

VIVEKANAND COLLEGE KOLHAPUR
B.SC TY ENTIRE 2024-25
SURPRISE TEST PRESENTY

Sr. No.	Roll No.	Student Name	Sign
1	9301	ADANNA PRANAV BHAUSO	<u>Adanna</u>
2	9302	AMBEKAR SHREYA MOHAN	<u>Shreya</u>
3	9303	BAM SHREYASH HARISH	<u>Bam</u>
4	9304	BAWADEKAR SHRUTIKA ANANT	<u>Shrutika</u>
5	9305	BHAMBURE SHRAVANI KAILAS	<u>Bhambure</u>
6	9306	BIRJE TRIVENI PUNDALIK	<u>Birje</u>
7	9307	BORGAVE RITESH MAHAVIR	<u>Borgave</u>
8	9308	CHIKALKAR SHRUTI NITIN	<u>Shruti</u>
9	9309	CHOUGULE SHRUTI BHARAT	<u>Shruti</u>
10	9310	DHAVAN VAISHNAVI SANTOSH	<u>Dhavan</u>
11	9311	GONUGADE BHAKTI KISHOR	<u>Gonugade</u>
12	9312	GURAV ISHA JAGDISH	<u>Gurav</u>
13	9313	JADHAV SANIKA SAMBHAJI	<u>Jadhav</u>
14	9314	JAMADAR ALISHA NAJIR	<u>Jamadar</u>
15	9315	JOSHI SHAMBHAVI DHANANJAY	<u>Joshi</u>
16	9316	KALE PREETI DANIEL	<u>Kale</u>
17	9317	KALEL ARVIND BHOJA	<u>Kalel</u>
18	9318	KAMAT TEERTHA RAJ	<u>Kamat</u>
19	9319	KANEKAR SHRUTI SANDIP	<u>Kanekar</u>
20	9320	KAVATHEKAR YASHOVARDHAN MADANMOHAN	<u>Kavathekar</u>
21	9321	KORAVI MANSI BAJARANG	<u>Koravi</u>
22	9322	KOTHALE SAMIKSHA SHITAL	<u>Kothale</u>
23	9323	KUMBHAR MANISH BABASO	<u>Kumbhar</u>
24	9324	KURUD KRISHNA GAJANAN	<u>Kurud</u>
25	9325	KUTE AJAY DADASAHEB	<u>Kute</u>
26	9326	MAHIND SAMRUDHI SANJAY	<u>Mahind</u>
27	9327	MESTRI SOPHIYA SALEEM	<u>Mestri</u>
28	9328	NAVGHANE SANMATI RAJABHAU	<u>Navghane</u>
29	9329	PARIT SUCHETA RANJEET	<u>Parit</u>
30	9330	PATIL AASHISH TUKARAM	<u>Patil</u>
31	9331	PATIL CHETAN BALKRISHNA	<u>Patil</u>
32	9332	PATIL KETAN AVINASH	<u>Patil</u>
33	9333	PATIL NEHA LAXMAN	<u>Patil</u>
34	9334	PATIL NIRAJ RAJGONDA	<u>Patil</u>
35	9335	PATIL PRATIK AADAGONDA	<u>Patil</u>
36	9336	PATIL PRATIKSHA DATTATRAY	<u>Patil</u>
37	9337	PATIL SHREEYA SURESH	<u>Patil</u>
38	9338	PATIL SHRIDHAR SAGAR	<u>Patil</u>
39	9339	PAWAR SWATI PRAVIN	<u>Pawar</u>
40	9340	PEDNEKAR ARYA HERAMB	<u>Pednekar</u>
41	9341	PHOPE KAUMUDI PRASAD	<u>Phope</u>
42	9342	PINJARE NAYAN AMAR	<u>Pinjare</u>
43	9343	POL ESHWARI PARSU	<u>Pol</u>
44	9344	RANJANE DHANASHRI NARENDRA	<u>Ranjane</u>
45	9345	REGE SELA AJINKYA	<u>Rege</u>
46	9346	SALOKHE HARSHDEEP SUHAS	<u>Salokhe</u>
47	9347	SAWANT SAMIKSHA CHANDRAKANT	<u>Sawant</u>
48	9348	SAWANT VIRAJ JAYDEEP	<u>Sawant</u>
49	9349	SHINDE MAYURI MADHUKAR	<u>Shinde</u>
50	9350	SHIRODKAR SOUNDARYA UMESH	<u>Shirodkar</u>
51	9351	TALEKAR SAMRUDHEE ANIL	<u>Talekar</u>
52	9352	TASHILDAR KIRAN BALKRUSHNA	<u>Tashildar</u>
53	9353	THAKARE OMKAR SANTOSH	<u>Thakare</u>
54	9354	VASWANI YASHIKA DAMODAR	<u>Vaswani</u>
55	9355	VHARKAT MANASVI SAGAR	<u>Vharkat</u>

VIVEKANAND COLLEGE KOLHAPUR

B.SC TY ENTIRE 2024-25

SURPRISE TEST MARK LIST

Sr. No.	Roll No.	Student Name	Mark
1	9301	ADANNA PRANAV BHAUSO	
2	9302	AMBEKAR SHREYA MOHAN	03
3	9303	BAM SHREYASH HARISH	10
4	9304	BAWADEKAR SHRUTIKA ANANT	08
5	9305	BHAMBURE SHRAVANI KAILAS	06
6	9306	BIRJE TRIVENI PUNDALIK	07
7	9307	BORGAVE RITESH MAHAVIR	09
8	9308	CHIKALKAR SHRUTI NITIN	08
9	9309	CHOUGULE SHRUTI BHARAT	07
10	9310	DHAVAN VAISHNAVI SANTOSH	09
11	9311	GONUGADE BHAKTI KISHOR	07
12	9312	GURAV ISHA JAGDISH	10
13	9313	JADHAV SANIKA SAMBHAJI	11
14	9314	JAMADAR ALISHA NAJIR	06
15	9315	JOSHI SHAMBHAVI DHANANJAY	15
16	9316	KALE PREETI DANIEL	08
17	9317	KALEL ARVIND BHOJA	12
18	9318	KAMAT TEERTHA RAJ	09
19	9319	KANEKAR SHRUTI SANDIP	08
20	9320	KAVATHEKAR YASHOVARDHAN MADANMOHAN	15
21	9321	KORAVI MANSI BAJARANG	11
22	9322	KOTHALE SAMIKSHA SHITAL	10
23	9323	KUMBHAR MANISH BABASO	08
24	9324	KURUD KRISHNA GAJANAN	13
25	9325	KUTE AJAY DADASAHEB	09
26	9326	MAHIND SAMRUDHI SANJAY	08
27	9327	MESTRI SOPHIYA SALEEM	06
28	9328	NAVGHANE SANMATI RAJABHAU	18
29	9329	PARIT SUCHETA RANJEET	05
30	9330	PATIL AASHISH TUKARAM	09
31	9331	PATIL CHETAN BALKRISHNA	08
32	9332	PATIL KETAN AVINASH	10
33	9333	PATIL NEHA LAXMAN	07
34	9334	PATIL NIRAJ RAJGONDA	14
35	9335	PATIL PRATIK AADAGONDA	08
36	9336	PATIL PRATIKSHA DATTATRAY	07
37	9337	PATIL SHREEYA SURESH	08
38	9338	PATIL SHRIDHAR SAGAR	14
39	9339	PAWAR SWATI PRAVIN	13
40	9340	PEDNEKAR ARYA HERAMB	13
41	9341	PHOPE KAUMUDI PRASAD	14
42	9342	PINJARE NAYAN AMAR	07
43	9343	POL ESHWARI PARSU	12
44	9344	RANJANE DHANASHRI NARENDRA	05
45	9345	REGE SELA AJINKYA	09
46	9346	SALOKHE HARSHDEEP SUHAS	08
47	9347	SAWANT SAMIKSHA CHANDRAKANT	16
48	9348	SAWANT VIRAJ JAYDEEP	09
49	9349	SHINDE MAYURI MADHUKAR	10
50	9350	SHIRODKAR SOUNDARYA UMESH	08
51	9351	TALEKAR SAMRUDHEE ANIL	14
52	9352	TASHILDAR KIRAN BALKRUSHNA	11
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54	9354	VASWANI YASHIKA DAMODAR	09
55	9355	VHARKAT MANASVI SAGAR	07

Q.1. MCQ :- (4 M)

1] Spirulina algae can be used as food for human being.

2] Neurotoxin is produced by Clostridium botulinum.

04 3] The key intermediate in the production of L-lysine diaminopimelic acid

4] The major component required for vit B12 fermentation is Co

Q.2. Short Notes

1] Explain the types of spoilage.

2] Describe food born illness caused by Amoebiasis.

Q.3 Describe in detail production & purification of L-Lysine

1] Types of spoilage :-
spoilage is the process in which the physical & chemical changes occurs in the food due to which leads to unsuitable form consumers.

Types of spoilage :-

a] physical spoilage -

The spoilage in which food undergoes some physical damages which

cause food to get decay or spoil.

eg. Bruising -

Freezer Burn -

packaging failure -

b] Chemical spoilage - In this type, the food undergoes some chemical change i.e. some reaction causes food spoilage.

i] Oxidation - The reaction which involves the between O_2 & fatty acid.

eg. Rancidity of oil.

ii] Maillard reaction $\rightarrow$ The reaction occur between the amino acid & reducing sugar which leads Browning.

eg. Browning of milk powder.

iii] Hydrolysis $\rightarrow$ The reaction in which breakdown occurs with water.

eg. acid hydrolysis occurs

c] enzymatic spoilage -

The spoilage occurs due to some enzymes of plant origin & animal origin which naturally present in it.

i] Amylase $\xrightarrow{\text{Lipase}}$ Breakdown of triglyceride into fatty acid & glycerol.

ii] Amylase $\rightarrow$ It occurs on starch which breakdown into simple sugars.

iii] protease $\rightarrow$ It mainly reacts on proteins which converts into simple peptide or amino acid.

eg. Meat tenderizing enzyme.

- It also reported in homosexual person.
- It mainly occurs or found in poor or underdeveloped countries.

Mode of Action →

- The cyst of Amoeba enters into large intestine it is mainly resistant to stomach pH.
- It leads to enters in colon of large intestine.

Diagnosis →

- The cyst are to be stained with iodine
- saline mounted method is to be used
- Microbiological observation
- analysis of stool sample for presence of cyst

Symptoms →

- abdominal pain
- mucous or bloody stool
- cramps in stomach
- loss of appetite
- diarrhoea

Treatment →

- oral rehydration
- injection of saline to maintain the

salt balance.

- antibiotic

prevention -

- eat avoid unhygienic food. eating
- avoid drinking contaminated water

- maintain personal hygiene

3] Describe lysine production & recovery →

- Lysine is the basic amino acid.

- Hydrophobic in nature.

production -

The lysine production mainly occurs by using the bacterial cell at large scale.

- The commonly used species

C. glutamicum & B. flavus

- The C. glutamicum is mostly preferred

- The requirement for production of L-lysine -

1] carbon source - Glucose,

2] Minerals & vitamins - phosphorus, calcium,

Biotin as cofactor.

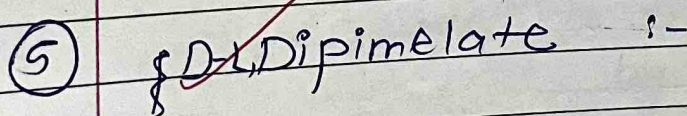
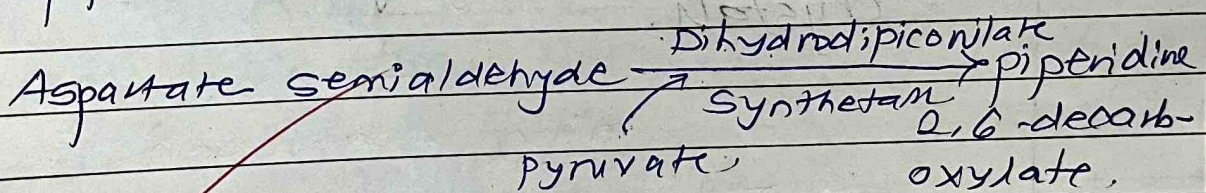
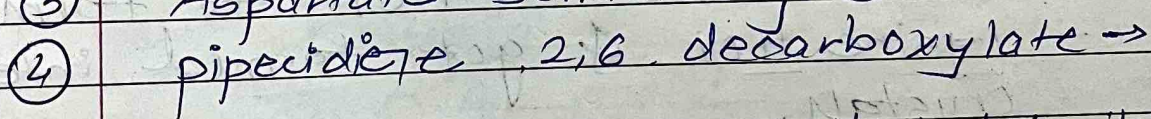
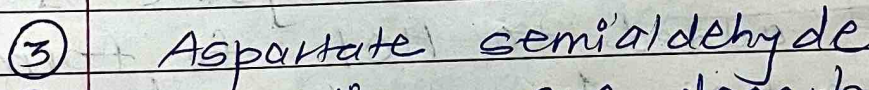
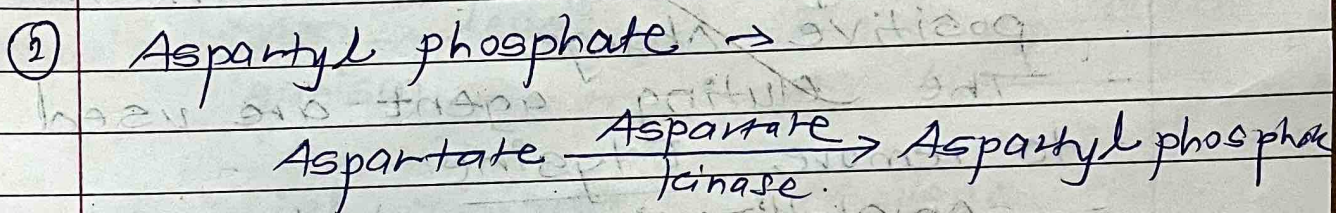
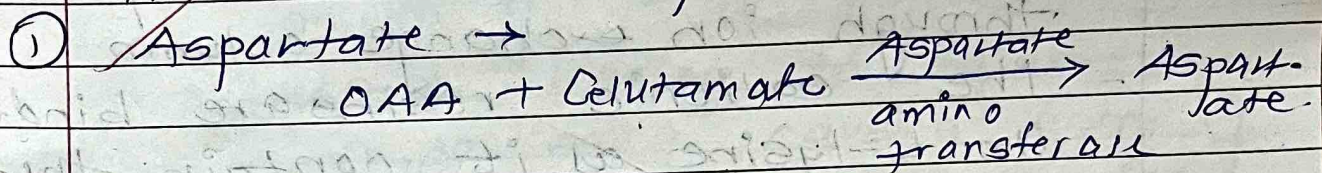
3] fermentor design → Fed batch fermentor are used with designed parameter for Aeration.

4] Inoculum preparation.

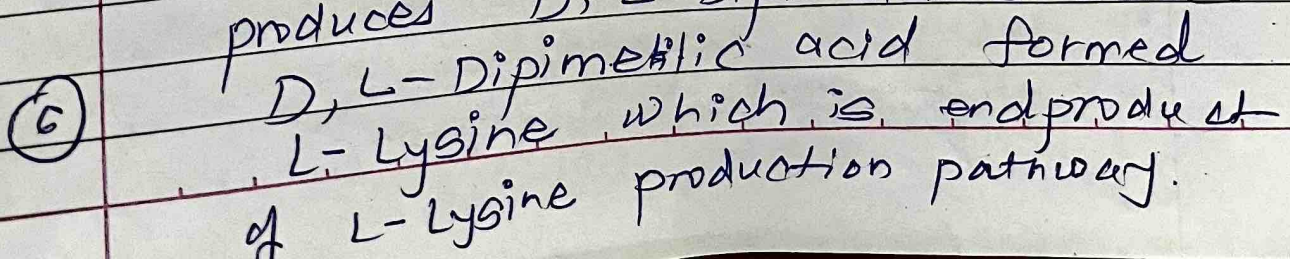
The Major Metabolic pathway occurs in lysine production -

Aspartate pathway is the major pathway occurs in lysine production. This pathway involves the production of amino acid such as Methionine, isoleucine, threonine, Lysine.

The reaction steps such as:



piperidine 2,6-decarboxylate undergoes certain intermediate reaction & produces D, L-Dipimelic acid.



Recovery

- separation - The fermented broth of the cells are to be separated by filtration.
- precipitation - The filtrate are subjected to precipitation.
- Ion exchange chromatography - The ion exchange resins are used & filled in the column.
- The filtrate is to be passed through ion exchange column.
- The cationic resins are binded to L-lysine as it contain the positive charge.
- The eluting agent are used to remove L-lysine.
- crystallization :- L-lysine is then added to HCl to form, Lysine HCl & get formed into crystals.

Surprise Examination

MIN07BTE21 : Microbiology - III

Bacterial Cytology & Cultivation.

Q. i) Fill in the blanks. -

1) The first position of a tetrapeptide is always occupied by

→ L-alanine.

2) _____ are special organelles in organisms which fix CO_2

→ Carboxysomes.

3) _____ are responsible for buoyancy of bacteria.

→ Gas Vacuoles

4) Volutine granules are _____ in nature

→ Basophilic.

5) _____ is a dormant or resting stage structure of bacterial cell.

→ Endospore.

6) The filament of flagella is a site of _____ antigen

→ H.

7) _____ is also called as unit membrane.

→ cell membrane.

8) The negative charge ^{which} presents on DNA can be neutralized by _____ ions.

→ Mg^{++}

MINI TEST: Microbiology - III

Sem. II

Internal Examination

17

25/05/2022

Section

Bacterial Cytology & Cultivation.

g) The process of changes, occurring during the life cycle is known as Morphogenesis.

→ Morphogenesis.

10) The first position of a tetrapeptide is always occupied by ^{also} are known as Metachromatic granules.

→ Polyphosphate granules.

are special granules in organisms which fix CO₂

Carboxyl groups.

are responsible for production of bacteria.

Gas vacuoles

Volcanic granules are in nature

Basophilic.

is a dormant or resting stage structure of

Bacterial cell.

Endospore.

The filamentous structure of Rhodospirillum rubrum is a site of

Photosynthesis.

is also called as cell membrane.

Cell membrane.

8) The negative charge present on DNA can be neutralised

ions.

Mg⁺⁺

F.Y B.Sc.
Sem II

Microbiology III

			Marks.
9101	Pranav Suresh Alase	<u>Alase</u>	03
9102	Alfiya Jafarsadik Attar	<u>Attar</u>	04
9103	Sneha. Bapu. Bhivase	<u>Bhivase</u>	01
9104	Nayana Nitin Bidre	<u>Bidre</u>	01
9105	Rutuja Rahul Bugate	<u>R.R. Bugate</u>	02
9106	Harshala Yashwant Chaugale	<u>H.Y.C</u>	02
9115	Nelson Shima D'Souza	<u>D'Souza</u>	04
9122	Vinita Parvati Jankar.	<u>Jankar</u>	01
9124	Aditya S. Jha	<u>Jha</u>	04
9125	Shravani K. Kadam	<u>Kadam</u>	03
9129	Janhavi N Kumbhar	<u>Kumbhar</u>	00
9137	Muskan B. Mukadam	<u>Muskam</u>	00
9144	Ritesh Ranjeet Patil	<u>Patil</u>	07
9147	Shivanand Bhimrav Patil	<u>Patil</u>	01
9149	Vaishnavi Rameshchandra Patil	<u>Patil</u>	03
9151	Pranav Ravindra Ranbhise	<u>Ranbhise</u>	02
9152	Bhavika Raju Rathod	<u>Rathod</u>	02
9153	Tejaswini Prakash Sapate	<u>Sapate</u>	00
9154	Riddhi Amar Shete	<u>Shete</u>	04
9158	Meenal Mahadev Usapkar	<u>Usapkar</u>	00
9139	Sakshi Atul Nalawade	<u>Nalawade</u>	01
9119	Akshata Krishna Gawas		01.

Ans:- Bacteriophage.

Bacteriophage is a virus of bacteriophage antigen

Name = Madhura . Dattatray . Dhavale . Date = 28/02/2025



(अधिकारप्रदत्त स्वायत्त)
कोल्हापूर

॥ ज्ञान, विज्ञान आणि सुसंस्कार यासाठी शिक्षण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

VIVEKANAND COLLEGE, KOLHAPUR.

(Empowered Autonomous)

08
10

SUPPLIMENT

Jr. Supervisor's Sign. : J. D. Dhavale

Students Sign. : MDhavale

Seat No. : 9114

Seat No. in words : Nine thousand one hundred fourteen.

Suppliment No. : Microbiology - III.

40960

Centre Vivekananda college, Kolhapur.

प्र. क्र.

Q. No.

Fill in the blanks.

1) The first position of a tetrapeptide is always occupied by L-Alanine amino acid.

Ans:- L-Alanine.

2) Carboxysomes are special organelles in organism which fix carbon dioxide.

Ans:- Carboxysomes.

3) Gas vesicles/vacuoles are responsible for buoyancy of bacteria.

Ans:- Gas vesicles/vacuoles.

4) Valutin granules are Basiphilic (acidic) in a nature.

Ans:- Basiphilic (acidic)

5) Endospore is a dormant / resting stage structure of bacterial cell.

Ans:- Endospore.

6) The filament of flagella is a site of Bacteriophage antigen.

Ans:- Bacteriophage.

प्र. क्र.

Q. No.

7) The negative charge which presents on DNA can be neutralize by histone (Protein) ions.

Ans:- histone (Protein) ions.

8) Plasma membrane is also called as 'unit membrane'.

Ans:- Plasma membrane / Cell membrane.

9) The process of changes occurring during a life cycle is known as Morphogenesis.

Ans:- Morphogenesis.

10) Polyphosphate are also known as metachromatic granules.

Ans:- Polyphosphate granules.