	220501004	Pansariya Jank S	3 rd	
19	220501022	Jayadiga Vinit	3 rd	



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Yogidham Gurukul, Kalavad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 14/9/22

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Manojkumar Vatsalkumar maheshbhai

Semester: V

Signature:

Topic Discuss: Antihistaminic agents, H₂ antagonist sub.

JP -- tablet manufacturing, capsules, parent. Parental Product

cosph-2 - diuretic, Anti diuretics, drug acting on cardiovascular system

med chem-2 - Antihistaminic agents, antineoplastic agent Anticancer

p. jurisprudence - drugs & cosmetic act, 1940 & its rules 1945 pharmacy act-1948

pharmacognosy-2 :- Isolation, identification and analysis of phytoconstituents, Basics of phytochemistry,

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
04	200501001	Anus Dikshiyu	5 th	
07	200501004	Yashraj chavda	5 th	
08	200501007	Phuraj chudasma	5 th	
18	200501025	Kamuni patil	5 th	
40	200501651	meeta	5 th	
38	200501004	Jay Rubadiya	5 th	
29	200501038	Vivek mivani	5 th	
12	200501016	Prinaja meeta m	5 th	



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Yogdham Gurukul, Kalamod Road, Rajkot - 360005, Gujarat (INDIA)

Date: 12/9/23

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Jadeja Harshviba J.

Semester: 5th

Signature:

Topic Discuss:

- IP :-
 - ↳ Pseformulaⁿ
 - ↳ Tablet - IPDC
 - ↳ Parenterals
- Cology - II :-
 - ↳ Anti-anginal drugs
 - ↳ Anti-Arhythmic drugs
 - ↳ Diuretics
 - ↳ Gout
 - ↳ Bioassay
- Medchem-II:-
 - ↳ H₂-antagonist
 - ↳ Diuretic
 - ↳ Anti-Hypertensive

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
3	210501002	Amrutiya Janki	5 th	
5	210501011	Dholariya Vaibhav	5 th	
7	210501014	Jadeja Mahipalbinh	5 th	
9	210501018	Kangad Mahak	5 th	
22	210501022	Kasundra Yash	5 th	
26	210501030	Makun Mehul	5 th	
29	210501033	Pan Manshi	5 th	
25	210501042	Ramani Meet	5 th	



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Yogeshwar Gurukul, Kalawad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 4/4/22

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Rathod Hardik H.

Semester: IV

Signature:

Topic Discuss:

- Pharmacokinetic and Pharmacodynamics
- Adverse Drug Reactions
- Drug Interactions
- Rheology
- Cholinergic Neurotransmitters
- Adrenergic Neurotransmitters
- Introduction of Pharmacology
- Classification of Drugs
- Primary Metabolites

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
20	200501029	Kavak Nishith H.	4 th	<i>[Signature]</i>
19	200501027	Kanani Smit P.	4 th	<i>[Signature]</i>
51	200501070	Vishwas P. Zala	4 th	<i>[Signature]</i>
35	200501046	Abhi A. Patodiya	4 th	<i>[Signature]</i>
34	200501044	Abhay H. Pasmar	4 th	<i>[Signature]</i>
31	200501040	Priyanshu B. Moraniya	4 th	<i>[Signature]</i>
29	200501036	Mangaroliya Trushil	4 th	<i>[Signature]</i>
37	200501048	Trusha Ppasiya	4 th	<i>[Signature]</i>



ATMIYA UNIVERSITY

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Yogidham Gurukul, Kalawad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 9/07/23

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Nisarg R. Vala

Semester: ~~I~~ IInd

Signature:

Topic Discuss:

Pathophysiology

- Parkinson Disease :- Reasons, causes, Brain deformities etc
- HEART Disease :- congestive Heart failure.
- Renal disease :- Acute, chronic kidney disease
- Diabetes Typ-I, II : Diabeta Mellitus

Biochemistry

- DNA/RNA Metabolism :- Purines, Pyrimidines
- Transcription, Translation :- DNA synthesis Proteins.
- Protein Synthesis

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
41	22050105	VOHANI JAY SATYAPAL	II	
39	22050104	Tilakram Bhorad	II	
50	22050106	Bhavin Vyas J.	II	
51	22050106	Yash Thawan	II	
11	22050103	Gajena Pirthi	II	
26	22050105	Lukka AYAN	II	
33	22050104	Pipaliya Manav	II	



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Yogdham Garukul, Kalavad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 11/3/24

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Sonathiya Ayushi D.

Semester: 6

Signature:

Topic Discuss:

Pharmacology:

Anticancer

Antihepatic

chemotherapeutic agents

Antibiotics

Biopharmaceutics :-

• NLPK

• compartment modelling

• excretion

• absorption

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
03	210501002	Amrutya JanuP	6th	
04	210501033	pan HanuP	6th	
09	210501018	Kangad Mahesh.	6th	
06	210501023	Jadega Hanshviba	6th	
29	210501047	Sidaparna shruH	6th	
34	210501013	sonathiya bahumP.	6th	
85	210501054	sudani dhruvil	6th	
39	210501059	vadaliya Hanushil	6th	



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(Established under the Gujarat Private University Act II, 2016)

Yogidham Gurukul, Kalavad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 14/9/22

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Manojkumar Vatsalkumar maheshbhai

Semester: V

Signature:

Topic Discuss: Antihistaminic agents, H₂ antagonist sub.

JP -- tablet manufacturing, capsules, parent. Parental Product

cosph-2 - diuretic, Anti diuretics, drug acting on cardiovascular system

med. chem-2 - Antihistaminic agents, antineoplastic agent Anticancer

p. jurisprudence - drugs & cosmetic act, 1940 & its rules 1945 pharmacy act-1948

pharmacognosy-2 :- Isolation, identification and analysis of phytoconstituents, Basics of phytochemistry,

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
04	200501001	Anus Dikshiyu	5 th	
07	200501004	Yashraj chavda	5 th	
08	200501007	Phuraj chudasma	5 th	
18	200501025	Kamuni patil	5 th	
40	200501651	meeta	5 th	
38	200501004	Jay Rubadiya	5 th	
29	200501038	Vivek mivani	5 th	
12	200501016	Prinaja meeta m	5 th	



ATMIYA UNIVERSITY

Established under the Gujarat Private University Act (1, 2018)

Yogeshwar Gurukul, Kalawad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 4/4/22

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Rathod Hardik H.

Semester: IV

Signature:

Topic Discuss:

- Pharmacokinetic and Pharmacodynamics
- Adverse Drug Reactions
- Drug Interactions
- Rheology
- Cholinergic Neurotransmitters
- Adrenergic Neurotransmitters
- Introduction of Pharmacology
- Classification of Drugs
- Primary Metabolites

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
20	200501029	Kavak Nishith H.	4 th	<i>[Signature]</i>
19	200501027	Kanani Smit P.	4 th	<i>[Signature]</i>
51	200501070	Vishwas P. Zala	4 th	<i>[Signature]</i>
35	200501046	Abhi A. Patodiya	4 th	<i>[Signature]</i>
34	200501044	Abhay H. Pasmar	4 th	<i>[Signature]</i>
31	200501040	Priyanshu B. Moraniya	4 th	<i>[Signature]</i>
29	200501036	Mangaroliya Trushil	4 th	<i>[Signature]</i>
37	200501048	Trusha Ppasniya	4 th	<i>[Signature]</i>



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(Established under the Gujarat Private University Act 11, 2018)

Yogidham Gurukul, Rajmahal Road, Rajkot - 360005, Gujarat (INDIA)

Date: 23/02/2022

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: patel parth ashokbhai

Semester: 6

Signature: Parth A

Topic Discuss:

- Controlled drug delivery system
- Transdermal drug delivery system
- Mechanism of Absorption
- QA testing & packaging.
- validation

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
34	190501045	patel Harikrishan D.	6	<u>HS</u>
34	190501050	Rajesh Bhatnagar	6	<u>HS</u>
10	190501011	Bansal Abhishek	6	<u>HS</u>
48	190501052	Rupali Sarun	6	<u>HS</u>
36	190501041	Patel Jyoti	6	<u>HS</u>
29	190501034	LALANI VIRKANT	6	<u>HS</u>



ATMIYA UNIVERSITY

(Established under the Gujarat Private University Act II, 2010)

Yegitham Garaski, Kalamad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 11/5/22

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Sonathiya Ayushi D.

Semester: 2nd

Signature:

Topic Discuss:

pathophysiology:-

- Asthma
- COPD
- Anticancer

Biochemistry :-

- Citric acid pathway
- PDCA cycle

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
09	2105010215	Manek Mangal.	2 nd	
29	210501033	Pan Hansi	2 nd	
06	210501033	Tardifer Hansi	2 nd	
29	210501057	Siddhanta Shakti	2 nd	
03	210501002	Amulya Janki	2 nd	
34	210501053	Sonathiya Anshu	2 nd	
55	210501054	Sudani Dhruvi	2 nd	
59	210501059	Vadaliya Hanshi	2 nd	



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(Established under the Gujarat Private University Act II, 2018)

Yogibham Gurukul, Kalewad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 15/11/21

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Sakamiyal Rajini munsubhhuji

Semester: III

Signature:

Topic Discuss:

- 1) physical pharmacy :- HLB scale, contact Angle, suspending agent, ultrabogy
- 2) pharmaceutical engineering :- size reduction, mixer, distribution, evaporation, circulation
- 3) microbiology :- culture media, hanging drop, E.coli, sterilization, aseptic tech.
- 4) organic chemistry :- homometallurene tautomerism, isomers

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
43	200501055	Bhairvi Raval	3 rd 3 th	Bhairvi
44	200501068	Vaidyanthiyu Rukhtu	3	Gairvi
45	200501060	Savaliya sonali	3	Sonali
46	200501062	Shingam Jenisha	3	Jenisha
42	44 200501053	Ramani Vidhi	3	Vidhi
37	200501048	Pipariya Trusha	3	Trusha
47	200501066	Vedaniya Mausamee	3	Mausamee
03	200501003	Bhalodi Riya	3	Riya



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(Established under the Gujarat Private University Act 11, 2018)

Yogibham Gurukul, Kalawad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 11/10/21

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Vaclariya Mausamee

Semester: III

Signature:

Topic Discuss:

- pathophysiology :- Apoptosis, Necrosis, Tissue damage, Neurohumoral Transmission
- Pharmaceutical Microbiology = culture media
- Physical Pharmaceutics = solubility.
- Pharmaceutical Organic chem 2 = Aromatic Amine, Aromatic Acid
- Pharmaceutical engineering = filtration, Mixing

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
17	200501024	Keshvi Keshvi	3 rd	<i>Keshvi</i>
23	200501037	Mathani Georgi	3 rd	<i>Georgi</i>
24	200501033	Makadia Jini	3 rd	<i>Jini</i>
37	200501064	Pipariya Trushy	3 rd	<i>Trushy</i>
9	200501011	Daruniben Mansi	3 rd	<i>Mansi</i>
49	200501068	Vadodiyani Rishita	3 rd	<i>Rishita</i>
45	200501060	Savaniya Sumi	3 rd	<i>Sumi</i>



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(Established under the Gujarat Private University Act II, 2018)

Yogidham Gurukul, Kalawad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 12/12/23

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Sagarthiyaji Koiranji Rajeshbhai.

Semester: III

Signature:

Topic Discuss:

- HAP
- Ear
- Eye
- Blood component

Pharmaceuticals - Dosage Form
- Prescription

Acid-Base Titration, Sum, All Titration

CHF, Parkinson's, Gout, Renal

DNA, transcription, Translation.

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
34	22050043	Bagoriya Harj V.	3 rd	
27	22050-1031	Limbariya Shreya H.	3 rd	Shreya
38	22050278	Thakrar Sagarthiyaji Shivani J.	3 rd	S.J. Thakrar
04	220501004	Bhalodi Nishu P.	3	
02	220501002	Bevaliya Aperi V.	3	
32	220501004	Pansariya Janki S.	3 rd	
19	220501022	Jayaniya Vinit	3 rd	



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Yagnikham Garukul, Kalavad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 11/3/24

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Sonathiya Ayushi D.

Semester: 6

Signature:

Topic Discuss:

Pharmacology:

Anticancer

Antihepatic

chemotherapeutic agents

Antibiotics

Biopharmaceutics :-

• NLPK

• compartment modelling

• excretion

• absorption

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
03	210501002	Amrutya JanuP	6th	
29	210501033	pan hanuP	6th	
09	210501018	Kangad nichet.	6th	
06	210501023	Jadega Hanshviba	6th	
29	210501047	Sidaparna shruP	6th	
34	210501013	sonathiya bahumP.	6th	
85	210501054	sudani dhruvil	6th	
39	210501059	vadaliya Hanushil	6th	



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Established under the Gujarat Private University Act U. 2013

Yogdham Gurukul, Kalamod Road, Rajkot - 360005, Gujarat (INDIA)

Date: 12/9/23

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Jadeja Harshviba J.

Semester: 5th

Signature:

Topic Discuss:

- IP :-
 - ↳ Pseformulaⁿ
 - ↳ Tablet - IPDC
 - ↳ Parenterals
- Cology - II :-
 - ↳ Anti-anginal drugs
 - ↳ Anti-Arhythmic drugs
 - ↳ Diuretics
 - ↳ Gout
 - ↳ Bioassay
- Medchem-II:-
 - ↳ H₂-antagonist
 - ↳ Diuretic
 - ↳ Anti-Hypertensive

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
3	210501002	Amrutiya Janki	5 th	
5	210501011	Dholariya Vaibhav	5 th	
7	210501014	Jadeja Mahipalbinh	5 th	
9	210501018	Kangad Mahak	5 th	
22	210501022	Kasundra Yash	5 th	
26	210501030	Makun Mehul	5 th	
29	210501033	Pan Manshi	5 th	
25	210501042	Ramani Meet	5 th	



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Yogidham Gurukul, Kalwad Road, Rajkot - 360005, Gujarat (INDIA)

Roll No.	Enroll. No.	Name of Student	Semester	Sign
26	210501043	Sangani Sujal	5 th	
28	210501046	Shigadiya Ronak	5 th	
29	210501047	Sidapara Shweti	5 th	
31	210501049	Sojitra Harshit	5 th	
33	210501052	Sorathiya Ayushi	5 th	
35	210501054	Sudani Dhruvil	5 th	
36	210501056	Thumar Deepkumar	5 th	
39	210501059	Vadaliya Harshil	5 th	





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Established under the Gujarat Private University Act 11, 2014

Vaidhyanagar, Kalwad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 21/10/23

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Mandavia Keyur Prakashbhai

Semester: II

Signature:

Topic Discuss:

Renal kidney failure, CHF, mills, Ball mill, hammer mill, Edge runner mill etc.

Pharmaceuticals → Solubility, mixing.

Dosage form — Solid, liquid, monophasic, Biphasic, semi-solid.

HAP → Brain, skeletal system

Eye → Retina, pupil, cataract

Ear → Ear drum, mechanism of hearing

Digestive system

Ph Solubility → Factors affecting solubility

Parkinson → symptoms, pathophysiology, epidemiology

NZimer → symptoms, pathophysiology → epidemiology

depression → symptoms, pathophysiology → epidemiology

DNA

Excretory system → Urine formation. Related disease

Bernoulli

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
45	220501055	Dax Vala	2 nd	
06	220501006	Kamal bhava	2 nd	
44	220501054	Vaghachiya Parth	2 nd	
30	220501037	Mungela Mihir	2 nd	
19	220501026	Jogendra Virek	2 nd	
16	220501018	Hariyani Anish	2 nd	
1	220501001	Bugdai Ravang	2 nd	



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Yogidham Gurukul, Kalawad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 9/07/23

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Nisarg R. Vala

Semester: ~~I~~ IInd

Signature:

Topic Discuss:

Pathophysiology

- Parkinson Disease :- Reasons, causes, Brain deformities etc
- HEART Disease :- congestive Heart failure.
- Renal disease :- Acute, chronic kidney disease
- Diabetes Typ-I, II : Diabeta Mellitus

Biochemistry

- DNA/RNA Metabolism :- Purines, Pyrimidines
- Transcription, Translation :- DNA synthesis Proteins.
- Protein Synthesis

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
41	22050105	VOHANI JAY SATYAPAL	II	
39	22050104	Tilakram Bhorad	II	
50	22050106	Bhavin Vyas J.	II	
51	22050106	Yash Thawan	II	
11	22050103	Gajena Pirthi	II	
26	22050105	Lukka AYAN	II	
33	22050104	Pipaliya Manav	II	



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Vedidham Gurokul, Kalawad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 29/01/24

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: - Chaghara Healthy. v.

Semester: 3rd.

Signature: *[Handwritten Signature]*

Topic Discuss:

- Centrifugation
- phenol water system.
- HLB Scale
- Naphthalene
- ⇒ Filtration
- ⇒ Aromatic amine
- ⇒ microscope introduction
- ⇒ solubility

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
18	220501020	Harshkumar Jamiya	III	H.R. Jamiya
14	220501016	Goti Karish	III	<i>[Signature]</i>
21	220501024	Kalola Bhakti P.	III	<i>[Signature]</i>
10	220501012	Devanski Dohariya	III	<i>[Signature]</i>
36	220501045	Dhruv Shivsankar	III	<i>[Signature]</i>
42	220501052	Urvashi Patel	III	<i>[Signature]</i>
47	220501059	Vasani Harshil	III	<i>[Signature]</i>



ATMIYA UNIVERSITY

(Established under the Gujarat Private University Act II, 2015)

Yogidham Gurukul, Kalavad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 16/01/24

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: VASU PARESHBHAI KUTHIJIYA

Semester: 1st

Signature: *V. Kuthijiya*

Topic Discuss:

- ① Pharmaceutical Analysis - Acid base neutralization curve
- ② Cardiovascular syst.
- ③ Acid-base indicator.
- ④ Titrimetric Analysis & Types of solvent used in non eq. titn.
- ⑤ Introduction of suppository.

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
13	230501013	bhavya chikhaliya	1 st	<i>Bhavya</i>
15	230501015	Dhruvan Mahen	1 st	<i>Dhruvan</i>
49	230501049	Hardik odedara	1 st	<i>Hardik</i>
50	230501050	Pallav Harsh	1 st	<i>Pallav</i>
28	230501028	Aryan Shah	1 st	<i>Aryan</i>
24	230501024	Rohit Harsh	1 st	<i>Rohit</i>
55	230501055	Parmanv tejas	1 st	<i>Parmanv</i>



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(Established under the Gujarat Private University Act 11, 2018)

Yogidham Gurukul, Kalwad Road, Rajkot - 360005, Gujarat (INDIA)

Roll No.	Enroll. No.	Name of Student	Semester	Sign
33	230501034	Kalpaul S. Kulkadiyer	1 st	
34	230501035	KUNZ M. Kulkadiyer	1 st	
36	230501037	Mayank Kamzariya	1 st	
35	230501038	Dhruvin Kamzariya	1 st	
30	230501031	Jethva Nisarg	1 st	
27	230501028	Jadev Atul	1 st	
40	230501041	Katadiya Trushul	1 st	
22	230501023	Uandha Rushi	1 st	
21	230501022	Armi Tisha	1 st	
22	230501023	Nishtha Kopalika	1 st	
40	230501027	Ravi Vinaygama	1 st	
39	230501026	Krishna Vinaygama	1 st	
34	230501025	Jay Upasariya	1 st	
63	230501024	Ravi Meethan	1 st	
62	230501023	Nip Ramiya	1 st	
57	230501022	Karven - Tisha	1 st	



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(Established under the Gujarat Private University Act 15, 2016)

Yogidham Gurukul, Kalamod Road, Rajkot - 360005, Gujarat (INDIA)

Date: 29/1/2024

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Khandra Rajan Chandrakantbhai

Semester: I

Signature:

Topic Discuss:

- (1) Pharmaceutical Analysis : Acid base Mutualization curves related Problem Solution
- (2) types of Solvent for Non Aqueous Acid base titration
- (3) types of sta reference and indicator electrodes.
- (4) Discuss conductometry titration
- (5) Explain precipitation titration method like volhard, Fajan's mohr's method.

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
29	230502030	Palak R. Jakasania	2 st	Palak
21	230502022	Tisha Gami	1 st	Tisha
49	230501050	Hardik edema	2 st	Hardik
35	230501036	Dhruvin kanzariya	1 st	Dhruvin
30	230501081	Jethva Nisharg	1 st	N. Y. Jethva
36	230502028	Kunzaliya musunik	2 st	Kunzaliya
40	230502042	Kotadiya Turishya	1 st	Kotadiya



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(Established under the Gujarat Private University Act II, 2010)

Yegitham Garaski, Kalamad Road, Rajkot - 360005, Gujarat (INDIA)

Date: 11/5/22

Event : Peer learning session

Faculty: Faculty of Health Sciences

Department: School of Pharmaceutical Sciences

Session Taken By: Sonathiya Ayushi D.

Semester: 2nd

Signature:

Topic Discuss:

pathophysiology:-

- Asthma
- COPD
- Anticancer

Biochemistry :-

- Citric acid pathway
- PDCA cycle

Audience:

Roll No.	Enroll. No.	Name of Student	Semester	Sign
09	2105010215	Manek Mangal.	2 nd	
29	210501033	Pan Hansi	2 nd	
06	210501033	Tardela Hansi	2 nd	
29	210501057	Siddhanta Shakti	2 nd	
03	210501002	Amulya Janki	2 nd	
34	210501053	Sonathiya Hansi	2 nd	
55	210501054	Sudani Dhruvi	2 nd	
59	210501059	Vadaliya Hansi	2 nd	



3. Concept Mapping

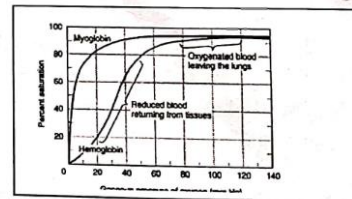
Concept mapping is utilized as a powerful tool to visually organize and represent knowledge. By connecting ideas through diagrams, students can better understand relationships, simplify complex topics, and enhance critical thinking. This method promotes clarity and retention, making learning more structured and effective.

ATMIYA UNIVERSITY, Rajkot
Faculty of Science
Class activity: Concept mapping

Program : M.Sc. Biotechnology	Semester : I	Batch : 2022-23
Course : 21MBTCC102 Core 2: Fundamental of Biochemistry		
Time: 10 mins.	Max. Marks : 10	Date: 11/10/22
Name of Students	Sagar Radadiya	
Enrollment No.		

1		Total Marks obtained 6/10
2		
3		
4		
5		

1. The oxygen dissociation curve of normal adult hemoglobin shown below is most effectively shifted to the right by
- Mixing with fetal hemoglobin
 - Increased 2,3-bisphosphoglycerate (BPG)
 - Cooperative binding of oxygen
 - Increased pH
 - Decreased CO



Oxygen binding curves of myoglobin and hemoglobin. Note the reduced haemoglobin saturation at low oxygen pressure that allows better delivery of oxygen to peripheral tissues.

2. Myoglobin shows a hyperbolic response, while hemoglobin shows a sigmoidal response for oxygen binding. Which of the following statements are true with respect to this observation?

- hemoglobin binds 2, 3-BPG while myoglobin does not
- hemoglobin exists in two different conformational states while myoglobin does not
- hemoglobin is a tetramer while myoglobin is a monomer
- hemoglobin is present in RBCs while myoglobin is present in the muscle

- R and S
- S and P
- P and Q
- Q and R



2

3. *Couples*. Indicate whether each of the following pairs of sugars consists of anomers, epimers, or an aldose-keto pair:

1 2 3

✓ (a) d-glyceraldehyde and dihydroxyacetone 3

✓ (b) d-glucose and d-mannose 2

X (c) d-glucose and d-fructose 1

✓ (d) α -d-glucose and β -d-glucose 1

✓ (e) d-ribose and d-ribulose 3

✓ (f) d-galactose and d-glucose 2

4. Choose the correct statement from the following:

- X
- a. Disulfide bonds in a 20-residue peptide can be formed only if the cysteines are adjacent to each other.
 - b. The amino acid isoleucine has only one chiral centre.
 - c. Both bases and sugar contribute to chirality of nucleic acids.
 - d. The pI of aspartic acid is less than that of glutamic acid

5. Match the following bonds with their approximate energies:

(a) Hydrogen bond	(i) 70.5 Kcal
(b) Van der Waals forces	(ii) 40Kcal
(c) Covalent bond	(iii) 80Kcal
(d) Ionic bond	(iv) 3 Kcal

2

- a. (a)(iv),(b)(iii),(c)(ii),(d)(i)
- b. (a)(ii),(b)(i), (c)(iii),(d)(iv)
- c. (a)(i),(b)(iv), (c)(ii),(d)(iii)
- d. (a)(iv),(b)(i),(c)(iii),(d)(ii)



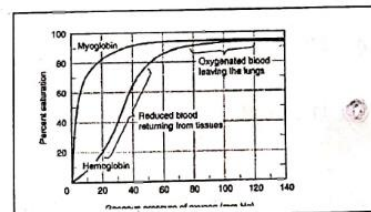
ATMIYA UNIVERSITY, Rajkot
Faculty of Science
Class activity: Concept mapping

Program : M.Sc. Biotechnology	Semester : I	Batch : 2022-23
Course : 21MBTCC102 Core 2: Fundamental of Biochemistry		
Time: 10 mins.	Max. Marks : 10	Date : 11/10/2022
Name of Students	Bosricha yash k.	
Enrollment No.		

1		<p>Total Marks obtained</p> <p>10/10</p>
2		
3		
4		
5		

1. The oxygen dissociation curve of normal adult hemoglobin shown below is most effectively shifted to the right by

- a. Mixing with fetal hemoglobin
- b. Increased 2,3-bisphosphoglycerate (BPG)
- c. Cooperative binding of oxygen
- d. Increased pH
- e. Decreased CO



Oxygen binding curves of myoglobin and hemoglobin. Note the reduced haemoglobin saturation at low oxygen pressure that allows better delivery of oxygen to peripheral tissues.

2. Myoglobin shows a hyperbolic response, while hemoglobin shows a sigmoidal response for oxygen binding. Which of the following statements are true with respect to this observation?

- P. hemoglobin binds 2, 3-BPG while myoglobin does not
- Q. hemoglobin exists in two different conformational states while myoglobin does not
- R. hemoglobin is a tetramer while myoglobin is a monomer
- S. hemoglobin is present in RBCs while myoglobin is present in the muscle

- a. R and S
- b. S and P
- c. P and Q
- d. Q and R



3. Couples. Indicate whether each of the following pairs of sugars consists of anomers, epimers, or an aldose-ket pair:

- 2 (a) d-glyceraldehyde and dihydroxyacetone aldose - keto
- (b) d-glucose and d-mannose epimers
- * (c) d-glucose and d-fructose anomers aldose - keto
- (d) α -d-glucose and β -d-glucose anomers
- (e) d-ribose and d-ribulose aldose - keto
- (f) d-galactose and d-glucose epimers

4. Choose the correct statement from the following:

- 2 a. Disulfide bonds in a 20-residue peptide can be formed only if the cysteines are adjacent to each other.
- b. The amino acid isoleucine has only one chiral centre.
- c. Both bases and sugar contribute to chirality of nucleic acids.
- d. The pI of aspartic acid is less than that of glutamic acid

5. Match the following bonds with their approximate energies:

(a) Hydrogen bond	(i) 0.5 Kcal
(b) Van der Waals forces	(ii) 40Kcal
(c) Covalent bond	(iii) 80Kcal
(d) Ionic bond	(iv) 3 Kcal

- 2 a. (a)(iv),(b)(iii),(c)(ii),(d)(i)
- b. (a)(ii),(b)(i), (c)(iii),(d)(iv)
- c. (a)(i),(b)(iv), (c)(ii),(d)(iii)
- d. (a)(iv),(b)(i),(c)(iii),(d)(ii)



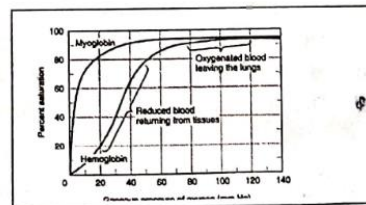
ATMIYA UNIVERSITY, Rajkot
Faculty of Science
Class activity: Concept mapping

Program : M.Sc. Biotechnology	Semester : I	Batch : 2022-23
Course : 21MBTCC102 Core 2: Fundamental of Biochemistry		
Time: 10 mins.	Max. Marks : 10	Date : 11/10/22.
Name of Students	Kateriya Pooja V.	
Enrollment No.	19	

1		Total Marks obtained 10-1 = 9
2		
3		
4		
5		

1. The oxygen dissociation curve of normal adult hemoglobin shown below is most effectively shifted to the right by

- a. Mixing with fetal hemoglobin
- b. Increased 2,3-bisphosphoglycerate (BPG)
- c. Cooperative binding of oxygen
- d. Increased pH
- e. Decreased CO



Oxygen binding curves of myoglobin and hemoglobin. Note the reduced haemoglobin saturation at low oxygen pressure that allows better delivery of oxygen to peripheral tissues.

2. Myoglobin shows a hyperbolic response, while hemoglobin shows a sigmoidal response for oxygen binding. Which of the following statements are true with respect to this observation?

- P. hemoglobin binds 2, 3-BPG while myoglobin does not
- Q. hemoglobin exists in two different conformational states while myoglobin does not
- R. hemoglobin is a tetramer while myoglobin is a monomer
- S. hemoglobin is present in RBCs while myoglobin is present in the muscle

- a. R and S
- c. P and Q

- b. S and P
- d. Q and R

✓ 2



3. Couples. Indicate whether each of the following pairs of sugars consists of anomers, epimers, or an aldose-ket pair:

✓ (a) d-glyceraldehyde and dihydroxyacetone aldose-ketone

✓ (b) d-glucose and d-mannose epimers ✓ 2

✓ (c) d-glucose and d-fructose ~~anomers~~ aldose-ketone.

✓ (d) α-d-glucose and β-d-glucose anomers

✓ (e) d-ribose and d-ribulose aldose-ketone

✓ (f) d-galactose and d-glucose epimers

4. Choose the correct statement from the following:

- ✓ a. Disulfide bonds in a 20-residue peptide can be formed only if the cysteines are adjacent to each other.
- 2 b. The amino acid isoleucine has only one chiral centre.
- c. Both bases and sugar contribute to chirality of nucleic acids.
- d. The pI of aspartic acid is less than that of glutamic acid

5. Match the following bonds with their approximate energies:

(a) Hydrogen bond	(i) 0.5 Kcal
(b) Van der Waals forces	(ii) 40 Kcal
(c) Covalent bond	(iii) 80 Kcal
(d) Ionic bond	(iv) 3 Kcal

✓ a. (a)(iv), (b)(iii), (c)(ii), (d)(i)

2 b. (a)(ii), (b)(i), (c)(iii), (d)(iv)

c. (a)(i), (b)(iv), (c)(ii), (d)(iii)

✓ d. (a)(iv), (b)(i), (c)(iii), (d)(ii)



3. Couples. Indicate whether each of the following pairs of sugars consists of anomers, epimers, or an aldose-keto pair:

(2)

- ✓ (a) d-glyceraldehyde and dihydroxyacetone
(aldose-keto)
- ✓ (b) d-glucose and d-mannose
(Epimers)
- (c) d-glucose and d-fructose
X (Anomers)
- ✓ (d) α -d-glucose and β -d-glucose
(Epimers)
- ✓ (e) d-ribose and d-ribulose
(Anomers)
- ✓ (f) d-galactose and d-glucose
(Epimers)

4. Choose the correct statement from the following:

- ✓ a. Disulfide bonds in a 20-residue peptide can be formed only if the cysteines are adjacent to each other. (cystin)
- b. The amino acid isoleucine has only one chiral centre. (more than one)
- c. Both bases and sugar contribute to chirality of nucleic acids. (Only sugars)
- d. The pI of aspartic acid is less than that of glutamic acid

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- a. (a)(iv), (b)(iii), (c)(ii), (d)(i)
- b. (a)(ii), (b)(i), (c)(iii), (d)(iv)
- ✓ c. (a)(i), (b)(iv), (c)(ii), (d)(iii)
- d. (a)(iv), (b)(i), (c)(iii), (d)(ii)



ATMIYA UNIVERSITY, Rajkot
Faculty of Science
Class activity: Concept mapping

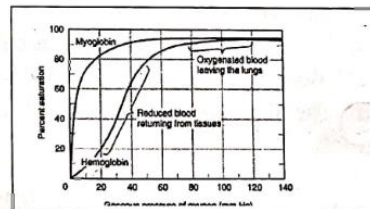
4.5

Program : M.Sc. Biotechnology	Semester : I	Batch : 2022-23
Course : 21MBTCC102 Core 2: Fundamental of Biochemistry		
Time: 10 mins.	Max. Marks : 10	Date: 11-10-22
Name of Students	Badi Mohammad sekia	
Enrollment No.		

1	2	Total Marks obtained 4.5
2	0	
3	0.5	
4	2	
5	0	

2

1. The oxygen dissociation curve of normal adult hemoglobin shown below is most effectively shifted to the right by
- Mixing with fetal hemoglobin
 - Increased 2,3-bisphosphoglycerate (BPG)
 - Cooperative binding of oxygen
 - Increased pH
 - Decreased CO



Oxygen binding curves of myoglobin and hemoglobin. Note the reduced haemoglobin saturation at low oxygen pressure that allows better delivery of oxygen to peripheral tissues.

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- R and S
- P and Q

- S and P
- Q and R



3. Couples. Indicate whether each of the following pairs of sugars consists of anomers, epimers, or an aldose-keto pair:

0.5

- (a) d-glyceraldehyde and dihydroxyacetone aldose ketone ✓
- (b) d-glucose and d-mannose ANOMERS (EP) X
- (c) d-glucose and d-fructose EPIMERS X
- (d) α-d-glucose and β-d-glucose EPIMERS X
- (e) d-ribose and d-ribulose ANOMERS X
- (f) d-galactose and d-glucose ANOMERS - X

4. Choose the correct statement from the following:

2

- a. Disulfide bonds in a 20-residue peptide can be formed only if the cysteines are adjacent to each other.
- b. The amino acid isoleucine has only one chiral centre.
- c. Both bases and sugar contribute to chirality of nucleic acids.
- (d) The pI of aspartic acid is less than that of glutamic acid

5. Match the following bonds with their approximate energies:

X

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(b) Van der Waals forces	(ii) 40Kcal
(c) Covalent bond	(iii) 80Kcal
(d) Ionic bond	(iv) 3 Kcal

- a. (a)(iv),(b)(iii),(c)(ii),(d)(i)
- b. (a)(ii),(b)(i), (c)(iii),(d)(iv)
- c. (a)(i),(b)(iv), (c)(ii),(d)(iii)
- + d. (a)(iv),(b)(i),(c)(iii),(d)(ii)

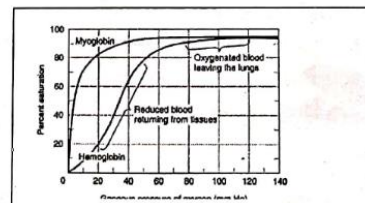


ATMIYA UNIVERSITY, Rajkot
Faculty of Science
Class activity: Concept mapping

Program : M.Sc. Biotechnology	Semester : I	Batch : 2022-23
Course : 21MBTCC102 Core 2: Fundamental of Biochemistry		
Time: 10 mins.	Max. Marks : 10	Date : 11 / 10 / 2022
Name of Students	Jadeja Meetaajsinh N.	
Enrollment No.	220621014	

1	2	Total Marks obtained 4
2	0	
3	2	
4	0	
5	0	

- ✓ 1. The oxygen dissociation curve of normal adult hemoglobin shown below is most effectively shifted to the right by
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 - c. Cooperative binding of oxygen
 - d. Increased pH
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Oxygen binding curves of myoglobin and hemoglobin. Note the reduced haemoglobin saturation at low oxygen pressure that allows better delivery of oxygen to peripheral tissues.

- X 2. Myoglobin shows a hyperbolic response, while hemoglobin shows a sigmoidal response for oxygen binding. Which of the following statements are *true* with respect to this observation?
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- a. R and S
- c. P and Q

- ✓ b. S and P
- d. Q and R



CLASS ACTIVITY, DATE 20/2/2022

Department of Biotechnology	B.Sc. Biotechnology, Semester IV
Course Code: 21BBTCC401	Practical 4: Molecular and Cell Culture Techniques
Enrolment No	21601040
Name & signature	Bhavya Vagadiya

Answer in brief

12

1. Give the function of DPA.

DPA = Diphenylamine. It is the method for estimation of DNA. Gives acidic condition. Gives blue colour.

2. What is orcinol.

Orcinol is method for estimation of RNA. It gives green colour.

3. Give the function of SDS.

α

4. How TE buffer is important in DNA isolation.

TE = Tris - Ethyl buffer. TE buffer maintain the pH

5. Which component of Blood is taken for DNA isolation and why. Write the name of reagent.

α



6. What does RCF stand for?

✗

7. Write the relationship between RPM & RCF.

$$RCF = 1.12 \times 10^{-5} \times \pi \times (RPM)^2$$

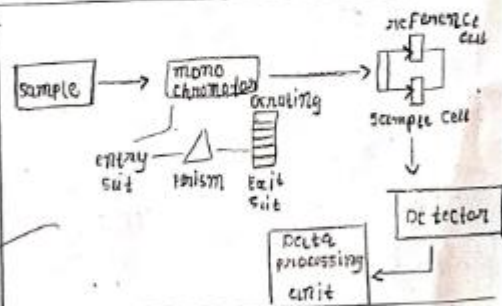
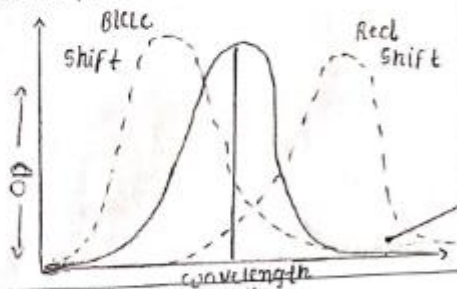
$$(RPM)^2 = \frac{RCF}{1.12 \times 10^{-5} \times \pi}$$

8. What is the principle of the UV-visible Spectrophotometer?

UV-visible Spectroscopy used to find specific wavelength.
It consists Sample, monochromator, detector, Data processing unit.

✗

9. Draw UV-Visible spectra and mark Red-shift and Blue-shift.



10. Give the precaution before centrifugation.

centrifuge at specific rpm or time.

✗



CLASS ACTIVITY, DATE 20/2/2022	
Department of Biotechnology	B.Sc. Biotechnology, Semester IV
Course Code: 21BBTCC401	Practical 4: Molecular and Cell Culture Techniques
Enrolment No	210601033.
Name & signature	Shreeta R. Prasad.

Answer in brief

24

1. Give the function of DPA.
It ↓ deproteinated the DNA, which is W-HEA to form blue react with colour.
2. What is orcinol.
Orcinol is the concentrated acid which reacts with RNA, in furfural form ↓ to give green colour of RNA.
3. Give the function of SDS.
SDS is used to dissolve cell membrane into it. It break down the cell membrane.
4. How TE buffer is important in DNA isolation.
TE buffer is used to dissolve DNA pellet for further process. like Gel-electrophoresis.
5. Which component of Blood is taken for DNA isolation and why. Write the name of reagent.
WBCs are taken for DNA isolation as they consist of nucleus and genetic material into it. RBC lysing buffer, Nucleic lysing buffer.



6. What does RCF stand for?

Relative Centrifugal Force.

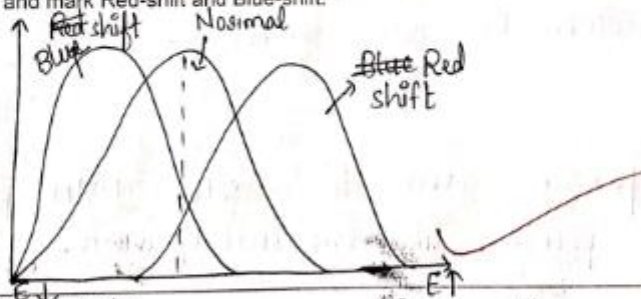
7. Write the relationship between RPM & RCF.

$$RCF = 1.12 \times 10^{-8} \times RPM^2$$

8. What is the principle of the UV-visible Spectrophotometer?

The principle of UV-visible spectrophotometer is Beer-Lambert law, which is $A \propto cl$.

9. Draw UV-Visible spectra and mark Red-shift and Blue-shift.



10. Give the precaution before centrifugation.

- The vials or tubes should be balanced volumetrically in rotor.
- When centrifugation starts motor should be on and brake should be off.
- Check that centrifuge does not produce sound while rotating.