

"Dissemination of Education for Knowledge, Science and Culture"
- Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

PG Department of Microbiology

"Internal Examination"
Semester I and Semester II



Academic Year: 2022-2023

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

PG Department of Microbiology

2022-23

INDEX

Internal Evaluation Semester I and II

Sr. No.	Title	Page no.
Semester I		
1.	Notice	1
2.	Attendance	2
3.	Marksheet	3-6
4.	Question papers	7-10
5.	Answer sheets	11-15
Semester II		
6.	Notice	16
7.	Attendance	17-21
8.	Marksheet	18-21
9.	Question papers	22-25
10.	Answer sheets	26-32



Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester I

Notice

All students of M.Sc. part I Microbiology are hereby informed that, the internal examination of semester I, is going to start on 6 December 2022. The examination will be conducted in room no. 62. All students should be present before time for the examination. The pattern and schedule of examination is given below.

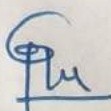
Pattern of examination

Type	Format	Marks/question	Total Marks
Objective paper	Choose the correct alternative- 10	1,	10
Descriptive paper	Long question -1	16	30
	Long question - 1	08	
	Short note-1	04	
	Choose the correct alternative- 2	02	
Seminar	Power point presentation of topic	-	10
			50

Schedule of examination

Date	Paper No.	Paper title	Time
06/12/2022	I	Taxonomy and microbial diversity	11.30 am-12.30 pm
07/12/2022	II	Virology	11.30 am-12.30 pm
08/12/2022	III	Genetics and Molecular Biology	11.30 am-12.30 pm
09/12/2022	IV	Immunology	11.30 am-12.30 pm




Dr. G. K. Sontakke

HEAD
DEPARTMENT OF MICROBIOLOGY
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

PG Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester I
Attendance of students

Sr. No.	Roll No.	Student Name	Paper I	Paper II	Paper III	Paper IV
			6/12/2022	7/12/2022	8/12/2022	9/12/2022
1.	5401	Bhandigare Indrayani Rahul	<u>IB</u>	<u>IB</u>	<u>IB</u>	<u>IB</u>
2.	5402	Bhosale Namrata Laxman	<u>Bhosale</u>	<u>Bhosale</u>	<u>Bhosale</u>	<u>Bhosale</u>
3.	5403	Desai Naziya Rashid	<u>Nadesai</u>	<u>Nadesai</u>	<u>Nadesai</u>	<u>Nadesai</u>
4.	5404	Gawade Manohar Sonali	<u>Gawade</u>	<u>Gawade</u>	<u>Gawade</u>	<u>Gawade</u>
5.	5405	Ghose Ritika Rajendra	<u>Rajghose</u>	<u>Rajghose</u>	<u>Rajghose</u>	<u>Rajghose</u>
6.	5406	Ingale Vaishnavi Vishnu	<u>Vaishnavi</u>	<u>Vaishnavi</u>	<u>Vaishnavi</u>	<u>Vaishnavi</u>
7.	5407	Jamadar Muskan Salim	<u>Jamadar</u>	<u>Jamadar</u>	<u>Jamadar</u>	<u>Jamadar</u>
8.	5408	Kamble Suhasi	<u>Suhasi</u>	<u>Suhasi</u>	<u>Suhasi</u>	<u>Suhasi</u>
9.	5409	Katkar Shivam Subhash	<u>Shivam</u>	<u>Shivam</u>	<u>Shivam</u>	<u>Shivam</u>
10.	5410	Kokate Ankita Bhanudas	<u>AK</u>	<u>AK</u>	<u>AK</u>	<u>AK</u>
11.	5411	Kokate Vaishnavi Vinayak	<u>V.V.Kokate</u>	<u>V.V.Kokate</u>	<u>V.V.Kokate</u>	<u>V.V.Kokate</u>
12.	5412	Misal Snehal Sarjerao	<u>Snehal</u>	<u>Snehal</u>	<u>Snehal</u>	<u>Snehal</u>
13.	5413	Panchal Harshada Anil	<u>Panchal</u>	<u>Panchal</u>	<u>Panchal</u>	<u>Panchal</u>
14.	5414	Parase Sujay Prakash	<u>S.P.Parase</u>	<u>S.P.Parase</u>	<u>S.P.Parase</u>	<u>S.P.Parase</u>
15.	5415	Patil Aditya Dilip	<u>Aditya</u>	<u>Aditya</u>	<u>Aditya</u>	<u>Aditya</u>
16.	5416	Patil Gaurav Jitendra	<u>Gaurav</u>	<u>Gaurav</u>	<u>Gaurav</u>	<u>Gaurav</u>
17.	5417	Patil Rajashri Prakash	<u>Rajashri</u>	<u>Rajashri</u>	<u>Rajashri</u>	<u>Rajashri</u>
18.	5418	Patil Vishal Mansing	<u>V.M.Patil</u>	<u>V.M.Patil</u>	<u>V.M.Patil</u>	<u>V.M.Patil</u>
19.	5419	Powar Rachana Tukaram	<u>Rachana</u>	<u>Rachana</u>	<u>Rachana</u>	<u>Rachana</u>



Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester I

Paper I Taxonomy and Microbial Diversity

Sr. No.	Roll No.	Student Name	Marks of seminar Out of 10	Test (Objective) Out of 10	Test (Descriptive) Out of 30	Total out of 50	Converted to out of 20
1	5401	Bhandigare Indrayani Rahul	7	6	18	41	14
2	5402	Bhosale Namrata Laxman	9	4	07	30	10
3	5403	Desai Naziya Rashid	7	4	11	32	11
4	5404	Gawade Manohar Sonali	8	5	14	37	12
5	5405	Ghose Ritika Rajendra	6	3	12	31	10
6	5406	Ingale Vaishnavi Vishnu	6	3	07	26	9
7	5407	Jamadar Muskan Salim	7	5	16	38	13
8	5408	Kamble Suhasi	6	4	10	30	10
9	5409	Katkar Shivam Subhash	6	5	05	26	9
10	5410	Kokate Ankita Bhanudas	8	4	17	39	13
11	5411	Kokate Vaishnavi Vinayak	7	6	11	34	11
12	5412	Misal Snehal Sarjerao	8	6	18	42	14
13	5413	Panchal Harshada Anil	9	6	12	37	12
14	5414	Parase Sujay Prakash	6	5	10	31	10
15	5415	Patil Aditya Dilip	7	4	12	33	11
16	5416	Patil Gaurav Jitendra	7	2	06	25	9
17	5417	Patil Rajashri Prakash	6	2	16	34	11
18	5418	Patil Vishal Mansing	9	1	12	32	11
19	5419	Powar Rachana Tukaram	8	5	16	39	13

S. D. Mali

Dr. S. D. Mali



4

"Dissemination of Education for Knowledge, Science and Culture"
- Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester I

Paper II - Virology

Sr. No.	Roll No.	Student Name	Marks of seminar Out of 10	Test (Objective) Out of 10	Test (Descriptive) Out of 30	Total Out of 50	Converted to out of 20
1	5401	Bhandigare Indrayani Rahul	7	4	18	39	13
2	5402	Bhosale Namrata Laxman	9	4	13	36	12
3	5403	Desai Naziya Rashid	7	1	18	36	12
4	5404	Gawade Sonali Manohar	8	9	23	50	17
5	5405	Ghose Ritika Rajendra	6	9	22	47	16
6	5406	Ingale Vaishnavi Vishnu	6	6	11	33	11
7	5407	Jamadar Muskan Salim	7	8	18	43	14
8	5408	Kamble Suhasi	6	3	14	33	11
9	5409	Katkar Shivam Subhash	6	7	11	34	11
10	5410	Kokate Ankita Bhanudas	8	9	24	51	17
11	5411	Kokate Vaishnavi Vinayak	7	9	18	44	15
12	5412	Misal Snehal Sarjerao	8	9	12	39	13
13	5413	Panchal Harshada Anil	9	10	21	50	17
14	5414	Parase Sujay Prakash	6	7	20	43	14
15	5415	Patil Aditya Dilip	7	8	19	44	15
16	5416	Patil Gaurav Jitendra	7	5	14	36	12
17	5417	Patil Rajashri Prakash	6	6	24	46	15
18	5418	Patil Vishal Mansing	9	6	14	39	13
19	5419	Powar Rachana Tukaram	8	10	19	47	16

S. D. Mali

Dr. S. D. Mali



"Dissemination of Education for Knowledge, Science and Culture"
- Shikshanamaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester I

Paper III Genetics and Molecular Biology

Sr. No.	Roll No.	Student Name	Marks of seminar Out of 10	Test (Objective) Out of 10	Test (Descriptive) Out of 30	Total out of 50	Converted to out of 20
1	5401	Bhandigare Indrayani Rahul	7	06	18	41	11
2	5402	Bhosale Namrata Laxman	9	04	07	30	8
3	5403	Desai Naziya Rashid	7	05	08	30	8
4	5404	Gawade Manohar Sonali	8	04	12	34	9
5	5405	Ghose Ritika Rajendra	6	03	12	31	8
6	5406	Ingale Vaishnavi Vishnu	6	05	09	30	8
7	5407	Jamadar Muskan Salim	7	03	12	32	8
8	5408	Kamble Suhasi	6	05	11	32	8
9	5409	Katkar Shivam Subhash	6	06	04	26	7
10	5410	Kokate Ankita Bhanudas	8	07	14	39	10
11	5411	Kokate Vaishnavi Vinayak	7	05	12	34	9
12	5412	Misal Snehal Sarjerao	8	07	18	43	11
13	5413	Panchal Harshada Anil	9	07	19	45	12
14	5414	Parase Sujay Prakash	6	05	12	33	9
15	5415	Patil Aditya Dilip	7	05	04	26	7
16	5416	Patil Gaurav Jitendra	7	03	06	26	7
17	5417	Patil Rajashri Prakash	6	04	18	38	10
18	5418	Patil Vishal Mansing	9	05	08	32	8
19	5419	Powar Rachana Tukaram	8	04	16	38	10

Small
Dr. S. D. Mali



"Dissemination of Education for Knowledge, Science and Culture"
- Shikshanmaharshi Dr. Babuji Salunkhe

**Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)**

Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester I

Paper IV Immunology

Sr. No.	Roll No.	Student Name	Marks of seminar Out of 10	Test (Objective) Out of 10	Test (Descriptive) Out of 30	Total Out of 50	Converted to out of 20
1	5401	Bhandigare Indrayani Rahul	7	4	20	41	14
2	5402	Bhosale Namrata Laxman	9	5	9	33	11
3	5403	Desai Naziya Rashid	7	7	6	30	10
4	5404	Gawade Manohar Sonali	8	7	17	43	14
5	5405	Ghose Ritika Rajendra	6	7	11	34	11
6	5406	Ingale Vaishnavi Vishnu	6	5	11	32	11
7	5407	Jamadar Muskan Salim	7	5	21	43	14
8	5408	Kamble Suhasi	6	4	9	29	10
9	5409	Katkar Shivam Subhash	6	4	8	25	11
10	5410	Kokate Ankita Bhanudas	8	8	21	47	16
11	5411	Kokate Vaishnavi Vinayak	7	6	10	33	11
12	5412	Misal Snehal Sarjerao	8	5	13	36	12
13	5413	Panchal Harshada Anil	9	10	14	36	14
14	5414	Parase Sujay Prakash	6	8	11	35	12
15	5415	Patil Aditya Dilip	7	6	6	29	10
16	5416	Patil Gaurav Jitendra	7	7	6	30	10
17	5417	Patil Rajashri Prakash	6	7	8	31	10
18	5418	Patil Vishal Mansing	9	7	11	37	12
19	5419	Powar Rachana Tukaram	8	6	10	35	12

Smali
Dr. S. D. Mali



Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester I

Paper II - Virology

Internal Evaluation (Objective Test)

Total marks – 10

-
- 1) ----- spp. of fungi are involved mostly in transmission of plant viruses.
a) *Aspergillus* b) *Olpidium* c) *Rhizopus* d) *Mucor*
 - 2) Genome of TMV is -----
a) + ssRNA b) – ssRNA c) + ssDNA d) – ssDNA
 - 3) Genome of TMV consist of ----- nucleotides
a) 6395 b) 6649 c) 6234 d) 6534
 - 4) ----- gene of TMV genome synthesizes a protein helpful for movement of TMV.
a) ORF1 b) ORF2 c) ORF3 d) ORF4
 - 5) ----- gene of TMV genome synthesizes a capsid protein of TMV.
a) ORF1 b) ORF2 c) ORF3 d) ORF4
 - 6) Nucleic acid of Herpes virus is -----
a) ssRNA b) dsRNA c) ssDNA d) dsDNA
 - 7) Nucleic acid of polio virus is -----
a) – ssRNA b) + ssRNA c) – ssDNA d) + ssDNA
 - 8) Nucleic acid of HIV is -----
a) – ssRNA b) + ssRNA c) – ssDNA d) + ssDNA
 - 9) Reverse transcriptase enzyme is present in the structure of -----
a) Parvo virus b) HIV c) Herpes virus d) Picorna virus
 - 10) VPg protein is present in the nucleic acid of -----
a) Parvo virus b) HIV c) Herpes virus d) Picorna virus



Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester I

Paper II -Virology

Internal Evaluation (Descriptive Test)

Total marks – 30

- | | |
|----------------------------------------------------------------------------------------|----|
| Q.1 Discuss in detail productive cycle of Herpes viruses | 16 |
| Q. 2 Discuss in detail productive cycle of Parvo viruses | 8 |
| Q. 3 Write short note on any one | 4 |
| 1) Digramatic representation of Picorna virus replication | |
| 2) Digramatic representation of Influenza virus | |
| Q. 4 Choose the correct alternative and rewrite the sentence | 2 |
| 1) ----- is an example of enveloped virus. | |
| a) Human immunodeficiency virus b) Picorna virus c) Poty virus d) Tobacco mosaic virus | |
| 2) HIV is a type of ----- . | |
| a) Picorna virus b) Reo virus c) Herpes virus d) Retro virus | |



**Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)**

PG Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester I

Paper IV - Immunology

Internal Evaluation (Objective Test)

Total marks – 10

- 1) Kappa chain gene locus in humans is present on chromosome -----
a) 14 b) 6 c) 2 d) 22
- 2) Gene segments present in kappa chain gene locus on chromosome are -----
a) V, J, and C b) L, V, J, and C c) L, V, D, J, and C d) V, and C
- 3) ----- is called as C3 convertase.
a) C4b2b b) C4b2a 3) C4b2a3b d) C4a2b
- 4) ----- is called as C5 convertase.
a) C4b2b b) C4b2a 3) C4b2a3bd) C4a2b
- 5) In complement pathway ----- is responsible for polymerization of C9.
a) C4b2b b) C5b678 3) C4b2a3bd) C4a2b
- 6) MAC formation occurs because of ----- activation.
a) T4 cell b) T8 cell c) complement d) B cell
- 7) Gene gun delivery method is used for application of ----- vaccine.
a) live b) killed c) DNA d) subunit
- 8) ----- vaccines are obtained using transgenic plants.
a) live b) killed c) DNA d) edible
- 9) ----- gene product is not a part of antibody
a) V b) J c) L d) D
- 10) ----- gene product facilitates the transport of antibody protein molecule through endoplasmic reticulum.
a) V b) J c) L d) D



"Dissemination of Education for Knowledge, Science and Culture"
- Shikshanmaharshi Dr. Bapuji Salunkhe

**Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)**

PG Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester I

Paper IV - Immunology

Internal Evaluation (Descriptive Test)

Total marks – 30

Q.1 Describe in detail mechanism of antibody diversity 16

Q. 2 Discuss in detail DNA vaccine and rDNA vaccine 8

Q. 3 Write short note on any one 4

1) Biological consequences of complement activation

2) Regulation of alternative complement pathway

Q. 4 Choose the correct alternative and rewrite the sentence 2

1) In complement pathway C5b678 is responsible for polymerization of -----.

a) C4) C8 3) C9 d) C5

2) Polysaccharide capsule vaccine of pneumonia is a type of ----- vaccine.

a) live b) killed c) subunit d) DNA



" ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार."

-शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

SUPPLIMENT

Signature
of
Supervisor

Suppliment No. :

9
10

Roll No. : 9

Class : M.Sc I

Subject : Virology

Test / Tutorial No. :

Div. : Date - 19/11/22.

Q.1) _____ species of fungi are involved mostly in transmission of plant viruses

- a) Aspergillus b) olipidium
c) Rhizopus d) mucor

Ans → Rhizopus or olipidium

Q.2) Genome of TMV is _____

- a) SS RNA b) -SS RNA
c) SS DNA d) -SS DNA

Ans → SS RNA

Q.3) Genome of TMV consist of _____ nucleotide

- a) 6395 b) 6440
c) 7000 d) 8201

Ans → 6395 6440

Q.4) _____ Genome ~~TMV~~ of TMV synthesizes of protein helpful. Poz moment of TMV.

- a) ORF 1 b) ORF 2
c) ORF 3 d) ORF 4

Ans - ORF 3



Q.5) — Gene of TMV genome synthesizes a capsid protein of TMV.

a) ORF 1

b) ORF 2

c) ORF 3

d) ORF 4

Ans → ORF 3

Q.6) Nucleic acid of Herpes virus is —

a) ss RNA

b) ds RNA

c) ss DNA

d) ds DNA

Ans → ds DNA

Q.7) Nucleic acid of polio virus is —

a) -ssRNA

b) +ssRNA

c) -ssDNA

d) +ssDNA

Ans → +ssRNA

Q.8) Nucleic acid of HIV —

a) -ssRNA

b) ssRNA

c) -ssDNA

d) +ssDNA

Ans → ssRNA

Q.9) Reverse transcriptase enzyme is present in the structure of —

a) Parvo virus

b) HIV

c) Herpes virus

d) Picorna virus.

Ans → HIV

Q.10) VPg protein is present in the nucleic acid —

a) Parvo virus

b) ~~+~~ HIV

c) Herpes virus

d) Picorna virus.

Ans → Herpes virus picorna virus



SU/4 - G - NO.

447106

7
10

Signature of Jr. Super.

For University exam only

शिवाजी विद्यापीठ, कोल्हापूर

22/11/22

परीक्षेच्या

या विषयाच्या प्रयोग परीक्षा

Practical Examination in

Objective test

at the

Immunology paper no 4.

Examination

उमेदवाराचा आसन क्रमांक
(Candidate's Seat No.)

4. Ritika Ghose

विभाग

(Section)

MSc I Microbiology

उमेदवारांना सूचना

- प्रश्न काळजीपूर्वक वाचा आणि त्याप्रमाणे विचारलेला प्रयोग करा.
- उपकरणांच्या वापराबाबत तुम्हाला काही माहीत नसेल तर परीक्षक किंवा प्रयोगशाळा साहाय्यक 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 ह्या नंतर, पुढे काम चालू करण्याविषयी परीक्षकांची परवानगी मिळविणे आवश्यक आहे.
- सर्व निरीक्षणे कोष्टकवजा तक्त्यात भरावी. मधल्या सर्व गणना आणि निर्णय हे शक्य तितक्या सुवाच्यपणे 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 be 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 thought 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.)

1] Kappa chain gene locus in humans is present on chromosome 2

a] 140

b] 6

c] 2

d] 22

2] gene segments present in Kappa chain gene locus on chromosome 1, 2, 3 & 4





2015/16

2

a) V, T & C

b) L, V, T & C

c) L, V, D & T

d) V & C

3) ~~C4b2a3b~~ is called as C3 convertase

a) C4b4b

b) C4b2a

c) C4b2a3b

d) C4b2b

4) ~~C4b2a3b~~ is called as C5 convertase

a) C4b4b

b) C4b2a

c) C4b2a3b

d) C4b2b

5) In complement pathway ~~C4b2b~~ is responsible for polymerisation of C9

a) C4b2b

b) C5b678

c) C4b2a3b

d) C4a2b

6) MAC formation occurs because of ^{complementary} complement activation.a) T_H cellb) T_S cell

c) Complementary

d) B cell





7] gene gun delivery method is used for applicatⁿ of DNA vaccine

a] Live killed DNA b] killed

c] DNA d] subunit

8] edible vaccines are obtained using transgenic plant

a] Live b] killed

c] DNA d] edible

9] L gene product is not a part of antibody

a] V b] J

c] L d] D

10] ~~X~~ V gene product facilitates transport of antibody molecule theory

a] J

a] V

b] J

c] L

d] D



"Dissemination of Education for Knowledge, Science and Culture"
- Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester II

Notice

All students of M.Sc. part I Microbiology are hereby informed that, the internal examination of semester II, is going to start on 24th May 2023. The examination will be conducted in room no. 62. All students should be present before time for the examination. The pattern and schedule of examination is given below.

Pattern of examination

Type	Format	Marks/question	Total Marks
Objective paper	Choose the correct alternative- 10	1	10
Descriptive paper	Long question -1	16	30
	Long question - 1	08	
	Short note-1	04	
	Choose the correct alternative- 2	02	
Seminar	Power point presentation of topic	-	10
			50

Schedule of examination

Date	Paper No.	Paper title	Time
24/05/2023	V	Techniques in Microbiology	11.30 am-12.30 pm
25/05/2023	VI	Microbial Physiology, Biochemistry and Metabolism	11.30 am-12.30 pm
26/05/2023	VII	Medical Microbiology	11.30 am-12.30 pm
27/05/2023	VIII	Microbial Ecology	11.30 am-12.30 pm



Dr. G. K. Sontakke

HEAD

DEPARTMENT OF MICROBIOLOGY
VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)



"Dissemination of Education for Knowledge, Science and Culture"
- Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

PG Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester II
Attendance of students

Sr. No.	Roll No.	Student Name	Paper V	Paper VI	Paper VII	Paper VII
			24/05/2023	25/05/2023	26/05/2023	27/05/2023
1.	5401	Bhandigare Indrayani Rahul	<u>Irb</u>	<u>Irb</u>	<u>Irb</u>	<u>Irb</u>
2.	5402	Bhosale Namrata Laxman	<u>Bhosale</u>	<u>Bhosale</u>	<u>Bhosale</u>	<u>Bhosale</u>
3.	5403	Desai Naziya Rashid	<u>Nedesai</u>	<u>Nedesai</u>	<u>Nedesai</u>	<u>Nedesai</u>
4.	5404	Gawade Manohar Sonali	<u>Gawade</u>	<u>Gawade</u>	<u>Gawade</u>	<u>Gawade</u>
5.	5405	Ghose Ritika Rajendra	<u>Ryghose</u>	<u>Ryghose</u>	<u>Ryghose</u>	<u>Ryghose</u>
6.	5406	Ingale Vaishnavi Vishnu	<u>Vaishnavi</u>	<u>Vaishnavi</u>	<u>Vaishnavi</u>	<u>Vaishnavi</u>
7.	5407	Jamadar Muskan Salim	<u>Jamadar</u>	<u>Jamadar</u>	<u>Jamadar</u>	<u>Jamadar</u>
8.	5408	Kamble Suhasi	<u>Suhasi</u>	<u>Suhasi</u>	<u>Suhasi</u>	<u>Suhasi</u>
9.	5409	Katkar Shivam Subhash	<u>Katkar</u>	<u>Katkar</u>	<u>Katkar</u>	<u>Katkar</u>
10.	5410	Kokate Ankita Bhanudas	<u>Ankita</u>	<u>Ankita</u>	<u>Ankita</u>	<u>Ankita</u>
11.	5411	Kokate Vaishnavi Vinayak	<u>V.V.Kokate</u>	<u>V.V.Kokate</u>	<u>V.V.Kokate</u>	<u>V.V.Kokate</u>
12.	5412	Misal Snehal Sarjerao	<u>Snehal Misal</u>	<u>Snehal Misal</u>	<u>Snehal Misal</u>	<u>Snehal Misal</u>
13.	5413	Panchal Harshada Anil	<u>Panchal</u>	<u>Panchal</u>	<u>Panchal</u>	<u>Panchal</u>
14.	5414	Parase Sujay Prakash	<u>S.P.Parase</u>	<u>S.P.Parase</u>	<u>S.P.Parase</u>	<u>S.P.Parase</u>
15.	5415	Patil Aditya Dilip	<u>Patil</u>	<u>Patil</u>	<u>Patil</u>	<u>Patil</u>
16.	5416	Patil Gaurav Jitendra	<u>Gaurav Patil</u>	<u>Gaurav Patil</u>	<u>Gaurav Patil</u>	<u>Gaurav Patil</u>
17.	5417	Patil Rajashri Prakash	<u>Rajashri</u>	<u>Rajashri</u>	<u>Rajashri</u>	<u>Rajashri</u>
18.	5418	Patil Vishal Mansing	<u>V.M.Patil</u>	<u>V.M.Patil</u>	<u>V.M.Patil</u>	<u>V.M.Patil</u>
19.	5419	Powar Rachana Tukaram	<u>Powar</u>	<u>Powar</u>	<u>Powar</u>	<u>Powar</u>



Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

PG Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester II

Internal Evaluation

Paper V Techniques in Microbiology

Sr. No.	Roll No.	Student Name	Marks of seminar Out of 10	Test (Objective) Out of 10	Test (Descriptive) Out of 30	Total Out of 50	Converted to out of 20
1	5401	Bhandigare Indrayani Rahul	8	8	27	53	18
2	5402	Bhosale Namrata Laxman	7	7	12	36	12
3	5403	Desai Naziya Rashid	8	7	26	51	17
4	5404	Gawade Manohar Sonali	8	6	22	46	15
5	5405	Ghose Ritika Rajendra	6	5	13	34	11
6	5406	Ingale Vaishnavi Vishnu	6	5	12	33	11
7	5407	Jamadar Muskan Salim	7	7	8	32	11
8	5408	Kamble Suhasi	7	6	24	47	16
9	5409	Katkar Shivam Subhash	6	4	7	27	9
10	5410	Kokate Ankita Bhanudas	8	7	16	41	14
11	5411	Kokate Vaishnavi Vinayak	7	6	8	31	10
12	5412	Misal Snehal Sarjerao	9	6	20	45	15
13	5413	Panchal Harshada Anil	9	7	19	45	15
14	5414	Parase Sujay Prakash	6	1	3	20	7
15	5415	Patil Aditya Dilip	7	5	4	26	9
16	5416	Patil Gaurav Jitendra	7	5	8	30	10
17	5417	Patil Rajashri Prakash	8	3	17	38	13
18	5418	Patil Vishal Mansing	7	7	14	38	13
19	5419	Powar Rachana Tukaram	8	7	20	45	15

Shubh
 Dr. S. D. Mali



Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

PG Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester II

Internal Evaluation

Paper VI Microbial Physiology, Biochemistry and Metabolism

Sr. No.	Roll No.	Student Name	Marks of seminar Out of 10	Test (Objective) Out of 10	Test (Descriptive) Out of 30	Total Out of 50	Converted to out of 20
1	5401	Bhandigare Indrayani Rahul	8	7	28	53	18
2	5402	Bhosale Namrata Laxman	7	6	11	52	17
3	5403	Desai Naziya Rashid	8	10	23	51	17
4	5404	Gawade Sonali Manohar	8	9	25	52	17
5	5405	Ghose Ritika Rajendra	6	8	24	48	16
6	5406	Ingale Vaishnavi Vishnu	6	9	10	49	16
7	5407	Jamadar Muskan Salim	7	10	23	50	17
8	5408	Kamble Suhasi	7	9	22	48	16
9	5409	Katkar Shivam Subhash	6	9	9	35	12
10	5410	Kokate Ankita Bhanudas	8	10	23	51	17
11	5411	Kokate Vaishnavi Vinayak	7	10	21	47	16
12	5412	Misal Snehal Sarjerao	9	10	18	47	16
13	5413	Panchal Harshada Anil	9	6	24	49	16
14	5414	Parase Sujay Prakash	6	6	5	27	8
15	5415	Patil Aditya Dilip	7	6	5	28	9
16	5416	Patil Gaurav Jitendra	7	4	4	25	9
17	5417	Patil Rajashri Prakash	8	7	17	42	14
18	5418	Patil Vishal Mansing	7	7	9	33	11
19	5419	Powar Rachana Tukaram	8	10	20	48	16

S. D. Mali

Dr. S. D. Mali



Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

PG Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester II

Internal Evaluation Paper VII Medical Microbiology

Sr. No.	Roll No.	Student Name	Marks of seminar Out of 10	Test (Objective) Out of 10	Test (Descriptive) Out of 30	Total out of 50	Converted to out of 20
1	5401	Bhandigare Indrayani Rahul	8	7	27	52	17
2	5402	Bhosale Namrata Laxman	7	6	8	31	10
3	5403	Desai Naziya Rashid	8	6	20	44	15
4	5404	Gawade Manohar Sonali	8	10	13	41	14
5	5405	Ghose Ritika Rajendra	6	9	16	41	14
6	5406	Ingale Vaishnavi Vishnu	6	4	7	27	9
7	5407	Jamadar Muskan Salim	7	6	16	44	15
8	5408	Kamble Suhasi	7	8	19	44	15
9	5409	Katkar Shivam Subhash	6	7	7	30	10
10	5410	Kokate Ankita Bhanudas	8	7	16	41	14
11	5411	Kokate Vaishnavi Vinayak	7	7	7	31	10
12	5412	Misal Snehal Sarjerao	9	9	19	47	16
13	5413	Panchal Harshada Anil	9	10	26	55	18
14	5414	Parase Sujay Prakash	6	6	13	35	8
15	5415	Patil Aditya Dilip	7	2	7	26	9
16	5416	Patil Gaurav Jitendra	7	3	10	30	10
17	5417	Patil Rajashri Prakash	8	5	18	41	14
18	5418	Patil Vishal Mansing	7	5	8	30	10
19	5419	Powar Rachana Tukaram	8	9	16	43	14

S. D. Mali
 Dr. S. D. Mali



Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

PG Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester II

Internal Evaluation
Paper VIII Microbial Ecology

Sr. No.	Roll No.	Student Name	Marks of seminar Out of 10	Test (Objective) Out of 10	Test (Descriptive) Out of 30	Total Out of 50	Converted to out of 20
1	5401	Bhandigare Indrayani Rahul	8	6	19	43	14
2	5402	Bhosale Namrata Laxman	7	6	6	29	10
3	5403	Desai Naziya Rashid	8	4	12	34	11
4	5404	Gawade Manohar Sonali	8	4	18	40	13
5	5405	Ghose Ritika Rajendra	6	3	9	28	9
6	5406	Ingale Vaishnavi Vishnu	6	3	10	29	10
7	5407	Jamadar Muskan Salim	7	5	10	32	11
8	5408	Kamble Suhasi	7	5	9	31	10
9	5409	Katkar Shivam Subhash	6	2	3	21	8
10	5410	Kokate Ankita Bhanudas	8	7	17	32	11
11	5411	Kokate Vaishnavi Vinayak	7	6	7	30	10
12	5412	Misal Snehal Sarjerao	9	6	8	33	11
13	5413	Panchal Harshada Anil	9	6	15	40	13
14	5414	Parase Sujay Prakash	6	2	6	24	8
15	5415	Patil Aditya Dilip	7	0	3	20	8
16	5416	Patil Gaurav Jitendra	7	4	5	26	9
17	5417	Patil Rajashri Prakash	8	3	13	34	11
18	5418	Patil Vishal Mansing	7	4	6	27	9
19	5419	Powar Rachana Tukaram	8	6	12	36	12

S. D. Mali
Dr. S. D. Mali



Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

PG Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester II
Paper VI Microbial Physiology, Biochemistry and Metabolism

Marks: 10

- 1) ----- is an example of essential amino acid
a) Histidine b) Alanine c) Glycine d) Proline
- 2) ----- is an example of nonessential amino acid
a) Histidine b) Isoleucine c) Lysine d) Tyrosine
- 3) ----- is an example of alpha ketoglutarate family amino acid
a) Histidine b) Glutamine c) Lysine d) Tryptophan
- 4) The drug metabolites which are ----- in nature are easily excreted out of the body.
a) Water soluble and polar b) Lipid soluble and polar c) Water soluble and non polar d) Lipid soluble and non polar
- 5) Secondary structure of a protein molecule is stabilized by ----- bond.
a) Glycosidic b) Disulphide c) Ester d) Hydrogen
- 6) DNA is a polymer of -----
a) Nucleotides b) sugars c) Amino acids d) fatty acids
- 7) Disulphide bond is formed between ----- and ----- amino acids of protein molecule.
a) Valine and Glycine b) Cysteine and methionine
c) Arginine and leucine d) Tyrosine and alanine
- 8) ----- is involved in phase I drug metabolism.
a) Cytochrome P450 b) Coagulase c) Catalase d) Streptokinase
- 9) Sulphation type of conjugation is carried out by ----- during drug metabolism.
a) Glutathione-S-transferases
b) UDP glucuronosyltransferases c) Methyl transferases d) Sulphotransferases
- 10) The main site of drug metabolism in human body is -----.
a) Liver b) Brain c) Lungs d) Intestine



Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

PG Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester II

Paper VI Microbial Physiology, Biochemistry and Metabolism

Marks: 30

- Q.1 Describe in detail citric acid cycle and a note on amphibolic nature of TCA 16
- Q. 2 Discuss in detail Pasteur effect and Crabtree effect 8
- Q. 3 Write short note on any one 4
- 1) Autotrophy
- 2) Osmosis
- Q. 4 Choose the correct alternative and rewrite the sentence 2
- 1) Oxidation of fatty acids occurs in ----- of mitochondria.
a) intermembrane space b) inner membrane c) matrix d) outer membrane
- 2) In urea cycle, in final step ----- amino acid is hydrated to urea.
a) alanine b) arginine c) aspartic acid d) serine



Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

PG Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester II
Paper VII Medical Microbiology (Objective Test)

Marks: 10

- 1) ----- produced by pathogen do not work as spreading factor.
a) Streptokinase b) Hyaluronidase c) Catalase d) Collagenase
- 2) Diphtheria toxin inhibits ----- synthesis of host cell
a) DNA b) RNA c) Protein d) Lipid
- 3) Mature FimH adhesin is made up of ----- amino acids
a) 345 b) 382 c) 279 d) 264
- 4) Kappa toxin produced by *Cl. perfringens* act as -----
a) Streptokinase b) Hyaluronidase c) Catalase d) Collagenase
- 5) The etiology of AIDS is -----
a) H1N1 b) HIV c) COVID d) HSV
- 6) The causative agent of filariasis is -----.
a) *Wuchereria bancrofti* b) *Histoplasma capsulatum* c) *Leishmania donovani* d) *Cryptococcus neoformans*
- 7) Filariasis is a ----- disease.
a) Bacterial b) Viral c) Protozoal d) Fungal
- 8) ----- causes formation of blood clots
a) Lysozyme b) Urokinase c) Streptokinase d) Coagulase
- 9) ----- is collected as clinical sample for diagnosis of conjunctivitis.
a) Skin scrapings b) Corneal swab c) Cerebrospinal fluid d) Urine
- 10) Cyst production is a characteristic feature of -----
a) *Giardia lamblia* b) *Histoplasma capsulatum* c) *Leishmania donovani* d) *Wuchereria bancrofti*



Shri Swami Vivekanand Shikshan Sanstha's
Vivekanand College, Kolhapur (Autonomous)

PG Department of Microbiology

Academic year 2022-23

Internal Examination M. Sc. I Semester II

Paper VII Medical Microbiology (Descriptive Test)

Marks: 30

- | | |
|-------------------------------------------------------------------------------------------------|----|
| Q.1 Describe in detail filarisis | 16 |
| Q. 2 Discuss in detail pathology of AIDS | 8 |
| Q. 3 Write sort note on any one | 4 |
| 1) Diphtheria toxin | |
| 2) Cyst | |
| Q. 4 Choose the correct alternative and rewrite the sentence | 2 |
| 1) Capsule formation is a survival mechanism of -----. | |
| a) <i>S. pneumoniae</i> b) <i>M. tuberculosis</i> c) <i>S. aureus</i> d) <i>Cl. perfringens</i> | |
| 2) ----- production is characteristic feature of pathogenic <i>S. aureus</i> . | |
| a) lysozyme b) coagulase c) caseinase d) cyst | |





020000

Signature of Jr. Super.

विवेकानंद कॉलेज (स्वायत्त) कोल्हापूर.

परीक्षेच्या _____ या विषयाच्या प्रयोग परीक्षा
 Practical Examination in Objective test-2 (Biochemistry)
 at the Sem - II internal exam Examination
 उमेदवाराचा आसन क्रमांक _____ विभाग _____
 (Candidate's Seat No.) 5409 (Section) 10
8553 10

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 विद्युत्प्रयोग करण्यापूर्वी, प्रत्यक्ष पुरविलेली सर्व उपकरणे आणि सर्व 'कनेक्शन' नीट पाहून घेऊन संबंधित कामाची नीटनेटकी कार्ययोजना करण्याची नितांत आवश्यकता आहे आणि ह्या नंतर, पुढे काम चालू करण्याविषयी परीक्षकांची परवानगी मिळविणे आवश्यक आहे.
- सर्व निरीक्षणे कोष्टकवजा तक्त्यात भरावी. मधल्या सर्व गणना आणि निर्णय हे शक्य तितक्या सुवाच्यपणे 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 be 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 thought 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.)

mks - (10)

Q no	<u>Hestidine</u> <u>example of</u> <u>essencial</u> <u>amino</u> <u>Acid</u>
(a)	<u>Hestidine</u>
(b)	<u>Alanine</u>
(c)	<u>lysine</u>
(d)	<u>proline</u>



Section	Q. No.												
	Marks												

प्र. क्र.
Q. No.

Q no 2 Isoleucine tyrosine is an example of non essential Amino-acid

- (a) Histidine
- (b) Isoleucine
- (c) Icyine
- (d) tyrosine

Q no 3 Glutamine is an example of α keto glutarate family amino Acid.

- (a) Histidine
- (b) Glutamine
- (c) Icyine
- (d) Tryptofan.

Q no 4 the Drug metabolites which are water soluble polae nature are easily excreted out of Body

- (a) water soluble polae
- (b) lipid soluble polae
- (c) water soluble non polae
- (d) lipid soluble non polae

Q no 5 Secondary Structure of protein molecule is stabilised by Hydrogen Bond

- (a) Glycosidic
- (b) disulphide
- (c) co-valent
- (d) hydrogen.



Section	Q. No.																		
	Marks																		

प्र. क्र.
Q. No.

Q no 6 DNA is the polymer of Nucleotide

- (a) Nucleotide
- (b) Sugar
- (c) Amino acid
- (d) fatty acid

Q no 7 Disulphide Bond is formed between Cystine and methionine amino acid of protein molecule

- (a) Valine and glycine
- (b) Cystine and methionine
- (c) Arginine and ^{Leucine} ~~Leucine~~
- (d) Pyrolysine and alanine

Q no 8 Cytochrome p450 is involved in phase - I Drug metabolism

- (a) Cytochrome p450
- (b) coagulase
- (c) Catalase
- (d) Streptokinase

Q no - 9 Sulfation type of conjugation is carried out by the Sulfo transferase ~~methil transferase~~

- (a) Glutathion-S-transferases
- (b) UDP-galactose 4-epimerase
- (c) methyl transferase
- (d) Sulfo transferase



Section	Q. No.													
	Marks													

प्र. क्र.

Q. No.

⑩ The main site of Drug metabolism in Human body is liver.

①

Liver

③

lungs

②

Brain

④

intestine



" ज्ञान, विज्ञान आणि सुसंस्कार यांसाठी शिक्षण प्रसार "

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Shri Swami Vivekanand Shikshan Sanstha Kolhapur's

VIVEKANAND COLLEGE, KOLHAPUR (AUTONOMOUS)

SUPPLIMENT

Signature
of
Supervisor

Suppliment No. :

Roll No. : 885552

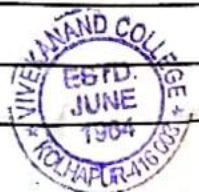
Class : msc - I

Subject :

Test / Tutorial No. : Internal sem II

Div. :

- ① Catalase Hyaluronidase Produced by pathogen do not work as spreading factor
- a) Streptokinase b) Heto Hyaluronidise
c) Catyase d) Colagenase
- ② diphtheria toxin inhibits protein synthesis of host cell.
- a) DNA b) RNA c) protein d) lipid
- ③ mature Film H Fim H adhesion is made up of 279 amino acid.
- a) 345 b) 382 c) 279
d) 264
- ④ kappa toxin produced by clostridium perfringens is act as colagenase
- a) streptokinase
b) Hyaluronidase
c) Catalayase
d) colagenase



⑤ In etiology of AIDS is HIV

- a) H₁N₁
- b) HTV
- c) COVID
- d) HSV

⑥ The causative agent of filariasis is Wucheria Bancrofti

- a) Wucheria Bancrofti
- b) H. Capsulata
- c) L. Donovani
- d) C. neoformans

⑦ Filariasis is a Bacterial disease

- a) Bacterial
- b) Viral
- c) Protozoan
- d) Fungal

⑧ Coagulase causes formation of blood clots

- a) Lysozyme
- b) Urokinase
- c) Streptokinase
- d) Coagulase

9) Corneal swab is collected as clinical sample for diagnosis of conjunctivitis

- a) skin scrapings
- b) Corneal swab
- c) Nasal Swab
- d) Throat Swab

10) Cyst formatⁿ is a characteristic feature of Giardiasis

- a) *Giardia lamblia*
- b) *H. Capsule*
- c) *L. donovani*
- d) *W. Bancrofti*

