

VIVEKANAND COLLEGE, KOLHAPUR (EMPOWERED AUTONOMOUS)

Department of Biotechnology

Notice for Internal Examination Fr M.Sc-I Biotechnology

Internal Exam for 20 Marks will be arranged as per following schedule

| Title of Paper  | Date and Day |
|---|--------------|
| DSC21 MBT11-Biological Chemistry                      | 4/11/2023    |
| DSC21 MBT12-Microbial Technology                      | 6/11/2023    |
| DSE21 MBT11-Enviormental<br>Biotechnology and Ecology | 7/11/2023    |
| RMD21MBT11-Research Methodology                       | 8/11/2023    |

Nature of The Paper - Q.1- Fill in the blanks( without alternatives)= 10 M

Q.2- Write short Notes on =  $2*5=10$  M

S.G.K. 1.11.2023,

(Mr.S.G.Kulkarni)  
M. SC. CO-ORDINATOR  
DEPARTMENT OF BIOTECHNOLOGY  
VIVEKANAND COLLEGE, KOLHAPUR  
(EMPOWERED AUTONOMOUS)

Vivekanand College, Kolhapur (Empowered Autonomous)

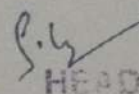
Dept. of Biotechnology

M.Sc. Biotechnology -I

Academic Year **2023-24**

**Continuous Internal Evaluation 2023-24**

| Sr. No. | Evaluation Activity |
|---------|---------------------|
| 1       | Seminars            |
| 2       | Fill in the blanks  |
| 3       | One sentence answer |



HEAD

DEPARTMENT OF BIOTECHNOLOGY (ENTIRE)  
VIVEKANAND COLLEGE, KOLHAPUR  
(EMPOWERED AUTONOMOUS)

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Renu Dhisal

Suppliment No. : 1

Roll No. : 103

Class : MSc I Biotech.

Signature  
of  
Supervisor

Subject: Biological Chemistry

Test / Tutorial No. :

Div. :

Q.1.

- 1) Iodine value of lipid indicates degree of unsaturation.
- 2) To Acyl carrier <sup>protein</sup> molecule all intermediates degree of fatty acid synthase links
- 3) Liposome molecule is used to drug delivery / gene therapy
- 4) Hot dilute soup concept put forward by A.I. Oparin and Haldane.
- 5) Arginine, Histidine is an example of aromatic amino acid.
- 6) Phenylisothiocyanate is the reagent used for Edman's method of protein sequencing
- 7) pKa is analog of Ka ( $-\log K_a$ )

॥ ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साबुंबुखे

62087

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Name - Madhavi Kumar Darvan

Signature  
of  
Supervisor

13/20

Subject :

Biochemistry

Test / Tutorial No. :

Div. :

Suppliment No. :

Roll No. : 102

Class : MSC-I

Q 1 Fill in the blanks

1) Iodine value of lipid indicates degree of unsaturation

2) TO ACP molecules all intermediates of Fatty acid synthesized.

3) Liposome molecules is used in drug delivery / gene therapy

4) Hot dilute soap concept put forward by Helden and operon

5) Aspartate trans <sup>carboxylase</sup> is an example of aromatic amino acid.

6) Phenyl isothiocyanate is the reagent used for Edman's method of protein sequencing

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Suppliment No. : Tejaswini Bajirao  
Roll No. : 401 Chougale.  
Class :

Signature  
of  
Supervisor

Subject : Biochemistry

Test / Tutorial No. :

Div. :

12/20

- 1) ~~acid~~ To l ipid value of lipid indicate degree of unsaturation.
- 2) To acyl co-A carrier protein molecule, all intermediates of fatty acid synthesis linked.
- 3) molecule is used to carry delivery gene therapy.
- 4) Hot dilute soup concept put forward by
- 5) Arginine is an example of Aromatic Amino Acid.
- 6) phenylisothiocyanate is the reagent used for Edman's method of protein sequencing.
- 7)  $pK_a = -\log K_a$

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Aditya A. Sonavane.  
Suppliment No. :

Roll No. : 15

Class : MSc-I.

Signature  
of  
Supervisor

Subject : Biochem

Test / Tutorial No. :

Div. :

12/20

Q1. Fill in the blanks.

1. . . . . Value of lipid indicate degree of unsaturation.  
→ Iodine

2. To . . . . . molecule all intermediates of fatty acid  
Synthase linked.  
→ amino acid

3. . . . . molecule is used in drug delivery / gene  
therapy.  
→

4. Hot dilute Soup concept put forward by . . . . .  
→

5. . . . . an is example of Aromatic amino acid.  
→

\*

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Signature  
of  
Supervisor

Suppliment No. : Sumerha S. Patil

Roll No. : 109

Class : M.Sc I

Subject : microbial Biotechnology.

Test / Tutorial No. :

Div. :

Q.1. Short Note

① culturing Techniques :-

In culturing technique there are many techniques are used for the culturing they are following

① viable but non culturable method - It is method in which the microbes or cells are viable but they are non culturable because cells are not culturable only they show motility in the microscopic structure.

② mpn - most probable number - In this technique in the mixed population cells are diluted most time. in this serial dilution is used. The cells no. in the culture are reduced using dilution method.

③ Flow cytometry - In this technique the sample is introduced into the flow stream. In the stream at a time only one cell passed through the stream and cells are passed through light detector detect the cell number and also examine the cell st. how many cells are present in given sample. It is very useful technique in culturing technique. In this cells is tagged with fluorescent dye.

॥ ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

62104

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Name - Ankita Ashok khot.

Suppliment No. : 1

Roll No. : 105

Class : MSc.I

Signature  
of  
Supervisor

Subject: Microbiology

Test / Tutorial No. :

Div. :

12  
/  
20

Q.1) Short Note.

1)

→ Culturing techniques

1) Great plate Count anomaly

- In this technique, the m.p.s are observed & using microscope and then counted. In this technique the VBNC (Viable but non culturable) cell are present. This cell are ~~not~~ viable & they not cultivated but they shows motility.

- And further cells are counted.

2) Enrichment

- In this process, cell culture are transferred into new freshly made medium for cell growth. The cell are goes in stationary phase because of nutrition insufficiency that why enrichment process is required.

- In enrichment process cell number is increased.

- The cell count increase after enrichment called Emergiation.



Name - Mrunali Shahaji Kumbale.

॥ ज्ञान, विज्ञान आणि सुसंस्कार यांचाही शिक्षण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

62101

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Signature  
of  
Supervisor

Suppliment No. :

Roll No. : 104

Class : M.Sc 1st Year Biotech  
Entire

Subject :

Test / Tutorial No. : Internal Examination.

Div. :

- 1] Culturing Techniques.
- 2] Cooperation.
- 3] Sulfide based mutualism
- 4] Effect of pH on growth.
- 5] Effect of Temperature on growth.
- 6] Chemostat.

09  
20

Effect of pH on growth  $\Rightarrow$

$$pH = -\log[H^+] = \log(1/H^+)$$

- pH is mostly Acidic and basic conditions are detected. in Acidic condition - pH is - 1 - 5.5 and Basic 5.5 to 8.5 and alkaly is 8.5 - 11.5 this condition are effect on microbes.
- pH is effects on a microorganism growth because the their condition are changing.
- pH and temperature is mostly effected on growth of organisms.

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Tejaswini Bajirao Chaugale

Suppliment No. :

Roll No. :

Class :

Signature  
of  
Supervisor

Subject :

Test / Tutorial No. :

Div. :

10  
20

① Culturing technique :-

The vast of microbial growth are not grown in laboratory.

The difference in number in microbial cell are eximed in microscope and colonies cultivated in a simple tube sample anomaly are called good staining technique culture

The Enrichment culture are used in recreative environment in laboratory the microorganism are formay the specific niche small ecologist niche.

The enrichment culture are sucetally in understanding the specific niche in microbe inhibit.

The measure the microbial cell are used in the MPN technique that is multiple

In MPN technique the 3 dilution tubes are sample.

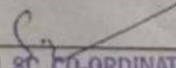
# INTERNAL EXAM

07/11/2023

## M.Sc - BIOTECHNOLOGY

### ENVIRONMENTAL BIOTECHNOLOGY & ECOLOGY

| Sr No. | ROLL NO. | NAME OF STUDENT             | Marks | Sign              |
|--------|----------|-----------------------------|-------|-------------------|
| 1.     | 101      | Tejaswini Bajirao Chougale. | 08    | <u>Tejaswini</u>  |
| 2.     | 102      | Darvan Madhuri Kumar        | 08    | <u>Darvan</u>     |
| 3.     | 103      | Dhisal Renu Bharat          | 09    | <u>Dhisal</u>     |
| 4.     | 104      | Kamble Murali Sheshaji      | 11    | <u>Kamble</u>     |
| 5.     | 105      | Khot Ankita Ashok           | 09    | <u>Ankita</u>     |
| 6.     | 106      | Sourabh Dattatray Nalawade  | 06    | <u>Sourabh</u>    |
| 7.     | 107      | Tegus Bajirao Omkarr        | 05    | <u>Tegus</u>      |
| 8.     | 108      | Sanket Pandurang Patil      | 00    | <u>Sanket</u>     |
| 9.     | 109      | sumedha sudhakar patil      | 09    | <u>Sumedha</u>    |
| 10.    | 110      | Sunil Ravindra Patil.       | 08    | <u>Sunil</u>      |
| 11.    | 111      | Asmita Ananda Patkar        | 08    | <u>Asmita</u>     |
| 12.    | 112      | Srujan Baburao Romane       | 08    | <u>Srujan</u>     |
| 13.    | 113      | Prathamesh Kiran Sarmajik.  | 08    | <u>Prathamesh</u> |
| 14.    | 114      | Swanand Anun shinde         | 08    | <u>Swanand</u>    |
| 15.    | 115      | Adity Anil Sonavane .       | 09    | <u>Adity</u>      |
| 16.    | 116      | Dipali Karbhari Suryawanshi | 08    | <u>Dipali</u>     |
| 17.    | 111      | Asmita Ananda Patkar        |       | <u>Asmita</u>     |
|        | 112      | Srujan Baburao Romane       |       | <u>Srujan</u>     |

  
 M. SC. CO-ORDINATOR  
 DEPARTMENT OF BIOTECHNOLOGY  
 VIVEKANAND COLLEGE, KOI HAPUR  
 (EMPOWERED AUTONOMOUS)

Somaik Pathamesh Kiron.

॥ ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

62116

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Signature  
of  
Supervisor

Subject : Environmental Biotechnology & Ecology

Test / Tutorial No. : Internal Exam

Div. :

Suppliment No. :

Roll No. : 113

Class : MSc. Biotechnology

Q.1. Fill in the blanks.

08  
20

- 1] Air pollution that occurs in sunlight is Fog.
- a] Reducing smog    b] Acid rain    c] Oxidising smog    d] Fog
- 2] The layer of atmosphere upto 10 km above sea level is called as Troposphere.
- a] Exosphere    b] Ionosphere    c] Troposphere    d] Stratosphere
- 3] The quantity DDT at each trophic level in food chain decreases.
- a] decreases    b] remains constant    c] increases    d] remains constant
- 4] Formation of London smog takes place in Winters during morning.
- a] Winters during day time    b] Summers during day time  
c] Summers during mornings    d] Winters during morning
- 5] Brewery & Sugar factory waste alters the quality of water body by the increasing COD & BOD.
- a] Temperature    b] Turbidity    c] pH    d] COD & BOD
- 6] Taj Mahal is polluted by SO<sub>2</sub> (Air) pollution.

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Signature  
of  
Supervisor

Suppliment No. :

Roll No. : 103

Class : Msc I Biotechnology

Subject : Environmental Biotechnology  
and ecology

Test / Tutorial No. : Internal exam

Div. :

09  
20

Q.1.

1) Air pollution that occurs in sunlight is Fog.

a) reducing smog

b) Acid rain

c) Oxidizing smog

d) Fog

2) The layer of atmosphere up to 10km above sea level is called as Troposphere.

a) Exosphere

b) Ionosphere

c) Troposphere

d) Stratosphere.

3) The quantity of DDT at each trophic level in Food chain increases.

a) decreases

b) remains constant

c) increases

d) Keep changing.

4) formation of London smog takes place in  
r Summers during day time.

a) Winters during day time b) Summers during day time.

c) Summers during morning d) Winters during morning.

Name - Khot AnKIta Ashok.

॥ ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार ॥  
- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

62130

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPLIMENT

Signature  
of  
Supervisor

Subject: Environmental Biotechnology  
& Ecology

Test / Tutorial No.: Internal Exam

Div.: -

Suppliment No. :

Roll No. : 105

Class : MSc. I

Q.1 Fill in the blanks

1) Air pollution that occurs in sunlight is

A) Reducing smoke

B) Acid Rain

C) oxidising smoke

D) Fog

→ A) oxidising smoke ✓

2) The layer at atmosphere upto 10km above sea level is called as

a) Exosphere

B) ionosphere

c) troposphere

D) stratosphere.

→ a) Exosphere ✓

3) The quantity of DDT at each trophic level in food chain

a) Decreases

B) Remains constant

c) Increases

b) Keeps changing.

→ a) Decrease ✓

Name - Mrunali Shahaji Kambale.

॥ ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

62132

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Suppliment No. : -

Roll No. : 104

Class : M.Sc Biotech Entire

Signature  
of  
Supervisor

Subject: Environmental Biotechnology,  
and Ecology.

Test / Tutorial No. : Internal Examination

Div. : -

Fill in the blanks.

20

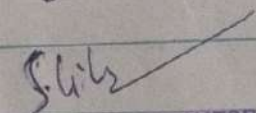
1. Air pollution that occurs in sunlight is Acid Rain  
a. reducing smog  
b. Acid rain  
 c. Oxidising smog  
d. Fog.

2. The layer of atmosphere upto 10 km above sea level is called as stratosphere  
a. Exosphere  
 b. ionosphere  
c. Troposphere  
d. stratosphere.

3. The quantity of BTD at each trophic level in food chain decreases  
 a. decreases  
b. remains constant  
c. Increases  
d. skip changing.

INTERNAL EXAM  
RESEARCH METHODOLOGY M.Sc - Biotech.

| Sr No | Roll No | Full Name                   |    | Sign.             |
|-------|---------|-----------------------------|----|-------------------|
| 1.    | 101     | Tejaswini Bajirao Chougale. | 11 | <u>Tejaswini</u>  |
| 2.    | 102     | Madhuri Kumar Darvan        | 11 | <u>Madhuri</u>    |
| 3.    | 103     | Dhawal Renu Bharat          | 10 | <u>Dhawal</u>     |
| 4.    | 104     | Mrunali Shahuji Kumbhar.    | 13 | <u>Mrunali</u>    |
| 5.    | 105     | Ankita Ashok Khot.          | 12 | <u>Ankita</u>     |
| 6.    | 106     | Sourabh Dattatray Malawade. | 04 | <u>Sourabh</u>    |
| 7.    | 107     | Teges Bajirao Dumbare.      | 08 | <u>Teges</u>      |
| 8.    | 108     | Sanket Pandurang Patil      | 04 | <u>Sanket</u>     |
| 9.    | 109     | Sumedha Sudhakar Patil      | 11 | <u>Sumedha</u>    |
| 10.   | 110     | Sunil Ravindra Patil.       | 08 | <u>Sunil</u>      |
| 11.   | 111     | Asmita Ananda Patil         | 11 | <u>Asmita</u>     |
| 12.   |         | ABSENT                      |    |                   |
| 13.   | 113.    | Prathamesh Kiran Sarnaik.   | 09 | <u>Prathamesh</u> |
| 14.   | 114     | Sumanand Anand Shinde.      | 08 | <u>Sumanand</u>   |
| 15.   | 115     | Aditya Anil Sonawane.       | 10 | <u>Aditya</u>     |
| 16.   | 116     | Dipali Karbhori Suryawanshi | 12 | <u>Dipali</u>     |

  
 M. SC. CO-ORDINATOR  
 DEPARTMENT OF BIOTECHNOLOGY  
 VIVEKANAND COLLEGE, KOTAPUR  
 (EMPOWERED AUTONOMOUS)



Dipali Karbhori Suryawanshi

॥ ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साखुंबे

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

62135

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Suppliment No. :

Roll No. :

Class :

116

M.Sc. Biotech

Signature  
of  
Supervisor

Subject :

Test / Tutorial No. :

Div. :

Research methodology

12  
20

- Q. 1) Explain the importance of objective in research with its type.
- 2) Explain the research process in flow chart.
- 3) Explain the criteria of good research.
- 4) Explain in detail the process of literature review through various resources available on internet.

→ Objective of Research :

The purpose of research is to discovered new concept from the older. The main aim of research is to find out the hidden things which are not discovered yet. There are some important of objective in research are as follows :

(i) To gain familiarity of the phenomenon or to achieve something new insight into it (such a study is known as formalative study).

Syredha Sudhakar Pali

॥ ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिवाण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

62144

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPPLIMENT

Suppliment No. :

Roll No. : 109

Class : M.Sc I

Signature  
of  
Supervisor

Subject : Research methodology.

Test / Tutorial No. :

Div. :

- Q.1) ① Explain the importance of objective in research with its types.
- ② Explain the research process in flow chart.
- ③ Explain the criteria of Good Research.
- ④ Explain in detail the process of Literature Review through various resources available on internet.

③ Explain the criteria of Good Research

→ Good Research's criteria are following way

- ① Good Research is logical.
- ② Good Research is systematic.
- ③ Good Research is empirical
- ④ Good Research is Replicable
- ⑤ Good Research should be gain proper information about the Research aims and objective.
- ⑥ Good Research which properly analysing the Hypothesis, accurate Hypothesis which give accurate results.
- ⑦ The data which using in research is accurate.
- ⑧ The design of research made very appropriate which give good conclusions.

Madhvi Kumor Dandan

॥ ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

62059

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

# VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

## SUPLIMENT

Signature  
of  
Supervisor

Suppliment No. :

Roll No. : 102

Class : MSc-I Biotechnology

Subject :

Test / Tutorial No. :

Div. :

11/20

- 1) Explain the importance of objective in research with its types.
- 2) Explain the research process in flow chart.
- 3) Explain the criteria of good research.
- 4) Explain in detail the process of literature review through various resources available on internet.

1) Explain the importance of objective in research with its types.

→ Research in common parlance refers to a search for knowledge. One can be also define research as scientific and systematic search for pertinent information on the specific topic. In fact, research is an art of scientific investigation.

The advanced learner's dictionary of current english lays down the meaning

**VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)****SUPPLIMENT**

Suppliment No. :

Roll No. : 103

Class : Msc I Biotechnology

Signature  
of  
Supervisor

Subject : Research methodology

Test / Tutorial No. : Internal exam.

Div. :

- Q.1. Explain the importance of objective in Research with its types?
- Q.2. Explain in detail the <sup>research</sup> process of literature in Flowchart
- Q.3. Explain in details criteria of good research?
- Q.4. Explain in details the process of literature review through various resources available on internet?

- Q.5.
- Criteria of good research.
- i) The purpose of research should be clearly defined and common concept be used.
- ii) The research process used should be describes in ~~an~~ sufficient detail <sup>to permit to researcher to repeat the research for further advancement,</sup> that are as objectives as possible. <sup>what has already been attained.</sup> Keep continuity of
- iii) Procedural design should be carefully planned to yield result that are as objectives as possible.
- iv) Researcher should report with complete frankness, flow in procedural design & estimation of their effects upon findings.