

Vivekanand College Kolhapur
(Empowered Autonomous)
PG – Department of Biotechnology

Date 21.09.2024

Notice

This is to inform to all students of M.Sc. I Biotechnology that there is arrangement of Internal Exam for Term work for Sem- I for following subjects as follows.


Sr.	Name of the Course/Paper	Date	Marks
1	Biological Chemistry	23/09/2024	20
2	Microbial Technology	24/09/2024	20
3	Environmental Biotechnology and Ecology	25/09/2024	20
4	Research Methodology	26/09/2024	20

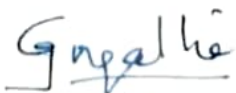
The nature of Internal may be Fill in the blank / one word sentence /one sentence one word/ Oral /Long note /Short note.

Time: 02:30 am to 03:00 pm

Note: - Though the Internals are there the routine theory and practical will be conducted as per scheduled. There will be no re-internal exam.

The syllabus for internal will be the portion completed till 20/09/2024


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

Vivekanand College Kolhapur
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PG – Department of Biotechnology

Date 25.02.2025

Notice

This is to inform to all students of M.Sc. I Biotechnology that there is arrangement of Internal Exam for Term work for Sem- II for following subjects as follows.

Sr.	Name of the Course/Paper	Date	Marks
1	Enzyme technology	01/03/2025	20
2	Molecular biology	03/03/2025	20
3	Immunology	04/03/2025	20

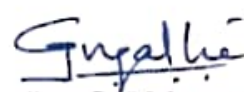
The nature of Internal may be Fill in the blank / one word sentence /one sentence one word/ Oral /Long note /Short note.

Time: 11:30 pm to 12:00 pm

Note: - Though the Internals are there the routine theory and practical will be conducted as per scheduled. There will be no re-internal exam.

The syllabus for internal will be the portion completed till 25/02/2025


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Date 21.09.2024

Notice

This is to inform to all students of M.Sc. II Biotechnology that there is arrangement of Internal Exam for Term work for Sem- III for following subjects as follows.


Sr.	Name of the Course/Paper	Date	Marks
1	Advances in Gene Technology	23/09/2024	20
2	Bioprocess Engineering	24/09/2024	20
3	Plant Biotechnology	25/09/2024	20

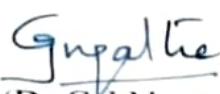
The nature of Internal may be Fill in the blank / one word sentence /one sentence one word/ Oral /Long note /Short note.

Time: 11:30 am to 12:00 noon

Note: - Though the Internals are there the routine theory and practical will be conducted as per scheduled. There will be no re-internal exam.

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Date 25.02.2025

Notice

This is to inform to all students of M.Sc. II Biotechnology that there is arrangement of Internal Exam for Term work for Sem- IV for following subjects as follows.

Sr.	Name of the Course/Paper	Date	Marks
1	Bioinformatics	01/03/2025	20
2	Molecular cell biology	03/03/2025	20
3	Animal Biotechnology	04/03/2025	20

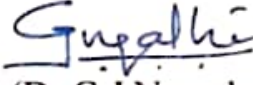
The nature of Internal may be Fill in the blank / one word sentence /one sentence one word/ Oral /Long note /Short note.

Time: 11.30 am to 12.00 pm

Note: - Though the Internals are there the routine theory and practical will be conducted as per scheduled. There will be no re-internal exam.

The syllabus for internal will be the portion completed till 25/02/2025


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(Dr.R.R.Kumbhar)

Name : Pradheep Bhimrao Gonap

Vivekanand College, Kolhapur (Empowered Autonomous)

Internal Examination, 2024

Class: M.Sc. I Sem-I Biotechnology

Subject: Research Methodology in Biotechnology

Subject Code - RMD14CHE11

Total Marks: 20

Roll No. 1003

10 Marks

Q.1 Fill in the blanks. (5C1)

1. ~~Science citation index~~ first citation index for papers published in academic journals.
2. The principle of UV-Visible spectroscopy, absorbance is directly proportional to the concentration.
3. Selecting a journal for publication, your paper needs to fits within the Journal impact factor.
4. In ESR spectroscopy, atoms having a odd number of electrons.
5. According to C.C. Crawford, research is a systematized efforts to gain adequate solution.
6. Hypothesis is a testable prediction which is expected to occur.
7. Detection of non-fluorescent compounds may be achieved by coupling chromophore.
8. IR radiations refers to that, part of electromagnetic spectrum between UV & x-ray region.
9. Descriptive type of research is called as 'Ex post Facto research'.
10. Desire to understand casual relationship is a Experiment motivation for doing research.

Q. 2 True or false

5 Marks

1. 'Do no harm' is a core principle of research ethics. - True
2. Mathematical models are generally not patentable. - True
3. Inferential approach is a qualitative type of research approach. - False
4. Review Articles are cited more than other types of articles. - True
5. In bending vibrations, the bond length changes that requires less energy. - False

Q.3 Multiple choice question and answer

5 Marks

1. Which journal metric tracks citations of the last two years ^(b) Impact Factor.
a. Cite Score ☒ b. Impact Factor c. H5 index d. Article Influence
2. ^(a) Citeseer is both a citation engine and a digital library.
a. Google scholar b. Academia ☒ c. Citeseer d. Researchgate
3. Intellectual Property Right includes ^(d) All the above.
a. Patents b. Copyright c. Trademark ☒ d. All the above
4. The first step of research is: ^(a) Identifying problem.
a. Selecting a problem b. Searching a problem ☒ c. Identifying a problem d. Finding a problem
5. Manipulation is always a part of ^(b) Experimental research.
a. Historical research ☒ b. Experimental research c. Fundamental research d. Descriptive research

Sumedha S. Pati

$10\frac{1}{2} = \frac{11}{20}$

Vivekanand College, Kolhapur (Empowered Autonomous)

Internal Examination, 2024

Class: M.Sc. II Sem-III Biotechnology

Subject: Plant Biotechnology

Subject Code - DSE21MBT31

Roll No. 1058

Total Marks: 20

Q.1 Fill in the blanks.

10 Marks

1. Causes loose smut of wheat, Fungal disease, Black Fungus.
2. The disease related with apple is known as: Fire blight Disease.
3. The earliest pesticide was sulphur.
4. Biological control of pests is Biopesticides, Neem plant, Neem extract.
5. Basic methods for seed health testing was developed by Geier and Clark.
6. Latex flocculation test is used to find the infection of virus in seeds.
7. Nicotine is a secondary metabolite belong to the class of phenolics.
8. In, _____ method of secondary metabolite extraction, CO₂ is used as a solvent.
9. Bacteria causes the cells to become physically immobile.
10. Chlorine is an osmolyte, acts as protective agent for cytoplasmic enzymes.

Q.2 Multiple choice questions

5 Marks

1. Which of the following pair of plant disease-microorganisms is correct?

I. Citrus canker - Virus

II. Rust of wheat - Fungi

- a. Only I b. Neither I nor II c. Only I d. Both I and II

2. pyrethrin is a naturally occurring pesticide.

- a. Toxaphene b. Carbamate c. Pyrethrin d. Both I and II

3. Ancient Sumerians used elemental sulphur to protect their crops from insects.

- a. phosphorous b. sulfur c. magnesium d. Both I and II

4. In xanthone, a secondary metabolite number of carbon atoms are _____.

- a. 10 b. 18 c. 6 d. 13

5. polysaccharide is a biotic elicitor.

- a. Polysaccharide b. Drought c. Heavy metal d. Mineral salts

Q.3 Mark the answer as True / False:

5 Marks

1. Use of light traps is a mechanical method of IPM strategy. - True
2. Aliphatic nitrogen are the available fungicides in the market. - True
3. Albrecht Kossel described secondary metabolites as end products of nitrogen metabolism. - False
4. *Claviceps purpurea*, a fungus typically growing on rye, results in death when ingested. - True
5. Avermectin, a polyketide isolated from the *Streptomyces avermitilis*. - True



Signature of Jr. Super.

विवेकानंद कॉलेज, कोल्हापूर. (अधिकारपदत स्वायत्त)

परीक्षेच्या

या विषयाच्या प्रयोग परीक्षा

Practical Examination in, MSc-I Biotechnology

at the

Examination

उमेदवाराचा आसन क्रमांक
(Candidate's Seat No.)1005विभाग
(Section)Enzyme Technology

उमेदवारांना सूचना

- प्रश्न काळजीपूर्वक वाचा आणि त्याप्रमाणे विचारलेला प्रयोग करा.
- उपकरणांच्या वापराबाबत तुम्हांला काही माहीत नसेल तर परीक्षक किंवा प्रयोगशाळा सहाय्यक यांना तुम्हाला मदत करण्याविषयी विनंती करा.
- कोणताही विद्युतप्रयोग करण्यापूर्वी, प्रत्यक्ष पुरविलेली सर्व उपकरणे आणि सर्व 'कनेक्शन' नीट पाहून घेऊन संबंधित कामाची नीटनेटकी कार्ययोजना करण्याची नितांत आवश्यकता आहे आणि ह्यानंतर पुढे काम चालू करण्याविषयी परीक्षकांची परवानगी मिळविणे आवश्यक आहे.
- सर्व निरीक्षणे कोटकवजा तक्त्यात भरावी. मधल्या सर्व गणना आणि निर्णय हे क्य तितक्या सुवाचपणे आणि स्पष्टपणे नोंदविलेले असणे हे हितावह आहे.
- प्रारंभिक किंवा अंतिम निरीक्षणात संख्यावाचक आकडे एकावर एक लिहू नयेत. जर लिहिलेला कोणताही आकडा नको असेल तर त्यावर एक रेष ओढून पाहिजे असलेला आकडा त्याच्याजवळ लिहा. प्रयोगशाळेतून बाहेर पडण्यापूर्वी आपले टेबल चांगल्या स्थितीत आहे याची खात्री करा.

INSTRUCTIONS TO CANDIDATES

- Read the question carefully and perform the experiment as required.
- If there by anything the apparatus that you do not know, ask the examiner or the laboratory assistant to help you.
- Before doing any electrical experiment, it is absolutely essential that you make a neat working sketch of all apparatus actually provided and of the necessary connection and obtain the examiner's permission to proceed.
- Express all observations in a tabular form. It is also desirable that all intermediate calculations and results should be entered as neatly and clearly as possible.
- No numerical figures should be written over either in the preliminary or final observations. If any figure is shought to be discarded it should be run through and the desired figure written near to it.
- Please see that your table is in good order before you leave the laboratory.

(येथून लेखनास सुरवात करा.) (Begin writing here.)

प्र. क्र.

Q. No.

1] The term Enzyme turnover refers to (K_{cat}) - the affinity between substrate or molecule binds to enzyme in unit per time.

$$V = \frac{K_{cat}}{K_m}$$

2] The effect of pH on Enzyme activity can be defined as -
 → when pH increases it know as alkalosis.

Roll No. _____

Total Marks: 20

Q.1 Fill in the blanks.

10 Marks

1. Culture freshly prepared from isolated tissue is known as _____.
2. _____ is the primary equipment required for animal tissue culture laboratories.
3. _____ is regarded as the father of animal tissue culture.
4. _____ are immature cells that have the potential to differentiate into specialized cells having distinct function.
5. _____ stem cells which give rise to osteocytes, chondrocytes and adipocytes.
6. _____ is a temporary chamber which provides suitable temperature, density, moisture and pH for better growth and development of cells.
7. _____ is the number of times a culture has been subculture.
8. DMEM stands for _____.
9. _____ is the cell membrane permeating cryoprotectant.
10. Rat splenocyte grown on _____ medium.

Q.2 Multiple choice questions

5 Marks

1. Which of the following is NOT the major function of the serum?
a) Promotion of tuber b) Stimulate cell growth
c) Enhance cell attachment d) Provide transport proteins
2. Which of the following is NOT the part of growth medium for animal culture?
a) Carbon source b) Serum c) Starch d) Inorganic salts
3. Which of the following is the characteristics of a normal cell?
a) Anchorage independent b) Continuous cell lines
c) Dependent on external growth factor d) No contact inhibition
4. Optimum pH required for the growth of mammalian cells is
a) 5.3-7.0 b) 6.5-7.0 c) 8.1-8.9 d) 7.2-7.4
5. Which of the following is easy and rapid method to interpret viability of cells in culture system.
a) Trypan blue dye exclusion b) Neutral red assay c) Fluorescein dye assay d) All of the above

Q.3 Mark the answer as True / False:

5 Marks

1. The material used in culture techniques is important because the surface of the vessel serves as a substrate for cells to grow.
2. Histotypic culture is the culturing of cells for their re-aggregation to form a tissue-like structure.
3. For cell growth 70 % humidity is essential to reduce evaporation of the media.
4. Formazan product of the MTT assay solubilised by using chloroform.
5. Burrow's and Joy used tissue and embryo extract as culture media.