

“Education for Knowledge, Science and Culture”

-Shikshanmaharashi Dr. Babuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (An Empowered Autonomous Institute)

Department of Biotechnology Optional

B.Sc. III 2024-25

Surprise test

Roll no.	Name of student	Mark
8360	ATTAR SANIYA SALIM	09
8361	AWATE GAYATRI ANIL	09
8362	BAGWAN HEENA SHAFIK	09
8363	DESAI SUSHANT KADAPPA	AB
8365	EKSHINGE VRUSHALI SHIVAJI	07
8367	KARUNAKAR MUDITA S.	AB
8369	KAZI SADIYA ZAKIRHUSEN	10
8370	KUCHEKAR SWAPNIL BAPU	10 07
8371	KUMBHAR DIKSHA R.	09
8372	KUNDALE SHRUTI MILIND	10
8373	LAVHATE SNEHA MARUTI	08
8374	LOHAR SAYALI PUNDLIK	AB
8376	MANDEKAR RUTUJA M	10
8378	PATIL NEETA BALIRAM	07
8378	PATIL RUTUJA SARDAR	AB
8379	PATIL SHREYA BAJIRAO	AB
8380	PATIL SNIGDHA SUNIL	09
8381	SHEWALE YOGESH SUJIT	10
8382	SONAWANE NIHARIKA DEEPAK	10
8383	SURYAWANSHI ADITI VINOD	AB
8384	UNHALE PRIYANKA SHIVAJI	AB
8385	KRIKA BHARAT VORA	10
8386	WADHWA MAHEK VINOD	09
8366	KAMBALE SANIKA SANJAY	AB
8368	KASHID DHANSHRI UTTAM	AD
8364	DONGARE SONAM BALASO	AB
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(Signature)

HEAD
DEPARTMENT OF BIOTECHNOLOGY (OPTIONAL)
VIVEKANAND COLLEGE, KOLHAPUR
(EMPOWERED AUTONOMOUS)



Name - Shweta Kundale

Date _____
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Biochemical Technique.

Q. Give use or application of

1) SDS PAGE Electrophoresis

→ Protein separation technique and measurement of molecular weight of unknown protein.

2) Autoradiography

→ Study of DNA sequence by using radio isotopes.

3) Atomic Absorption Spectroscopy.

→ To study trace elements from biological samples.

4) Affinity Chromatography.

→ Separation of molecules based upon biological interactions.

5) Gel Filtration Chromatography.

→ Separation of molecule according to molecular size.

6) Fluorescence Spectroscopy.

→ It is used to study the molecules from nanograms to ppm.

7) GLC - Gas Liquid Chromatography.

→ Volatile compounds are studied.

8) Ion exchange Chromatography

→ Separation is based upon charge.



Biochemical technique

Q1] Give use of or application of

1] SDS PAGE electrophoresis

Protein Separation Technique and measurement of molecular weight of unknown protein.

2] Autoradiography:

To study of DNA base sequence by using radioisotopes.

3] Atomic absorption spectroscopy:

To study trace elements from biological samples.

4] Affinity chromatography:

Separation of molecules based on biological interaction. Ex: Enzyme-Substrate, Ag-Ab.

5] Gel filtration chromatography:

Separation of molecule according to their size.

6] Fluorescence Spectroscopy:

It is used to study molecules in low concentration from nanograms to ppm.

7] Gas Liquid chromatography:

It is used to study volatile compounds.

8] Ion-Exchange chromatography:

Separation is based upon charge.

Biochemical Technique.

Q. Give use of or application of

1) SDS page electrophoresis :- It is Protein separation technique and merment of unknown weight of molecular protein.

2) Autoradiography :- Study of DNA Sequence by using radio isotopes.

3) Atomic absorption Spectroscopy :- To study the trace elements.

4) Affinity chromatography :- Separation of molecules based on biological interaction.

5) gel filtration chromatography :- Separation of molecule according to their size.

6) Fluorescence Spectroscopy :- It is used to study Molecules in nanogram ppm.

7) Gas chromatography :- To study volatile compounds.

8) Ion exchange chromatography :- separation is based upon charge, ionic charge.

9) GM Counter - Geiger muller Counter used to detect radioactive activity.

10) HPLC - Give long from High Pressure liquid Chromatography.

Biochemical Technique.

Q1. Give use of or application of _____

- 1] SDS page electrophoresis - It is protein separation and measurement of molecular weight.
- 2] Autoradiography :- It is study of DNA base sequence by using radio isotopes.
- 3] Atomic absorption spectroscopy - To study stress elements from biological samples.
- 4] Affinity chromatography :- separation of molecules based on biological
- 5] Gel filtration chromatography :- separation of molecule according to molecular weight
- 6] Fluorescence spectroscopy :- It is used to study of molecules in less conc. from ng to ppm.
- 7] GLC liquid chromatography :- To study volatile compounds.
- 8] Ion exchange chromatography :- separation is based on charge.

9) GM counter or Geiger Muller counter use to detect radioactivity.

10) HPLC - High Pressure Liquid Chromatography

It is a type of chromatography used to separate mixtures of compounds based on their polarity and chemical interactions with the stationary phase.

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9] GM counter or Geiger Muller counter use to detect radioactivity.

10] HPLC ^{High Pressure Liquid Chromatography} give long form.

HPLC is a type of chromatography used to separate and analyze mixtures of compounds.

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Biochemical Techniques.

Name - Snigdha Patil

Date _____
Page _____

1) Give use of or application

i) SDS page electrophoresis :- This is a protein separation technique of measurement of unknown weight of molecular protein.

ii) Autoradiography :- Study of DNA sequence by using radio-isotopes.

iii) Atomic absorption spectroscopy :- To study trace elements.

iv) Affinitative chromatography :- Separation of molecules based on biomolecules biological interaction.

v) Gel-filtration chromatography :- Separation of molecule according to molecular size.

vi) Fluorescence chromatography :- It is used to study molecules in nanogram to ppm.

vii) GLC (gas liquid chromatography) :- To study volatile compounds.

viii) Ion exchange chromatography :- Separation is based on ionic charges.

ix) Gm counter :- Geiger muller counter, used to detect radioactivity.

(Give long form of HPLC)

x) HPLC :- High pressure liquid chromatography.

It is a type of chromatography in which the mobile phase is a liquid and the stationary phase is a solid. The separation is achieved by the difference in the partition coefficients of the components of the mixture between the two phases.

The mobile phase is pumped at high pressure through a column packed with a solid stationary phase. The components of the mixture are separated based on their interaction with the stationary phase.

The separation is monitored by a detector which measures the intensity of the light or the refractive index of the eluent. The detector is connected to a recorder which produces a chromatogram.

The chromatogram shows the separation of the components of the mixture. The area under each peak is proportional to the concentration of the component in the sample.

HPLC is a very powerful technique for the separation and analysis of complex mixtures. It is widely used in the pharmaceutical, chemical, and environmental industries.

The main advantage of HPLC is its high resolution and sensitivity. It can separate components that are very similar in structure and can detect very small amounts of a component in a sample.

Another advantage of HPLC is that it can be used to analyze a wide range of compounds, from small molecules to large polymers. It is also a very versatile technique, as it can be modified to suit a variety of different applications.

There are several different types of HPLC, each with its own specific advantages and disadvantages. The most common type is reversed-phase HPLC, which is used for the separation of non-polar compounds.

Other types of HPLC include normal-phase HPLC, which is used for the separation of polar compounds, and size exclusion HPLC, which is used for the separation of large molecules based on their size.

Q.1. Give use of or Application

① ~~SDS~~ page electrophoresis - It is protein separation Technique and measurement of unknown protein.

② Autoradiography:

- study of DNA base sequence by radio isotopes

③ Atomic Absorption spectroscopy:

- To study the trace elements.

④ Affinity chromatography:

- Separation of molecules based on biological interactions. For ex. Enzyme-substrate

⑤ Gel filtration chromatography:

- separation of molecule according to their size

⑥ Fluorescence spectroscopy:

- It is used to study the molecules in nanograms to ppm.

⑦ Gas Liquid Chromatography:

- To study volatile compounds.

⑧ Ion exchange chromatography.

- separation is based upon charge.

⑨ Gm Counter

- Geiger muller counter used to detect radioactivity.

Q. HPLC. Give long form.

- High Pressure Liquid chromatography



Que Give use of or application

- 1] SDS page electrophoresis - Protein separation technique and measurement of mol. wt. of unknown protein.
- 2] Autoradiography - Study of DNA segments / sequence by using radio isotopes.
- 3] Automatic Absorption Spectroscopy - Study of trace elements and minerals.
- 4] Affinity chromatography - Separation of molecules based upon biological interactions.
- 5] Gel filtration chromatography - Separation of molecules according to mol. wt.
- 6] Fluorescence spectroscopy - Use to study the molecules in nanograms to ppm.
- 7] Gas liquid chromatography - Use to study the volatile compounds.
- 8] Ion exchange chromatography - Separation is based upon charge.
- 9] Gm counter - Geiger muller counter; used to detect radioactivity.

8
10

Give use of or application of chromatography

1) SDS-PAGE

→ it is protein separation technique & measurement of unknown weight of molecular protein

2) auto radiography

→ By study of DNA sequence By using radio isotopes

3) atomic absorption spectroscopy

→ To study the minerals by biological samples

4) Affinity chromatography

→ separation of molecules based upon biological process. interaction.

5) gel filtration chromatography

→ separation of molecule according to their cell and size

6) fluorocens spectroscopy

→ it is used to study the molecules in nanogram to ppm

7) GLS

→ Volatile compounds are studied.

8) Ion exchange chromatography

→ separation is based upon charges

Biochemical technique

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10



Name — Neeta Pathi

Give use of or application of

1) SDS page electro phoresis

1/2 - Protein Separation technique and measurement of molecule known weight

2) Autoradiography

1 -> Study of DNA Base by radio isotope

3) Atomic absorption spectroscopy

1 -> to study of heavy elements from biological sample

4) affinity chromatography

1 -> Separation of molecule based on biological interaction

5) Gel filtration chromatography

1 -> Separation of molecule according to their size

6) Fluorescence spectroscopy

0.4 -> it is use to study of the molecules in

7) Gas chromatography

0.4 ->

8) ion exchange chromatography

1 -> Separation of molecule based on ionic charge.

Q. Give use of or application of.

1) SDS page electrophoresis

→ Protein separation techniques & measurement of molecular weight of unknown protein.

2) Autoradiography.

→ To study of DNA sequence by using Radio-isotopes.

3) Atomic absorption spectroscopy.

→ To study trace elements and minerals from biological samples.

4) Affinity chromatography.

→ Separation of molecules based upon biological interactions. For ex: Enz-substrate, antigen etc.

5) Gel filtration chromatography.

→ Separation of molecule according to their size.

6) Fluorescence Spectroscopy

→ Use to study the molecules in nanograms to PPM.

7) GLC (Gas liquid chromatography).

OP → Volatile components are studied.

8) Ion Exchange chromatography.

→ Separation is based on ionic charge.