Department of Microbiology
Periyar University
Periyar Palkalai Nagar
Salem - 636 011

M.Phil. Microbiology
Syllabus

(For the students admitted from 2013-14 onwards)
1. Eligibility

Candidates who have qualified for the post graduate degree in any biological science of this University or any other University recognized by the syndicate as equivalent there to shall be eligible to register for the Degree of Master of Philosophy (M. Phil.) their respective subject and undergo the prescribed course of study in an approved institution or department of this University.

Candidates who have qualified their postgraduate degree on or after 1st January, 1991 shall be required to have obtained a minimum of 55% of marks in their respective postgraduate degrees to become eligible to undergo the prescribed course of study in an approved Institution or department of this University.

In the case of teachers (or) others registering for part time registration, the minimum percentage of marks for registration is 50%.

For the candidates belonging to SC/ST community and those who have qualified for the Master’s degree before 01.01.1991 the minimum eligibility marks shall be 50% in their Master’s Degree.

2. Duration

The duration of the M. Phil course shall extend over a period of one year from the commencement of the course.

3. Course of study

Course of study for the degree shall consist of (a) Part-I comprising three written papers according to the Syllabus prescribed from time to time: and (b) Part-II Dissertation.

Part –I shall consist of Paper –I Research Methodology and Paper –II an advanced paper in the main subject. There shall be a third paper which shall be the background paper relating to the proposed Dissertation conducted internally by the College/Departments.
4. Scheme of Examinations

Part I: Written Examination (Paper I, II & III)

The examination of papers I, II and III shall be held at the end of the year. The duration for each paper shall be 3 hours carrying a maximum of 100 marks.

Paper –III examination will be conducted by the Departments and the marks obtained by the candidate along with the question paper and valued answer scripts shall be sent to the University at least 15 days before the commencement of the examinations of paper I and II.

Part II: Dissertation

The exact title of the Dissertation shall be intimated within one month after the completion of the written examination. Candidates shall submit the Dissertation to the University through the Supervisor and Head of the Department at the end of the year from the commencement of the course which shall be valued by internal examiner (supervisor) and one external examiner appointed by the University from a panel of four names sent by the Supervisor through the Head of the Department/ at the time of submitting the Dissertation.

The examiners who value the Dissertation shall report on the merit of candidates as “Highly Commended” (75% and above) or “Commended” (50% and above & below 75%) or “Not Commended” (Below 50%).

If one examiner commends the Dissertation and the other examiner, does not commend, the Dissertation will be referred to the third valuation shall be final. Submission or resubmission of the Dissertation will be allowed twice a year.

The allotment of marks for (i) Theory (ii) Dissertation and Viva Voce are as follows:

(i) Theory Papers

<table>
<thead>
<tr>
<th>Type</th>
<th>Marks</th>
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<tbody>
<tr>
<td>Internal</td>
<td>25</td>
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<tr>
<td>External</td>
<td>75</td>
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<tr>
<td>Total</td>
<td>100</td>
</tr>
</tbody>
</table>
(ii) Project Dissertation

Dissertation : 100 Marks
Viva Voce : 50 Marks
Total : 200 Marks

(iii) Internal assessment for course I, II and III

Test : 10 Marks
Seminar : 10 Marks
Attendance : 05 Marks
Total : 25 Marks

<table>
<thead>
<tr>
<th>S. No</th>
<th>Paper</th>
<th>Title of Paper</th>
<th>Exam Hrs</th>
<th>Max. Mark</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Paper I</td>
<td>Research Methodology and its Applications</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>Paper I</td>
<td>Advances in Microbiology</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>3</td>
<td>Paper I</td>
<td>Guide Paper</td>
<td>3</td>
<td>100</td>
</tr>
<tr>
<td>4</td>
<td>Part II</td>
<td>Dissertation</td>
<td>-</td>
<td>200</td>
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<td></td>
<td>Total</td>
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<td>500</td>
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5. Passing Minimum

A candidate shall be declared to have passed Part-I of the examination if he/she secures not less than 50% of the marks in each paper including Paper-III for which examination is conducted internally.

A candidate shall be declared to have passed Part-II of the examination if his/her dissertation is at least commended. All other candidates shall be declared to have failed in the examination.

6. Restriction in number of chances

No candidate shall be permitted to reappear for the written examination in any paper on more than two occasions or to resubmit a Dissertation more than once. Candidates shall have to qualify for the degree passing all the written papers and dissertation within a period of three years from the date of commencement of the course.
7. Conferment of Degree

No candidate shall be eligible for conferment of the M. Phil degree unless he/she is declared to have passed both the parts of the examination as per the regulations.

8. Qualifications for persons conducting the M. Phil course

No teacher shall be recognised as a Supervisor unless he possesses a Ph. D degree or two years of PG teaching experience after qualifying for M. Phil or M.Litt. Degree.

Only the post graduate departments of affiliated colleges and departments of the University will be recognized for conducting the M. Phil course provided; however, the Syndicate shall have the power to decide any other institutions of higher learning / research within the University area for conducting the M.Phil course on merits.

PART-TIME

9. Eligibility

(i) Teacher candidates working in the University Departments.

(ii) Teacher candidates working in the affiliated colleges and whose qualifications are approved by the University.

(iii) Teacher candidates working in Polytechnics approved by the Director of Technical Education or in Higher Secondary Schools and High Schools approved by State Board or Central Board of Secondary Education or Educational Institutions of IAF (within Periyar University area) who possess a Master’s Degree. For the Master’s Degree qualified prior to 01.01.1991, no minimum marks is prescribed; but on or after 01.01.1991, a minimum of 55% of the marks is prescribed, provided that for the candidates belonging to SC/ST community a concession of 5% of marks will be given in the minimum eligibility marks prescribed.

10. Duration

The course of study shall extend over a period of two years from the commencement of the course. The examinations for Part-I shall be taken at the end of the first year and Part-II Dissertation at the end of the second year.
11. Regulations

The Regulations governing the full-time M.Phil. course with regard to the course of study, scheme of examinations passing minimum, etc and qualifications of guide conducting the M. Phil course shall apply to part-time candidates also.

12. Restriction in number of chances.

No candidate shall be permitted to reappear for the written examination in any paper on more than two occasions or to resubmit a Dissertation more than once. Candidates shall have to qualify for the degree passing all the written papers and dissertation within a period of four years from the date of commencement of the course.

M.Phil. MICROBIOLOGY (Choice Based Credit System)

Course of Study

<table>
<thead>
<tr>
<th>Part</th>
<th>Course</th>
<th>Course Code</th>
<th>Name of the course</th>
<th>Credits</th>
<th>Marks</th>
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<th>UE</th>
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<tbody>
<tr>
<td>I</td>
<td>I</td>
<td></td>
<td>Research Methodology and its Applications</td>
<td>4</td>
<td></td>
<td>25</td>
<td>75</td>
<td>100</td>
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<tr>
<td></td>
<td>II</td>
<td></td>
<td>Advances in Microbiology</td>
<td>4</td>
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<td>25</td>
<td>75</td>
<td>100</td>
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<tr>
<td></td>
<td>III</td>
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<td>Research Background Paper</td>
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<td>75</td>
<td>100</td>
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<td>II</td>
<td>IV</td>
<td></td>
<td>Dissertation and Evaluation</td>
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<td>100</td>
<td>50</td>
<td>150</td>
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<td></td>
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<td>Viva voce</td>
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</table>
Objective
This paper is aimed at providing exposure to the students on the basic skills for becoming a researcher in microbiology.

UNIT - I

UNIT - II

UNIT - III

UNIT - IV

UNIT - V
References


Web References

http://www.math.yorku.ca/scs/statResource.html# General
http://www.anest.ufl.edu/computer/index.html
http://www.jegsworks.com/Lessons/index.html
http://www.bettycjung.net/statsites.html
http://www.biostat.harvard.edu/links/
http://www.ped.mod.utah.edu/genpedscrr/Epibio.html
Paper - II

ADVANCES IN MICROBIOLOGY

Objective

This paper provides information about the latest and advanced knowledge of microbiology.

UNIT - I


UNIT - II


UNIT - III


UNIT - IV


UNIT - V

Microbial Pharmaceutics and Biotechniques: Drug discovery and design, British and Indian Pharmacopacea, Marine microbial antibiotics, Microbial therapeutic enzymes, Microbial pigments, Single cell proteins. Microbial Products and their bioprocesses.
References

Web References
3. http://bioweb.uwlax.edu/Genweb/Microbiology/General/general.html