# Document Showing the experimental Learning through project work / field work / internship as prescribed by the affiliating university

# MCA II (Semester IV)

| Subject | Paper Code | Paper Name | Total Period /Week | Credit | % of Assessment | | | |
|---------|-----------|-----------|:---:|:---:|:---:|:---:|:---:|:---:|
| | | | | | IA | UE | Total | Min. Passing (40%) |
| Core | PSMCAP401 | Research Methodology | 4 | 4 | 20 | 80 | 100 | 40 |
| | PSMCAP402 | Cyber Law & IPR | 4 | 4 | 20 | 80 | 100 | 40 |
| Skill Enhancement | PSMCAP403 | Industrial Internship Project (IIR) | - | 18 | 250 | 250 | 500 | 200 |
| Ability Enhancement | PSMCAS404 | Seminar | 1 | 1 | 25 | - | 25 | 10 |
| **Total** | | | **8** | **27** | **290** | **430** | **700** | **280** |

# Master of Computer Application – III (Semester VI)
## Paper Code : PSMCAT601
### Paper 1: Industrial Internship Project

**Credit : 10 ]**                                               **[Max. Marks: 500**

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**Instruction:**

Towards the end of the second semester of study of Final year, a student will be examined in the course **"INDUSTRIAL INTERNSHIP PROJECT". <u>The project proposal should be prepared in consultation with the Internal Guide approved by Company/Software firm along with college guide (Guide must be a person having a regular university approval only).</u>**

**a.** Project Work must be done by individually (Only One) while carrying the industrial project. However if project is done in group then, each student must be given a responsibility for a distinct module and care should be taken to monitor the progress of individual student**.**

**b.** The Project Work should be done as per the guidelines of Company/Software Firm**.**

**c.** The Project Work should be of such a nature that it could prove useful or be relevant from the System-Oriented/Application/Commercial.

**d**. The external viva-voce examination for Project Work would be held as per Examination Time Table of the Final year of study decided by University**.**

**e.** Head/Co-ordinator of Computer Dept. must reject any project title which was previously carried out in any computer course. It must maintain Record that lists the projects along with other detail (like Guide, Session, and Number of students working on project etc.) that was carried out of and must be shown to external examiner at the time of examination.

**f**. HOD may change the sequence/order of project work depending upon the nature of project.

## Types of Project

As majority of the students are expected to work out a project in some industry/research and development laboratories/educational institutions/software export companies, it is suggested that the project is to be chosen by the candidate should have some direct relevance in day-to-day activities of the candidates in his/her institution.

The Applications Area of Project- Database Management System/Relational Database Management System/Internet/web Designing/Hardware and Software interaction based etc.

## Project Proposal (Synopsis)

The project proposal should clearly state the objectives and environment to the proposed project to be undertaken. It should have full details in the following form:

1. Title of the Project
2. Objectives and Hypothesis of the Project
3. Project Category (Database/Web Designing/Application/Hardware Interface etc.)
4. Tools/Platform, Languages, to be used as per the guidelines of company/software firms.
5. A complete Structure of the program:

    i. Analysis

     ii. Numbers of Modules

     iii. Data Structures or Tables

     iv. Process Logic

     v. Types of Report Generation

6. Scope of future Application

## Project Report Formulation

1. Title Page

2. Certificate Page

3. Declaration Page

4. Acknowledgment Page

5. Index or Content Page

6. Documentation.

     i) Introduction/Objectives

     ii) Preliminary System Analysis: Identification of Need, Preliminary Investigation Feasibility Study, Need of New System. Flaws in Present System

     iii) Project Category

     iv) Software Requirement Specification

     v) Detailed System Analysis. Data Flow Diagram. Numbers of Modules and Process Logic. Data Structures and Tables. Entity-Relationship Diagram.

     vi) System Design, Source Code, Screen Shots

     vii) Validation Checks

     viii) Implementation, Evaluation and Maintenance

     ix) Security Measures taken

     x) Future Scope of the Project xi) Bibliography

Appendix

   O Survey Questionnaire

| Subject | Paper Code | Paper Name | Total Period /Week | Credit | % of Assessment | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | IA | UE | Total | Min. Passing (40%) |
| Skill Enhancement | PMCAP601 | Industrial Internship Project | - | 10 | 250 | 250 | 500 | 200 |
| Ability Enhancement | PMCAS602 | Seminar Work | - | 5 | 100 | 100 | 200 | 80 |
| Total | | | - | 15 | 350 | 350 | 700 | 280 |

**MCA III (Semester VI)**

**Note : - In Project/Seminar student must appear <u>External Practical Exam</u> conducted by University (UE) in order to clear the exam.**

# Master of Computer Application – III
## (Semester VI)
### Paper Code : PSMCAT601
### Paper 1: Industrial Internship Project

**Credit : 10 ]**                                                 **[Max. Marks: 500**

**Instruction:**

Towards the end of the second semester of study of Final year, a student will be examined in the course **"INDUSTRIAL INTERNSHIP PROJECT".**

**The project proposal should be prepared in consultation with the Internal Guide approved by Company/Software firm along with college guide (Guide must be a person having a regular university approval only).**

**a.** Project Work must be done by individually **(Only One)** while carrying the industrial project. However if project is done in group then, each student must be given a responsibility for a distinct module and care should be taken to monitor the progress of individual student.

**b.** The Project Work should be done as per the guidelines of Company/Software Firm.

**c.** The Project Work should be of such a nature that it could prove useful or be relevant from the System-Oriented/Application/Commercial.

**d.** The external viva-voce examination for Project Work would be held as per Examination Time Table of the Final year of study decided by University.

**e.** Head/Co-ordinator of Computer Dept. must reject any project title which was previously carried out in any computer course. It must maintain Record that lists the projects along with other detail (like Guide, Session, and Number of students working on project etc.) that was carried out of and must be shown to external examiner at the time of examination.

**f.** HOD may change the sequence/order of project work depending upon the nature of project.


**Types of Project**

As majority of the students are expected to work out a project in some industry/research and development laboratories/educational institutions/software export companies, it is suggested that the project is to be chosen by the candidate should have some direct relevance in day-to-day activities of the candidates in his/her institution.

The Applications Area of Project- Database Management System/Relational Database Management System/Internet/web Designing/Hardware and Software interaction based etc.

**Project Proposal (Synopsis)**

The project proposal should clearly state the objectives and environment to the proposed project to be undertaken. It should have full details in the following form:

1. Title of the Project
2. Objectives and Hypothesis of the Project
3. Project Category (Database/Web Designing/Application/Hardware Interface etc.)
4. Tools/Platform, Languages, to be used as per the guidelines of company/software firms.
5. A complete Structure of the program:
   i.   Analysis
   ii.  Numbers of Modules
   iii. Data Structures or Tables iv.
        Process Logic
   v.   Types of Report Generation
6. Scope of future Application

**Project Report Formulation**

1. Title Page
2. Certificate Page
3. Declaration Page
4. Acknowledgment Page
5. Index or Content Page
6. Documentation.
   i)   Introduction/Objectives
   ii)  Preliminary System Analysis: Identification of Need, Preliminary Investigation
        Feasibility Study, Need of New System. Flaws in Present System iii)
   Project Category
   iv)  Software Requirement Specification
   v)   Detailed System Analysis. Data Flow Diagram. Numbers of Modules and
        Process Logic. Data Structures and Tables. Entity-Relationship Diagram. vi)
   System Design, Source Code, Screen Shots
   vii) Validation Checks
   viii) Implementation, Evaluation and Maintenance ix)
   Security Measures taken
   x) Future Scope of the Project xi)
   Bibliography

Appendix
        O Survey Questionnaire

- **Lab\* :**

    1) Not more than two students should be allowed to do practical on one machine.

    2) Wherever possible Practical's should be perform using Open Source Software.

  **Batch:** Each batch can be of Maximum 12 students

> **Note : Direction and scheme of course is available in the website of Gondwana University, Gadchiroli ( www.gondwana.digitaluniversity.ac )**

## M.Sc. (Computer Science) – II (Semester - IV)

| Subject | Paper Code | Paper Name | Total Period /Week | Credit | % of Assessment | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | IA | UE | Total | Min. Passing (40%) |
| Core | PSCST13 | Android Application Development | 4 | 4 | 20 | 80 | 100 | 40 |
| | PSCST14 | Digital And Cyber Forensics | 4 | 4 | 20 | 80 | 100 | 40 |
| | PSCST15 | Web Designing Using Asp .Net | 4 | 4 | 20 | 80 | 100 | 40 |
| | PSCST16 | Project | 4 | 4 | 20 | 80 | 100 | 40 |
| Core Lab | PSCSP07 | Practical based on PSCST13 & PSCST14 | 6 | 4 | 20 | 80 | 100 | 40 |
| | PSCSP08 | Practical based PSCST15 | 6 | 4 | 20 | 80 | 100 | 40 |
| Ability Enhancement | PSCSS04 | Seminar | 2 | 1 | 25 | - | 25 | 10 |
| Total | | | 32 | 25 | 145 | 480 | 625 | 250 |

# Project

**[Max. Marks: 80**

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**Instruction:**
Towards the end of the second semester of study, a student will be examined in the
Course "Project Work".

a. Project Work may be done individually or in groups (Maximum 2 students) in case of bigger projects. However if project is done in groups, each student must be given a responsibility for a distinct module and care should be taken to monitor the progress of individual student.

b. The Project Work should be done using the tools covered in M.Sc. (Computer Science)

c. The Project Work should be of such a nature that it could prove useful or be relevant from the System-oriented/Application/commercial / management angle.

d. The project work will carry 100 marks.

e. The external viva-voce examination for Project Work would be held as per the Examination Time Table of the second year of study, by a panel of one external and one Internal examiner.

f. Head/Co-ordinator of Computer Dept. must reject any project title which was already carried out in any computer course in the college. He must maintain a Record that lists the projects along with other detail (like Guide, Session, and Number of students working on project etc) that was carried out so far and must be shown to external examiner at the time of examination.

## Types of Project

As majority of the students are expected to work out a project in some industry/research and development laboratories/educational institutions/software export companies, it is suggested that the project is to be chosen which should have some direct relevance in day-today activities of the candidates in his/her institution. The Applications Areas of project - Financial/Marketing/Database Management System/ Relational Database Management System/E-Commerce /Internet/ Manufacturing/ web Designing/Hardware and Software interaction based etc.

## Project Proposal (Synopsis)

The project proposal should be prepared in consultation with the guide. The Project Guide May alter the sequence as given below depending upon the nature of project. The project guide must be a person having minimum Qualification M.Sc. (Computer)/ MCA/ M.Sc.(Maths/Electronics/Statistics/Physics + Post B.Sc. Dip. In Comp. Sc. & Appl.) The project proposal should clearly state the objectives and environment of the proposed project to be undertaken. It should have full details in the following form:

## Title of the project
Objectives and Hypothesis of the Project
Project Category (DBMS/RDBMS/OOPS/Web Designing/Internet etc.)
Tools/Platform, Languages to be used

## A complete Structure of the program:
i.Analysis.
ii.Numbers of Modules.

iii. Data Structures or Tables
iv. Process Logic.
v. Types of Report Generation.
Scope of future Application.

Project Report Formulation.
1.Title Page.
2.Certificate Page.
3.Declaration Page.
4.Acknowledgment Page.
5.Index or Content Page.
6.Documentation.
    i. Introduction/Objectives.
    ii. Preliminary System Analysis.
        Identification of Need.
        Preliminary
        Investigation.
        Feasibility Study.
        Need of New System.
        Flaws in Present
        System.
    iii. Project Category.
    iv. Software Requirement Specification.
    v. Detailed System Analysis.
        Data Flow Diagram.
        Numbers of Modules and Process
        Logic. Data Structures and Tables.
        Entity-Relationship Diagram.
    vi. System Design.
        Source Code.
        Input screen & Output Screen.
  Vii Validation Checks.
  Viii Implementation, Evaluation and Maintenance.
   Ix Security Measures taken.
   X Future Scope of the project.
    Xi Bibliography
Appendix
Survey Questionnaire

# M.Sc. (Computer Science) - II
## (SEMESTER – IV)

**[Max. Marks: 80**

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**Instruction:**
Towards the end of the second semester of study, a student will be examined in the Course"Project Work".

a. Project Work may be done individually or in groups (Maximum 2 students) incase of bigger projects. However if project is done in groups, each student must begiven a responsibility for a distinct module and care should be taken to monitorthe progress of individual student.

b. The Project Work should be done using the tools covered in M.C.M

c. The Project Work should be of such a nature that it could prove useful or berelevant from the System-oriented/Application/commercial / management angle.

d. The project work will carry 100 marks.

e. The external viva-voce examination for Project Work would be held as per the Examination Time Table of the second year of study, by a panel of one externaland one Internal examiner.

f. Head/Co-ordinator of Computer Dept. must reject any project title which wasalready carried out in any computer course in the college. He must maintain aRecord that lists the projects along with other detail (like Guide, Session, andNumber of students working on project etc) that was carried out so far and must beshown to external examiner at the time of examination.

**Types of Project**
As majority of the students are expected to work out a project in some industry/researchand development laboratories/educational institutions/software export companies, it issuggested that the project is to be chosen which should have some direct relevancein day-today activities of the candidates in his/her institution. The Applications Areas ofproject - Financial/Marketing/Database Management System/ Relational DatabaseManagement System/E-Commerce /Internet/ Manufacturing/ web Designing/Hardware andSoftware interaction based etc.

**Project Proposal (Synopsis)**
The project proposal should be prepared in consultation with the guide. The Project Guide May alter the sequence as given below depending upon the nature of project. The projectguide must be a person having minimum Qualification M.C.M / M.Sc. (Computer Science)/ MCA. Theproject proposal should clearly state the objectives and environment of the proposedproject to be undertaken. It should have full details in the following form:

**Title of the project**
Objectives and Hypothesis of the Project
Project Category (DBMS/RDBMS/OOPS/Web Designing/Internet etc.)
Tools/Platform, Languages to be used

**A complete Structure of the program:**
i.Analysis.

ii.Numbers of Modules.
iii.Data Structures or Tables
iv.Process Logic.
v.Types of Report Generation.
Scope of future Application.

Project Report Formulation.
1.Title Page.
2.Certificate Page.
3.Declaration Page.
4.Acknowledgment Page.
5.Index or Content Page.
6.Documentation.
i.Introduction/Objectives.
    ii.Preliminary System Analysis.
        Identification of Need.
        Preliminary
        Investigation.
        Feasibility Study.
        Need of New System.
        Flaws in Present
        System.
    iii.Project Category.
    iv.Software Requirement Specification.
    v.Detailed System Analysis.
        Data Flow Diagram.
        Numbers of Modules and Process
        Logic. Data Structures and Tables.
        Entity-Relationship Diagram.
   vi.System Design.
        Source Code.
        Input screen & Output Screen.
  ViiValidation Checks.
 ViiiImplementation, Evaluation and Maintenance.
  IxSecurity Measures taken.
  XFuture Scope of the project.
   XiBibliography
Appendix
Survey Questionnaire

| | | | | | | | | M.C.M. Semester - IV |
|---|---|---|---|---|---|---|---|---|

| Subject | Paper Code | Paper Name | Total Period /Week | Credit | %of Assessment | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | IA | UE | Total | Min. Passing (40%) |
| Skill Enhancement | | Project | - | | 50 | 50 | 100 | 40 |
| Total | | | | | 50 | 50 | 100 | 40 |

**Distribution of Mark of Project on the basis of following,**

| Module | Maximum Marks | | Min. Marks for passing | |
|---|---|---|---|---|
| | IA | UE | IA | UE |
| a) Synopsis relevance with that of final work | 10 | 10 | 4 | 4 |
| b) Project Work | 10 | 10 | 4 | 4 |
| c) Project Report | 10 | 10 | 4 | 4 |
| d) Presentation of Project Work | 20 | 20 | 8 | 8 |
| Total | 50 | 50 | 20 | 20 |

# CHOICE BASED CREDIT SYSTEM (CBCS)
## SEMESTER PATTERN
# M.Sc. Biotechnology (PG) Program under Faculty of Science
## (Affiliated Colleges)
### (W.e.f. Academic Year 2016-17)
### Appendix-1

**Scheme of teaching and examination under semester pattern Choice Based Credit System (CBCS) for M.Sc. Program in Biotechnology.**

|  | Core Course | Ability Enhancement | Skill Based Course | Discipline Specific Elective |
|---|---|---|---|---|
| SEM III | Core 1 Th. Paper 1 (4 Credits) (4 Hours/Week) | Seminar I (1 Credit) (2 Hours/Week) |  |  |
|  | Core 2 Th. Paper 2(4 Credits) (4 Hours/Week) |  |  |  |
|  | Core 3 Th. Paper 3 (4 Credits) (4 Hours/Week) |  |  |  |
|  | Core 4 Th. Paper 4 (4 Credits) (4 Hours/Week) |  |  |  |
|  | Pract. Core Pr. 1 {Based on Core Th. 1&2} (4 Credits) (3-8 Hours/Week) |  |  |  |
|  | Pract. Core Pr. 2 {Based on Core Th. 3&4} (4 Credits) (3-8 Hours/Week) |  |  |  |

Total 25 Credits

|  | Core Subject | Ability Enhancement | Skill Based Course | Discipline Specific Elective |
|---|---|---|---|---|
| SEM IV | Core 5 Th. Paper 5 (4 Credits) (4 Hours/Week) | Seminar II (1 Credit) (2 Hours/Week) |  |  |
|  | Core 6 Th. Paper 6 (4 Credits) (4 Hours/Week) |  |  |  |
|  | Core 7 Th. Paper 7 (4 Credits) |  |  |  |
|  | Core 8 Th. Paper 8 (4 Credits) (4 Hours/Week) |  |  |  |
|  | Pr. Core Pr. 3 {Based on Core Th. 5&6} (4 Credits) (3-8 Hours/Week) |  |  |  |
|  | Pr. Core Pr. 4 {Based on Core Th. 7&8} (4 Credits) (3-8 Hours/Week) |  |  |  |

**Total 25 Credits**
**Scheme of teaching and examination under semester pattern Choice Based Credit System (CBCS) for M.Sc. Program.**

**Semester III**

| Code | Theory / Practical | Teaching Scheme Hrs/ week | | | Credit | Examination Scheme | | | | | | |
| | | Theory | Practical | Total | | Duration in hrs. | Max. Marks External | Max. Marks Internal | Total | Minimum Marks Theory | Minimum Marks Practical |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Core 1 | Paper 1 | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Core 2 | Paper 2 | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Core 3 | Paper 3 | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Core 4 | Paper 4 | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Pract. Core 1 & 2 | Practical 1 | - | 8 | 8 | 4 | 3-8* | 80 | 20 | 100 | 40 | 40 |
| Pract. Core 3 & 4 | Practical 2 | - | 8 | 8 | 4 | 3-8* | 80 | 20 | 100 | 40 | 40 |
| Seminar 1 | Seminar 1 | 2 | - | 2 | 1 | | | 25 | 25 | 10 | |
| **TOTAL** | | **18** | **16** | **34** | **25** | | **480** | **145** | **625** | **170** | **80** |

**Semester IV**

| Code | Theory / Practical | Teaching Scheme Hrs/ week | | | Credit | Examination Scheme | | | | | | |
| | | Theory | Practical | Total | | Duration in hrs. | Max. Marks External | Max. Marks Internal | Total | Minimum Marks Theory | Minimum Marks Practical |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Core 5 | Paper 5 | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Core 6 | Paper 6 | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Core 7 | Paper 7 | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Core 8 | Paper 8 | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Pract. Core 5 & 6 | Practical 3 | - | 8 | 8 | 4 | 3-8* | 80 | 20 | 100 | 40 | 40 |
| Pract. Core 7 & 8 | Practical 4 | - | 8 | 8 | 4 | 3-8* | 80 | 20 | 100 | 40 | 40 |
| Seminar 2 | Seminar 2 | 2 | - | 2 | 1 | | | 25 | 25 | 10 | |
| **TOTAL** | | **18** | **16** | **34** | **25** | | **480** | **145** | **625** | **170** | **80** |

*Project Work/Dissertation Scheme / Guidelines for the Students, Supervisors and Examiners*

Every student is required to carry out a project work in semester IV. The project can be of following types. A) Experimental Project Work; OR B) Field Based Project Work; OR C) Review writing based Project Work.

*Experimental Project Work and Field Based Project Work:*

Student can carry out Experimental / Field Based Project Work on a related research topic of the subject /course. It must be an original work and must indicate some degree of experimental work / Field work. On the basis of this work, student must submit the Project Report (typed and properly bound) in two copies at least one month prior to commencement of the final Practical / lab Examination of Semester IV. The project report shall comprise of Introduction, Material and Methods, Results, Discussion, Summary,

Conclusion and, References along with the declaration by the candidate that the work is original and not submitted to any University or Organization for award of the degree and certificate by the supervisor and forwarded through Head / Course-coordinator / Director of the Department / Centre or the Principal of the College.

*Review writing based Project Work.*

Student can carry out review writing Based Project Work on a related topic of the subject / course. It must be a review of topic based on research publications. Student shall refer peer reviewed original research publications and based on findings, write a summary of the same. The pattern of review writing shall be based on reputed reviews published in a standard, peer reviewed journals. On the basis of this work, student must submit the Project Report (typed and properly bound) in two copies at least one month prior to commencement of the final Practical / lab Examination of Semester IV. The project report shall comprise of Abstract, Introduction, detailed review, Discussion, Summary, Conclusion and, References along with the declaration by the candidate that the work is original and not submitted to any University or Organization for award of the degree and certificate by the supervisor and forwarded through Head / Course-coordinator / Director of the Department / Centre or the Principal of the College.

*The supervisors for the Project Work shall be from the following.

A person shall be an approved faculty member in the relevant subject. OR

Scientists of National Laboratories / Regional Research Laboratories/ Experts from R&D in Industry who are approved by competent authority in such facilities by the Union Government / the State Government / Gondwana University / Other Universities recognized by UGC.

The Project Work will carry total 100 marks and will be evaluated by both external and internal examiner in the respective Department / Center / Affiliated College.

The examiners will evaluate the Project Work/Dissertation taking into account the coverage of subject matter, arrangement and presentation, references, etc.

| For written Project work | 40 | Marks – Evaluated jointly by External & Internal examiner |
|---|---|---|
| Oral Presentation | 20 | Marks – Evaluated jointly by External & Internal examiner |
| For Viva-Voce | 20 | Marks – Evaluated by External examiner |
| Internal Assessment | 20 | Marks – Evaluated by Internal examiner |
| Total | 100 | |

**Seminar**

**Guidelines for Students, Supervisors and Examiners**

In each semester, the student will have to deliver a seminar on any topic relevant to the syllabus / subject encompassing the recent trends and development in that field / subject. The topic of the seminar will be decided at the beginning of each semester in consultation with the supervising teachers. The student has to deliver the seminar which will be followed by discussion. The seminar will be open to all the teachers of the department, invitees, and students.

The students should submit the seminar report typed and properly bound in two copies to the head of the department. The said shall be evaluated by the concerned supervisor / head of the department. The marks of the seminar shall be forwarded to the university within due period through head of the Department. The record of the seminar should be preserved till the declaration of the final result.

**Internal Assessment:**

1. The internal assessment marks shall be awarded by the concerned teacher.
2. The internal assessment marks shall be sent to the University after the Assessment in the prescribed format.
3. For the purpose of internal assessment, the University Department / College shall conduct any three assignments described below. Best two scores of a student in these tests shall be considered to obtain the internal assessment score of that student.
4. If the student does not appear for the Practical Exam, he shall be declared failed in Practical Examination irrespective of marks obtained in Internal Practical Assessment. However, the Internal

Practical Assessment marks will be carried forward for his next supplementary Practical Exam.

5. General guidelines for Internal Assessment are:
   a) The internal assessment marks assigned to each theory paper as mentioned in Appendix 1 shall be awarded on the basis of assignments like class test, attendance, home assignments, study tour, industrial visits, visit to educational institutions and research organizations, field work, group discussions or any other innovative practice / activity.
   b) There shall be three assignments (as described above) per course.
   c) There shall be no separate /extra allotment of work load to the teacher concerned. He/ She shall conduct the Internal assessment activity during the regular teaching days / periods as a part of regular teaching activity.
   d) The concerned teacher / department / college shall have to keep the record of all the above activities until six months after the declaration of the results of that semester.
   e) **At the beginning of each semester, every teacher /department/college shall inform his/her students unambiguously the method he / she proposes to adopt and the scheme of marking for internal assessment. (Prescribed in syllabus of respective Subjects).
   f) Teacher shall announce the schedule of activity for internal assessment in advance in consultation with HOD / Principal.
   **To be included in syllabus by BOS.

## Practical Examination

1. Each practical carries 100 marks. The scheme of marking shall be as per given in the syllabi of respective subjects.
2. Practical performance shall be jointly evaluated by the External and Internal Examiner. In case of discrepancy, the External Examiner's decision shall be final.
3. Duration of practical examination will be as per given in the syllabi of respective subjects.

The Practical Record of every student shall carry a certificate as shown below, duly signed by the teacher-in-charge and the Head of the Department. If the student fails to submit his / her certified Practical Record duly signed by the Teacher-In-Charge and the Head of the Department, he / she shall not be allowed to appear for the Practical Examination and no Marks shall be allotted to the student.

4. The certificate template shall be as follows:

## C E R T I F I C A T E

Name of the college / institution _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Name of the Department: _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

This is to certify that this Practical Record contains the bonafide record of the Practical work of Shri / Shrimati / Kumari _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ of M. Sc. _ _ _ _ _ _ _

_ _ _ _ _ _ _ Semester _ _ _ _ _ _ _ _ _ during the academic year _ _ _ _ _ _ _. The candidate has satisfactorily completed the experiments prescribed by Gondwana University Gadchiroli for the subject _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

Dated _ _ _ / _ _ _ / _ _ _ _ _

Signature of the teacher who taught the examinee                                        Head of the Department
1. _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _         2. _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

**General Rules and Regulations regarding pattern of question paper for the semester end examination:** *A) Pattern of Question Paper*

1. There will be four units in each paper.
2. Maximum marks of each theory paper will be 80.
3. Question paper will consist of five questions, each of 16 marks.
4. Four questions will be on four units with internal choice (One question on each unit).
5. Fifth question will be compulsory with questions from each of the four units having equal weightage and there will be no internal choice.

Practical's
## Practical VII (ENVIRONMENTAL BIOTECHNOLOGY, PATENTING, RESEARCH METHODOLOGY AND BIOSTATISTICS)
**Compulsory Practical**
1. Detection of coliforms for determination of the purity of potable water.
2. Determination of chemical oxygen demand (COD) of sewage sample.
3. Production of microbial fertilizers (*Rhizobium/Azotobacter*).
4. Preparation of research proposal and presentation.
**Optional Practical**
1. Determination of total dissolved solids of water
2. Determination of hardness and alkalinity of water sample.
3. Determination of dissolved oxygen concentration of water sample
4. Determination of biological oxygen demand of sewage sample
5. Calculation of mean, mode, and median.
6. Calculation of standard deviation and standard error.
7. Determine the efficiency of removal of air pollutant using fibrous air filter.
8. Isolation of xenobiotic degrading bacteria by selective enrichment technique
9. Test for the degradation of a aromatic hydrocarbons by bacteria
10. Survey of degradative plasmids in microbes growing in polluted environment
11. Estimation of heavy metals in water/soil by atomic absorption spectrophotometry,
12. Estimation of nitrate in drinking water.
13. Preparation and formulation of microbial biopesticide (bacteria, fungi)
14. Effect of *Mycorrhizal* fungi on growth promotion of plants.
15. Study of patenting procedure.
16. Preparation of proposal for patenting.
17. Determination of percentage of green house gases in environment.
**NOTE:** In addition to 4 compulsory practicals at least 6 optional practicals must be conducted within the semester.
## PROJECT/DISSERTATION
**DISSERTATION/PROJECT WORK SCHEME/GUIDELINES FOR THE STUDENTS, SUPERVISORS AND EXAMINERS:**
Every student is required to carry out Experimental/Field Based Project Work (this is in lieu of practical II of semester IV) on a related research topic of the subject/ course. It must be an original work and must indicate some degree of experimental work. On the basis of this work, student must submit the project Report typed and properly bound) in two copies at least one month prior to commencement of the final Practical/lab examination of Semester IV. The project report shall comprise of Introduction, Material and Methods, Result, Discussion, Summary, Conclusion and, Reference along with declaration by candidate that the work is original and not submitted to any other University or Organization for award of degree and certificate by the supervisor and forwarded through head/Course-coordinator/Director of the Department/Centre or the Principle of the college.
The topic for project work will be assigned to the student by supervisor at the beginning of third semester. The topic will be forwarded to the controller of examination by the head of the department. The project Work will be evaluated by both external and internal examiner in the respective Department/Center/Affiliated College.
**Project must contain following subsection:-**
1. Introduction,
2. Aims and objectives,

3. Short literature review,
4. Materials and methods,
5. Experiments and results,
6. Discussion,
7. Conclusion and references.
50% marks each shall be evaluated by external and internal examiner respectively

**UNIT-III: 15 h**

A) Histamines and Antihistamic agents: Introduction, histamine H1-receptor antagonists. Inhibitors ofhistamine release. Synthesis of: alkyl amines, phenothiazines, piperzines derivatives.

B) Antibiotics: Introduction, β-lactam antibiotics, classification, SAR and chemical degradation of penicillin,cephalosporins-classification , tetracycline antibiotics-SAR,miscellaneous antibiotics. Synthesis of ampicillin,cephradine, methacycline,chloramphenicol

**UNIT-IV: 15 h**

A) Anthelminitics and antiamoebic drugs: Introduction to Helminthiasis, Anthelminitics, drugs used incestode infection, drugs used in trematode infection, origin of antiamoebic drug, drugs used in nematodeinfection. Synthesis of: Clioquinol, Iodoquinol, Haloquinol, Dichlorphen, Niclosamide.

B) Anti-inflammatory drugs: Introduction, etiology of inflammatory diseases. The inflammatory response,biochemical response. Synthesis of: Phenyl butazone and its derivatives, pyrazolone derivatives, pyrole andindole acetic acid derivatives.

**PSCChP11 Practical-XI Project**

**9 h/week 80 Marks**
Project is a part of practical examination. Project should be carried out by the student under the supervision of Guide/Teacher. The examination shall be conducted by External and Internal Examiners. Students are supposed to present their work either on LCD Projector / OHP or blackboard.
The division of marks will be as follows:
External examiner: 40 marks
Internal examiner (Guide/ Teacher): 40 marks

(With Internal Assessment of 20 Marks)
Note: One external examiner shall be appointed for evaluation of group of 6 students.

## PSCChP12 Seminar-

2 h /week Marks: 25
Seminar of 30 minutes duration will be a part of internal assessment for 25 marks (1 credit).
Seminar should be delivered by the student under the guidance of concerned teacher on the topic allotted by the teacher. The topic will be related to the syllabus. Marks will be allotted by a group of teachers.

## Semester III

| Code | Paper | Credits |
|---|---|---|
| PSCENVT09 (Core 9) | Paper IX: Water Treatment and Supply | 4 |
| PSCENVT10 (Core10) | Paper X: Wastewater Treatment | 4 |
| PSCENVT11<br>(Core Elective)<br>**Any One** | Paper XI:<br>1.Air Pollution Control<br>2.Solid and Hazardous Waste Management<br>3.Atmosphere and Global Climate Change<br>4.Land and Soil Conservation | 4 |
| PSCENVT12<br>(Foundation Course)<br>**Any One** | Paper XII:<br>1. Fundamentals of Environmental Science<br>2. Ecology | 4 |

## Practical

| Code | Practical | Credits |
|---|---|---|
| PSCENVP05 (Core Pr. 5) | Water Treatment and Supply | 4 |
| PSCENVP06<br>(Core Elective Pr. 6) | Wastewater and Air Pollution | 4 |
| Seminar 03<br>(Ability Enhancement) | Seminar III | 1 |
| **Total Credits** | | **25** |

## Semester IV

| Code | Paper | Credits |
|---|---|---|
| PSCENVT13 (Core 11) | Paper XIII: EIA and Environmental Laws | 4 |
| PSCENVT14 ( Core 12) | Paper XIV: Pollution Control and Industrial Safety | 4 |
| PSCENVT15<br>(Core Elective)<br>**Any One** | Paper XV:<br>1. Environmental and Energy Management<br>2. Environment and Society<br>3. Wildlife Conflict and Management<br>4. Urban forestry and management | 4 |
| PSCENVT16<br>(Foundation Course)<br>**Any One** | Paper XVI:<br>1. Sustainable Environment<br>2. Green Technologies | 4 |

## Practical

| Code | Practical | Credits |
|---|---|---|
| PSCENVP07<br>(Core Pr. 7) | Environmental Management and Sustainable Environment | 4 |
| PSCENVP08<br>(Ability Enhancement) | Project (Dissertation) | 4 |
| Seminar 04<br>(Ability Enhancement) | Seminar IV | 1 |
| **Total Credits** | | **25** |

7. Estimation of Nitrate in water/wastewater sample by spectrophotometric method.
8. Estimation of phosphorous from waste water sample by spectrophotometric method.
9. Studies on microorganisms of aeration tank/ trickling filter/sewage treatment plant
10.. Determination of noise level at a given place using Sound Level Meter.
11. Study of principle, components and working operation of respirable dust sampler


**PSCENVP08**
**(Ability Enhancement)**
**Project Work (Dissertation)**

**Credit: 04**

**Project Work Instructions for Students**

(Total marks: 100. Project work: 80 marks, internal: 20 marks)
Candidates will write a dissertation on issues related to Environmental Science under the guidance of their respective guides. Each student will work independently on the topic. The dissertation must consist of review of literature and produce a deep insight of the subject on the basis of personal research.Dissertation work will be initiated at the start of M.Sc. II year (IIIrd semester). The students will undertake field work in terms of collection of data and surveys. The dissertation will have to be submitted for appraisal and acceptance by the University to the concerned college. The students should submit their dissertation in the following format.

**Chapter I: Introduction with Aims and Objectives**: A background with historical information and a review of existing material or data on the subject along with the aims and objectives of the study.

**Chapter II: Methodology with Material and Methods:** Description of the issue, methodology adopted for the study.

**Chapter III: Experimental:** Presentation of data collected and detailed analysis of results.

**Chapter IV: Result and Discussion:** Discussion on the data and results obtained and presentation of method suggested to solve the problem.

**Chapter V: Summary and Conclusions:** A summary of the dissertation and important conclusions drawn at the end of the investigation.

**Bibliography or References:** A list of references of cited in the text.

The dissertation should be typed on A4 size bond paper with 1.5 line spacing. Illustrations and photographs should be of high quality. The report should be flawless without any spelling mistakes or grammatical errors. Students will have to submit their dissertation one month before the final practical examination at the end of M.Sc. II year (IVth semester).The dissertation will carry 100 marks. Assessment of the dissertation will be done at the end of the year. Students have to present a Power Point Presentation. Assessment of the dissertation shall be done by the external examiner appointed by the Gondwana University, Gadchiroli.

**A) Industrial training**

Students are encouraged to undergo summer/winter in plant training in a suitable industry so as to get firsthand experience of corporate environmental management.

**B) Study visits**
i) National Environmental Engineering Research Institute (NEERI), Nagpur
ii) Remote Sensing Center, Nagpur
iii) Regional Meteorological Center, Nagpur
iv) Maharashtra Pollution Control Board, Nagpur
v) Industrial visits

**C) Seminar**
Student may select any environmental related topic of their choice (in consultation with the faculty) and make a power point presentation for 30 minutes. They shall be able to answer questions invited from the audience.

**D) Field diary**
The student shall prepare their field diary under the following heads
i) Issue on local/regional/national problem of environmental interest (Case Studies).
ii) About famous personalities in environmental movements.
iii) New Acts and Judgments of environmental interests.

**E) Guest lecture series**
In each year guest lectures will be given by the faculty and other invited speakers on current topics and environmental issues. The course would run as a guest lecture series (at least five guest lecturers in chosen topics) with compulsory attendance.

# Semester IV

## PAPER –XVI: Biostatistics and Bioinformatics

### Unit – I: Biostatistics I

Basic concepts: definitions – statistics and biostatistics, population, sample, variable and the various types, statistic and parameter.

Tabular and diagrammatic presentation – arrays, frequency distribution, bar diagrams, histograms and frequency polygons.

Descriptive statistics: measures of central tendency, dispersion, skewness and kurtosis.

Probability: definition, elementary properties, types , rules, applications to biological problems, distributions – Binomial, Poisson, Normal, chi-square ($\chi^2$) distribution and test.

Inference about populations: sample size, sampling distribution, standard error, estimation of population mean-confidence interval, Student's t-distribution and its applications (t-test).

Sampling methods: principles of sampling, necessity – merits and demerits, random sampling – lottery, geographical arrangement random number; deliberate or nonrandom sampling, stratified sampling, cluster sampling.

### Unit – II: Biostatistics II

Hypothesis testing: definition of hypothesis, hypotheses- null and alternate hypotheses, general procedure, type I and type II errors.

Analysis of Variance (ANOVA) : basic concepts, experimental designs – CRD, RBD, factorial experiment, repeated measures, other designs, general method, F-test, multiple comparison tests.

Correlation: introduction, types, methods of study – scatter diagram, correlation graph, Karl Pearson's coefficient of correlation and its interpretation, test of significance.

Regression: introduction, simple linear regression – model, equation, least-squares line, evaluating and using the multiple regression equation.

### Unit – III: Bioinformatics

Bioinformatics : Definition, Components, Databases – definition, biological databases, types and examples data base management. system (DBMS)

The biological sequence, expressed sequence tag (EST) Protein Data Bank (PDB)

Folding problems, chaperons Sequence analysis.

Homology and analogy.

Information networks – Web browser, HTTP, HTML and URLs.

EMB-net, The national Center for Biotechnology Information – NCBI.

### Unit – IV: Proteomics and Genomics

Biological databases, Primary sequence databases.

Composite protein sequence databases, secondary databases, Sequence analysis – Pairwise sequence comparison, protein data bank, Swiss prot, composite protein pattern databess.

Sequence queries against biological databases BLAST and FASTA, Multiple sequences alignments, Phylogenetic alignment.

Genome information resources –DNA sequence databases, specialized genemic resources.

DNA sequence analysis – Gene structure and DNA sequences, features of DNA sequence analysis, Issues in the interpretation of EST searches, approaches to gene building expression profile of a cell. cDNA libraries and ESTs, Different approaches to EST analysis- A practical example of EST analysis.

Predicting protein structure and function from sequence- Determination of structure II$_{ry}$ and 3D structure protein modeling, Drug discovery and development: Fundamental Principles,

rational drug design, role of protein interaction resources, chemoinformatics and pharmo informatics resources, Pharmacogenomics.

**PRACTICAL**

1. Diagnostic method for isolation and identification of pathogenic microorganism from following specimens.

a) *S. aureus* from pus/wound/burn.

b) *Coryobacterium diptherae* from throat swab.

c) *M. tuberiulosis* from sputum.

d) *V.cholerae/Sh. dysenteric/ E. histolytica* from stool

e) *S.typhi and S.paratyphi* A B from blood/urine

f) *N.meningitidis* from C S F

g) Dermatophytes from skin scrapings.

2. Diagnosis of Typhoid and Paratyphoid A, B fever by Widal tube test.

3. Diagnisis of Hepatis B by Australia latex Antigen test.

4. Rheumatoid arthritis (RA) test.

5. ELISA test to detect HIV and HBs

6. Kahn tube test to detect Syphilis

7. Treponema palladium haeagglutination test(TPHA)

8. Immunoelectrophoresis(Demonstration)

9. Quantitative determination of plasma proteins by immunoelectrophoresis.

10. Single radial immunodiffusion ( RIA)

11. Ouchterlony Immuno- double diffusion .

12. Estimation of infectivity titre of a virus sample using plaque assay.

13. Study of virus infected plant material

14. Cultivation of animal viruses by different routes in embryonated chicken/duck eggs Yolksac, Allantoic and Chorio allantoic membrane (CAM) routes.

15. Representation of Statistical data by

a) Histograms b) Ogive Curves c) Pie diagrams d) Use of statastical software (SPSS)

16. Determination of Statistical averages/ central tendencies.

a) Arithmetic mean b) Median c) Mode

17. Determination of measures of Dispersion

a) Mean deviation

b) Standard deviation and coefficient of variation

c) Quartile deviation

18. Tests of Significance-Application of following

a) Chi- Square test b) t- test c) Standard error

19. Using biological databases - Swissprot - Protein Data Bank and Genbank.

20. Different types of sequence analysis queries in BLAST and FASTA.

21. Genomes and Proteomes available on the web and their use.

Minimum **Ten** experiments must be performed in the semester.

**Project/Seminar**

**LIST OF RECOMMENDED BOOKS FOR THEORY AND PRACTICALS (Semester III & IV)**

1) Microbial Genetics –Maloy et.al-1994 ,Jones –Bartlet learning .

2) Molecular Genetics of Bacteria – Dale 1994 ,John Wiley & Sons.

3) Modern Microbial Genetics ,1991-Strepis & Yasbin ,Niley Ltd.

4) Gene VII by Lewin Oxford University Press 2000.

5) Bacteria & Bacteriophage Genetics 4th Ed.—Birge

6) DNA repair & Mutagenesis, 1995—Errol C.Friedberg, Grahm C.Walker & Wolfram ,Siede,ASM Publications.

7) Molecular Genetics of Bacteria, 1997—Larry ,Snyder & Wendy Champness ,ASM Publications

8) Methods of General & Molecular Bacteriology ,1993 Edited by Philip,Gerhardt,ASM Publications

9) Recombinant DNA by Watson ,J.D.

10) Essentials of Molecular Biology – Malcimski

11) Mobile DNA II—Nancy Craig, Martin Gellet , Allam Lambowitz.

12) Principles of Gene Manipulations 1994 by Old and Primrose Blackwell Scientific Publications.

13) DNA Cloning: A Practical Approach by D.M. Glower and B.D. Hames, IRL Press, Oxford. 1995.

14) Molecular Biotechnology 2nd Edition by S.B. Primrose. Blackwell Scientific Publishers, Oxford. 1994.

15) Genetic Engineering and Introduction to Gene Analysis and Exploitation in Eukaryotes by S.M. Kingsman and A.J. Kingsman, Blackwell Scientific Publications, Oxford 1998.

16) PCR Technology - Principles and Applications for DNA Amplification by Henry A. Erlich (Ed.) Stockton Press. 1989.

17) Biotechnology: A Guide to Genetic Engineering by Peters.

18) Genetic Engineering – 2000 by Nicholl.

19) Recombinant DNA and Biotechnology: Guide for Teachers. 2nd Edition by Helen Kreuz. 2001.ASM Publications.

20) Cell and Molecular Biology by E.B.P. De Robertis, Lippincott Williams & Wilkins.

21) Molecular Cell Biology by Lodish & Baltimore.

22) Molecular Biology of the Gene by Watson Roberts, Steitx Wainer, The Benjamin/Cummings Publishing Company Inc.

23) Microbial Genetics by Stanley R. Maloy, John E Cronan Jr., David Freifelder Jones and Bartleh Publishers Inc.

24) Essentials of Genetics by Russell.

25) Genetics by Gardener.

26) Genetics by Tamrin.

27) Genetics by Strickberger.

28) Modern Genetic Analysis by Griffith.

29) Bacterial and Bacteriophage genetics by E.A. Birge Springer.

30) Biochemistry (2002) Styer, 5th Edition, W.H. Freeman and Co.

31) Molecular Biology (1999) by Robert F.Weaver. 1st Edition. WCB –Mc Graw Hill.

32) Molecular Biotechnology: Principles and Applications of Recombinant DNA. 2 nd Edition. 1998 by Bernard R. Glick and Jack J. Pastemak, ASM Publications.

**Board of Studies in Physics**

**FACULTY OF SCIENCE**

# GONDWANA UNIVERSITY, GADCHIROLI

**Syllabus of**

# M.Sc. Second Year (Semester Pattern) (Choice Based Credit System)

**SUBJECT - PHYSICS**

# Semester III & Semester IV

## Syllabus for M. Sc. Physics

Choice Based Credit System (Semester Pattern)
Gondwana University, Gadchiroli
Effective from 2016-2017

**Scheme of teaching and examination under semester pattern Choice Based Credit System (CBCS) for M.Sc. Program in subjects Physics**

**Semester III;**

| Core | Theory / Practical | Teaching Scheme Hrs/ week | | | Credit | Examination Scheme | | | | | Minimum Marks | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Theory | Practical | Total | | Duration (hrs.) | Max. Marks External | Internal | Total | Theory | Practical |
| Core 9 (PSCPH YT09) | Paper 9 Quantum Mechanics II | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Core 10 (PSCPH YT10) | Paper 10 Solid State Physics and Spectroscopy | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Core Elective I (PSCPH YT11) | Paper11 Material Science I    OR Nanoscience and Nanotechnology I OR Atomic and Molecular Physics I | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Foundation Course I (PSCPH YT12) | Paper 12 Fundamental of Spectroscopy  OR Fundamental of Nanoscience and Nanotechnology | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Practical.5 | Practical 5 (Based on Core 9 & 10) | - | 8 | 8 | 4 | 3-8* | 80 | 20 | 100 | | 40 |
| Practical. Elective I | Practical 6 | - | 8 | 8 | 4 | 3-8* | 80 | 20 | 100 | | 40 |
| Seminar 3 | Seminar 3 | 2 | - | 2 | 1 | | | 25 | 25 | 10 | |
| **TOTAL** | | **18** | **16** | **34** | **25** | | **480** | **145** | **625** | **170** | **80** |

**Semester IV:**

| Core | Theory / Practical | Theory | Practical | Total | Credit | Duration in hrs | External | Internal | Total | Theory | Practical |
|------|--------------------|--------|-----------|-------|--------|-----------------|----------|----------|-------|--------|-----------|
| | | Teaching Scheme (Hrs/week) | | | | Examination Scheme | Max. Marks | | | Minimum Marks | |
| Core 11 (PSCPHYT11) | Paper 13 Nuclear and Particle Physics | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Core 12 (PSCPHYT12) | Paper 14 Solid State Physics | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Core Elective II (PSCPHYT15) | Paper 15 Material Science II OR Nanoscience and Nanotechnology II OR Atomic and Molecular Physics II | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Fundation Course II | Paper 16 Spectroscopic Applications OR Optics and Optical instruments | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 | |
| Practical. | Practical 7 (Based on Core11,12and Elective II ) | - | 8 | 8 | 4 | 3-8* | 80 | 20 | 100 | | 40 |
| Project | Project | - | 8 | 8 | | | 80 | 20 | 100 | | 40 |
| Seminar 4 | Seminar 4 | 2 | - | 2 | 1 | | | 25 | 25 | 10 | |
| **TOTAL** | | **18** | **16** | **34** | **25** | | **480** | **145** | **625** | **170** | **80** |

**Distribution of Marks:**                                                       **Marks**

1. Identification and comment on the spots (1-5)         10
2. Demonstration of meiotic and mitotic chromosomes in Mulberry plant   10
3. Demonstration of reeling and production of yarn     10
4. Determination of shell ratio, percentage and estimation of renditta   10
5. Determination of average filament length and denier     10
6. Mounting of embryonic stages of silkworm     10
7. Practical record     10
8. Viva voce     10

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                                                 **Total marks**   80

- **Project work**         100
(80 marks project evaluation including viva + 20 marks Internal assessment)

- **Suggested Readings**

1. Handbook of Practical Sericulture: Ullal, S.R. and Narasimhanna, M.N. (1987), Central Silk Board Publication, Bangalore.

2. Text Book of Tropical Sericulture: (1975), Publ., Japan Overseas Corporation Volunteers.

3. FAO Manual on Sericulture: Anonymous (1972), Vol. I - IV.

4. An Introduction to Sericulture: Ganga, G. and Chetty S.J. (1997), 2nd Edition, Oxford and IBH Publishing Co. Ltd., New Delhi.

5. Principles of Sericulture: HisaoAruga, Oxford and IBH Publishing Co. Pvt. Ltd., New Delhi.

6. Modern Entomology: Tembhare, D.B. (1997), Himalaya Publishing House, Bombay.

7. General T.B. of Entomology: Imms, A.D. (1961), Edn. 9, Rev. by O.W. Richards and R.G. Davis.

8. A Text Book of Insect Morphology Physiology and Endocrinolory: Tembhare, D.B. (1984), S. Chand and Co. New Delhi.

9. Mulberry Cultivation: (1988) FAO Pub. by Oxford & IBH Publishing Co. Pvt. Ltd. New Delhi.

10. Text Book of Soil Science: Biswas, T.D. and Mukherjee, S.K. (1997), Tata McGraw-Hill Pub., New Delhi.

11. Nutrient Deficiency Management in Mulberry: S. Chakrabarti*et al* (1997), Pub. by CSR&TI, Mysore.

12. The Nature and Properties of Soils: Nyle C. Brady (1984) Mac Millan Pub. Co. Inc.

13. Sericulture and Rural Development: G. Sandhya Rani (1988), Discovery Publishing House, New Delhi.

14. Sericulture Society and Economy: Hanumappa, H.G. (1993), Himalaya Publishing House, New Delhi.

15. Economics of Sericulture and Silk Industry in India: Ramana D.V. (1987), Deep and Deep Publishers, New Delhi.

16. An Introduction to Extension Eduction: Supe, S.V.

17. Silk Production, Processing and Marketing: Nanavaty, M.N., Economics of Sericulture under Irrigated and Rainfed Conditions (1982) M.S. Jolly, CSR & TI Mysore.

18. An analysis of Demand and Supply Prospectus for High Quality Raw Silk: Naik, G. and Babu, K.R. (1991) Centre for Management in Agriculture, Ahemadabad.

19. Tasar Culture: Joly, M.S., Sen, S.K. and Absan, M.M. (1974), CSTRI, Ranchi.

20. Ericulture in India: Sarkar, D.C. (1988), CSB Bangalore.

21. Handbook of Muga Culture: Thangavelu, K. *et al.* (1988), CSB Publication, Bangalore.

22. Muga Culture: Choudhary, S.N.

23. Ericulture: Choudhary, S.N.

24. Agricultural Pests of India: Atwal, A.S. (1986), South East Asia, Kalyani Publishers.

25. Agricultural Entomology and Pest Control: Pradhan, S. (1983), Pub. by ICAR, New Delhi.

26. Silkworm Diseases (1988): FAO Pub. by Oxford & IBH Pub. Co. Pvt. Ltd., New Delhi.

27. Handbook of Pests and Diseases of Mulberry and Silkworm: (1990) Pub. by UNESCAP, Bangkok, Thailand.

28. Silkworm Genetics Illustrated: Yokoyama, T. (1964), Academic Press, London.

29. Silkworm Biology, Genetics and Breeding: Sarkar, D.D. (1998), Vikas Publication, New Delhi.

30. Principles and Techniques of Silkworm Breeding: (1993) United Nations, New York.

31. Silkworm Breeding: Reddy, G.S. (1998), Pub. by Oxford & IBH Pub. Co. Pvt. Ltd., New Delhi.

32. Plant Breeding for Drought Resistance in Water Deficits and Plant Growth: Hurd, (1976) T.T. Kozlowaki, Academic Press New York.

33. Cytology and Cytogenetics: Swanson, C.P. (1975), Prentice Hall, New Jersey.

34. Diseases and Pests of Mulberry and their Control: (1991) Pub. by Director, CSR&TI, Mysore.

35. Silkworm Rearing and Diseases of Silkworm: (1956) Pub. by Director of Ptg. Sta. & Pub. Govt. Press, Bangalore.

36. Silkworm Rearing: Wupang Chun and Chen Da-Chung (1988), Pub. by FAO Rome.

37. Handbook of Silkworm Rearing: Anonymous (1972), Agriculture and Technical Manual - 1, Fuzi Pub. Co. Ltd., Tokyo, Japan.

38. Silkworm Rearing (Translated from Japanese): (1977), Oxford & IBH Pub. Co. Pvt. Ltd.

39. Manual on Silkworm Egg Production: Narasimhanna, M.N. (1988), CSB Publishing, Bangalore.

40. A Guide for Bivoltine Sericulture: Sengupta, K. (1989), Director, CSR&TI, Mysore.

41.     Sericulture Training Manual: (1990), FAO, Rome.

42.     A Treatise on the Acid Treatment of Silkworm Eggs: Biram, N.M. *et al.* (1990) Pub. by CSR&TI, Mysore.

43.     New Technology of Silkworm Rearing: Krishnaswamy, S. (1986), Reprinted by CSB, Bangalore.

44.     The Silkworm: An Important Laboratory Tool: Tazima, Y. (1978), Kodansha Ltd., Tokyo.

45.     Silk Dyeing, Printing and Finishing: Gubrajani, M.L. (1986), New Delhi.

46.     The Development of Indian Silk: Sinha, H., Oxford and IBh Publishing Co. Ltd. New Delhi.

47.     Silk Reeling: Huang Gao Rui (1998), Oxford & IBH Publishing Co. Pvt. Ltd., New Delhi.

48.     Silk Production and Weaving in India: Ghosh, C.C.

49.     Sericulture and Silk Industry: Tripurari Sharma.

50.     Silk Industry - Problem and Prospects: Ajas, A. and Lawpper, H.

**Semester –IV**
**Paper-XVI, Foundation II,**
**Applied Zoology**

**Unit I: Human diseases and Disorders**
1.1     Blood groups, blood transfusion

1.2     Heart failure: Cause, symptoms, precaution and remedy

1.3     Stress related disorders- Hypertension and Diabetes: cause, symptoms, precaution and remedy

1.4     Parasitic diseases: Malaria, Dengue, Swine flu

**Unit II: Entomology**

2.1     Sericulture: Life cycle and rearing of mulberry and non mulberry (tasar) silkworm and production of silk and its economic importance

2.2     Apiculture: culture of honey bees, bee products and its economic importance, Dance language of honeybee

2.3     Lac culture

2.4     Biological pest management

**Unit III: Fisheries**
3.2     Management of fish ponds, Breeding of fishes, Integrated fish farming

3.3     Prawn culture and Pearl culture

3.4     Fish products and byproducts, fish preservation

3.5     Fabrication and setting up of aquarium, its maintenance and aquarium fishes

**Unit IV: Reproductive biology**
4.1     Introduction to development of human embryo

# MASTER OF FASHION DESIGN SEMESTER IV
## RESEARCH PROJECT
### 4P-2

**External : 125 Marks(Project 75 + viva 25 internship 25)**

The Research Project will be made and presented with the following outline.
Chapter 1 – Introduction(Aims, Objectives, Need & Scope of the study)
Chapter 2 – Review of Literature
Chapter 3 – Methodology
- Inspiration Board
- Mood Board
- Client board

Design Development Process – Garment – 1,2,3 & 4
- Illustration Sheet
- Selected design (colour illustration with details)
- Garment Flats
- Swatch Board
- Garment details
- Cost Sheet
- Story Board
- Photograph
- Embellishment Board

Chapter 4 – Result and discussion with Interpretation
References & Webliography


# INTERENSHIP

- One month internship in the Garment Industry, EOU textile mill , textile and garment printing unit, cottage industry, boutique, studio or production unit of a fashion designer, a retail outlet for garment or a brand of a garment or a brand of a garment and embroidery unit.
- The organization can be government, Semi government, Government Limited, public sector or a private firm.
- Detailed report of the internship along with organizations working nature, different departments its personnel , job undertaken, reference, observation, precaution, the products being manufactured, marketing, raw material and clients etc.
- The report should also include the work done by the student during her internship with special emphasis on skills  learnt during the period
- The report should be accompanied with photographs and a certificate from the head of the organization.

# Gondwana University
## Bachelor of Fashion Design
## Semester – VI
## PROJECT
## (Discipline Specific Elective Course- D)

Practical: 50 Marks

Term Work: 50 Marks

**PROJECT:**

Students are expected to develop a line based on a particular theme (couture collection) of five garments of which any Four should be completely constructed. Students should submit a project report based on construction and designing of the above mentioned garments.

**TERM WORK:**

Prepare pattern envelopes for all the garments designed for the project and it should be submitted along with the project report to the college.

**EVALUATION OF PRACTICAL:**

1. Theme Presentation (Viva and PPD) - 30 Marks

2. Designing

a. Garment - 40 Marks

b. Illustration - 10 Marks

3. Specification Sheet - 20 Marks

# B.Sc. (I.T.)– III (Semester- VI)

| Subject | Paper Code | Paper Name | Total Period /Week | Credit | % of Assessment | | | Min. Passing (40%) |
|---|---|---|---|---|---|---|---|---|
| | | | | | IA | UE | Total | |
| Discipline Specific Elective Course ( DSEC-VI) | UBITT601.1 UBITT601.2 UBITT601.3 | Choose Any TWO<br>• WEB TECHNOLOGY<br>• DATA COMMUNICATION AND CLOUD COMPUTING<br>• COMPUTER ARCHITECUTRE AND ORGANISATION | 3<br><br>3 | 2<br><br>2 | 10<br><br>10 | 40<br><br>40 | 50<br><br>50 | 40 |
| Discipline Specific Course ( DSC-I) | UBITT602 | PROJECT | 4 Prac. Per Week | 4 | 50 | 50 | 100 | 40 |
| Discipline Specific Elective Course ( DSEC-VII) | UBITT603.1 UBITT603.2 UBITT603.3 UBITT603.4 | Choose Any TWO<br>• PYTHON PROGRAMMING<br>• COMPUTATIONAL LINGUISTIC<br>• IMAGE PROCESSING & ANALYSIS<br>• SOFTWARE ENGINEERING | 3<br><br>3 | 2<br><br>2 | 10<br><br>10 | 40<br><br>40 | 50<br><br>50 | 40 |
| Skill Enhancement Course ( SEC-IV) | UBITT604.1 UBITT604.2 UBITT604.3 UBITT604.4 | Choose Any ONE<br><br>• MEDIA MANAGEMENT<br>• ANY ONE CERTIFICATION COURSE FROM MOOC's<br>• E-WASTE MANAGEMENT<br>• PRINCIPLE OF MANAGEMENT | 1 | 2 | 50 | - | 50 | 20 |
| Discipline Specific Elective Course ( DSEC-VIII) | UBITP605 | Lab based on DSEC-VI | 4 Prac. Per Batch | 2 | 20 | 30 | 50 | 20 |
| Discipline Specific Elective Course ( DSEC-IX) | UBITP606 | Lab based on DSEC-VII | 4 Prac. Per Batch | 2 | 20 | 30 | 50 | 20 |
| Ability Enhancement Compulsory Course( AECC-VIII) | UBITS607 | Project Based SEMINAR | 2 | 4 | 100 | - | 100 | 40 |
| Total | | | | 22 | 250 | 300 | 550 | 220 |

NOTE :

1) In a Group , If any student remains absent in one of the paper then candidate result will be considered as fail in that group even though he/ she has scored minimum passing marks in other paper of that group . Candidate need to appear in both the papers of that group.

2) In practical/Project, Student must appear external practical/Project examination conducted by university in order to clear the practical examination.

# B.Sc.(I.T.) – III (Semester –VI)
## UBITT602

# PROJECT

[ **Max. Marks-100**

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## Instruction

Towards the end of the second semester of study, a student will be examined in the course "Project Work".

A. Project Work may be done individually or in groups (**Maximum 3 students**) in case of bigger projects. However if project is done in groups, each student must be given a responsibility for a distinct module and care should be taken to monitor the progress of individual student.

**B.** The Project Work should be done using the tools covered in **B.Sc.(I.T.)**

C. The Project Work should be of such a nature that it could prove useful or be relevant from the System-oriented/Application/commercial / management angle.

D. The project work will carry 100 marks.

E. The external viva-voce examination for Project Work would be held as per the Examination Time Table of the final year of study, by a panel of one external and one Internal examiner.

## Types of Project

The Applications Areas of project - Financial/Marketing/Database Management System/ Relational Database Management System/E-Commerce /Internet/ Manufacturing/ web Designing/Hardware and Software interaction based etc.

## Project Proposal (Synopsis)

The project proposal should be prepared in consultation with the guide. The project guide must be a person having minimum Qualification M.Sc. (Computer Science/IT) / MCA/ M.Sc. (Maths/Electronics/Statistics/Physics + Post B.Sc. Dip. In Comp. Sc. & Appl.) The project proposal should clearly state the objectives and environment of the proposed project to be undertaken. It should have full details in the following form:

1. Title of the project

2. Objectives and Hypothesis of the Project

3. Project Category (DBMS/RDBMS/OOPS/Web Designing/Internet etc.)

4. Tools/Platform, Languages to be used

5. A complete Structure of the program:

      i. Analysis.

      ii. Numbers of Modules.

      iii. Data Structures or Tables

      iv. Process Logic.

      v. Types of Report Generation.

6. Scope of future Application.

**Project Report Formulation.**

1. Title Page.

2. Certificate Page.

3. Declaration Page.

4. Acknowledgment Page.

5. Index or Content Page.

6. Documentation.

      i. Introduction/Objectives.

      ii. Preliminary System Analysis.

      iii. Source Code.

      iv. Input screen & Output Screen.

      v. Features of Project and its limitations.

      vi. Future Scope of the project.

      vii. Bibliography

| Distribution of Mark of Project on the basis of following | | | | |
|---|---|---|---|---|
| **Module** | **Maximum Marks** | | **Min. Marks for Passing** | |
| | **IA** | **UE** | **IA** | **UE** |
| a) Synopsis relevance with that of final work | 10 | 10 | 4 | 4 |
| b) Project Work | 10 | 10 | 4 | 4 |
| c) Project Report | 10 | 10 | 4 | 4 |
| d) Presentation of Project Work | 20 | 20 | 8 | 8 |
| **Total** | **50** | **50** | **20** | **20** |

| Subject | Paper Code | Paper Name | Total Period# /Week | Credit | % of Assessment | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | IA | UE | Total | Min. Passing (40%) |
| Discipline Specific Elective Course (DSEC-VI) | UBCAT601.1 UBCAT601.2 | **(Select Any 2)** • **.NET & C#. NET** • **Computer Forensic Science** | 3 | 2 | 10 | 40 | 50 | 40 |
| | UBCAT601.3 | • **Database Administration & Distributed Computing** | 3 | 2 | 10 | 40 | 50 | |
| Discipline Specific Course (DSEC-I) | UBCAP602 | **Project** | 4 Prac. Per Batch | 4 | 50 | 50 | 100 | 40 |
| Discipline Specific Elective Course (DSEC-VII) | UBCAT603.1 UBCAT603.2 | **(Select Any 2)** 1) **Advance JAVA** 2) **Computational Linguistics** | 3 | 2 | 10 | 40 | 50 | 40 |
| | UBCAT603.3 UBCAT603.4 | 3) **Image Processing & Analysis** 4) **Project Management** | 3 | 2 | 10 | 40 | 50 | |
| Skill Enhancement Course (SEC-IV) | UBCAT604.1 UBCAT604.2 UBCAT604.3 UBCAT604.4 | **(Select Any One)** 3) **Media Management** • **A Certification Course from MOOC** • **E- Waste Management** • **Principle Of Management** | 1 | 2 | 50 | -- | 50 | 20 |
| Discipline Specific Elective Course (DSEC-VIII) | UBCAP605 | **Lab Based on (DSEC-VI)** | 4 Prac. Per Batch | 2 | 20 | 30 | 50 | 20 |
| Discipline Specific Elective Course (DSEC-IX) | UBCAS606 | **Lab Based on (DSEC-VII)** | 4 Prac. Per Batch | 2 | 20 | 30 | 50 | 20 |
| Ability Enhancement Compulsory Courses (ACCC-VIII) | UBCAS607 | **Project Based Seminar** | 3 | 4 | 100 | -- | 100 | 40 |
| **Total** | | | | **22** | **250** | **300** | **550** | **220** |

**Note:-1) In a Group, if any student remains absent in one of the paper then candidate result will be considered as fail in that group even though he/she has scored minimum passing marks in other paper of that group. Candidate need to appear in both the papers of that group.**

**2) In Practical/Project student must appear <u>External Practical Exam</u> conducted by University in order to clear practical/Project exam.**

**[Max.Marks-100**

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## Instruction

Towards the end of the second semester of study, a student will be examined in the course "**Project Work".**

A. Project Work may be done individually or in groups (**Maximum 3 students**) in case of bigger projects. However if project is done in groups, each student must be given a responsibility for a distinct module and care should be taken to monitor the progress of individual student.

B. The Project Work should be done using the tools covered in **B.C.A**

C. The Project Work should be of such a nature that it could prove useful or be relevant from the System-oriented/Application/commercial / management angle.

D. The project work will carry 100 marks.

E. The external viva-voce examination for Project Work would be held as per the Examination Time Table of the second year of study, by a panel of one external and one internal examiner.

## Types of Project

The Applications Areas of project - Financial/Marketing/Database Management System/ Relational Database Management System/E-Commerce /Internet/ Manufacturing/ web Designing/Hardware and Software interaction based etc.

Project Proposal (Synopsis)

The project proposal should be prepared in consultation with the guide. The project guide must be a person having minimum Qualification MCA/M.Sc. (Computer)/ M.Sc. (IT/ Math"s/Electronics/Statistics/Physics + Post B.Sc. Dip. In Comp. Sc. & Appl.)

The project proposal should clearly state the objectives and environment of the proposed project to be undertaken. It should have full details in the following form:

1. Title of the Project

2. Objectives and Hypothesis of the Project

3. Project Category (DBMS/RDBMS/OOPS/Web Designing/Internet etc.)

4. Tools/Platform, Languages to be used

5. A complete Structure of the program:

      i. Analysis.

      ii. Numbers of Modules.

      iii. Data Structures or Tables

      iv. Process Logic.

      v. Types of Report Generation.

6. Scope of future Application.

**Project Report Formulation:**

1. Title Page.

2. Certificate Page.

3. Declaration Page.

4. Acknowledgment Page.

5. Index or Content Page.

6. Documentation.

      i. Introduction/Objectives.

      ii. Preliminary System Analysis.

      iii. Software Requirement Specification.

      iv. System Design.

      v. Source Code.

      vi. Input screen & Output Screen.

      vii. Features of Project and its Limitations

      viii. Security Measures taken.

      ix. Future Scope of the project.

      x. Bibliography

| Distribution of Mark of Project on the basis of following | | | | |
|---|---|---|---|---|
| **Module** | **Maximum Marks** | | **Min. Marks for Passing** | |
| | **IA** | **UE** | **IA** | **UE** |
| a) Synopsis relevance with that of final work | 10 | 10 | 4 | 4 |
| b) Project Work | 10 | 10 | 4 | 4 |
| c) Project Report | 10 | 10 | 4 | 4 |
| d) Presentation of Project Work | 20 | 20 | 8 | 8 |
| **Total** | **50** | **50** | **20** | **20** |

## BCCA III (Semester VI)

| Subject | Paper Code | Paper Name | Total Period#/Week | Credit | % of Assessment | | | Min. Passing (40%) |
|---|---|---|---|---|---|---|---|---|
| | | | | | IA | UE | Total | |
| Discipline specific Course(DSEC)-VII | UBCCAT601 | Income Tax | 4 | 4 | 20 | 80 | 100 | 40 |
| Discipline specific Elective Course(DSEC)-VIII | UBCCAT602 | Industrial Business Law | 4 | 2 | 10 | 40 | 50 | 40 |
| | UBCCAT603.1 UBCCAT603.2 | (select any one) • Computerized Accounting (Tally) • Statistics and Numerical Methods | 4 | 2 | 10 | 40 | 50 | |
| Discipline specific Course(DSEC)-IX | UBCCAT604 | Project | 4 | 4 | 20 | 80 | 100 | 40 |
| Discipline specific Elective Course(DSEC)-X | UBCCAT605.1 UBCCAT605.2 UBCCAT605.3 UBCCAT605.4 | (select any two) • Software Testing Quality Assurance. • Internet Language • Operation Research • Software Engineering | 4 | 2 | 10 | 40 | 50 | 40 |
| | | | 4 | 2 | 10 | 40 | 50 | |
| Skill Enhancement Course-IV | UBCCAT606.1 UBCCAT606.2 UBCCAT606.3 UBCCAT606.4 | (select any one) • PC-Maintenance • Any one Certification Course for MOOC'S • E-Waste Management • Supply Chain Management. | 1 | 2 | [Grade] | - | | |
| Discipline specific Elective Course Practical (DSEC)-XI | UBCCAP607 | Lab on UBCCAT603 | 4 Prac. Per Batch | 2 | 20 | 30 | 50 | 20 |
| Discipline specific Elective Course Practical (DSEC)-XII | UBCCAP608 | Lab on UBCCAT605 | 4 Prac. Per Batch | 2 | 20 | 30 | 50 | 20 |
| Ability Enhancement Compulsory course (AECC)-VI | UBCCAS609 | Seminar | 2 | 2 | 50 | - | 50 | 20 |
| | | **Total** | | **24** | **170** | **380** | **550** | **220** |

**Note:-1) In a Group, if any student remains absent in one of the paper then candidate result will be considered as fail in that group even though he/she has scored minimum passing marks in other paper of that group. Candidate need to appear in both the papers of that group.**
**2) In Practical student must appear <u>External Practical Exam</u> conducted by University in order to clear practical exam**

## Paper–VI-Project
## UBCCAT604

**[Max. Marks: 100]**

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## Instruction

Towards the end of the second semester of study, a student will be examined in the course

"Project Work".

A. Project Work may be done individually or in groups (**Maximum 5 students**) in case of bigger

projects. However if project is done in groups, each student must be given a responsibility for a

distinct module and care should be taken to monitor the progress of individual student.

B. The Project Work should be done using the tools covered in **BCCA**

C. The Project Work should be of such a nature that it could prove useful or be relevant from the

System-oriented/Application/commercial / management angle.

D. The project work will carry 100 marks.

E. The external viva-voce examination for Project Work would be held as per the Examination Time

Table of the final year of study, by a panel of one external and one Internal examiner.


Types of Project

The Applications Areas of project - Financial/Marketing/Database Management System/ Relational

Database Management System/E-Commerce /Internet/ Manufacturing/ web Designing/Hardware and

Software interaction based etc.


Project Proposal (Synopsis)

The project proposal should be prepared in consultation with the guide. The project guide must be a

person having minimum Qualification MCM/M.Sc. (Computer Science/IT) / MCA/ M.Sc.

(Maths/Electronics/Statistics/Physics + Post B.Sc. Dip. In Comp. Sc. & Appl.)The project proposal

should clearly state the objectives and environment of the proposed project to be undertaken. It should

have full details in the following form:

1. Title of the project

2. Objectives and Hypothesis of the Project

3. Project Category (DBMS/RDBMS/OOPS/Web Designing/Internet etc.)

4. Tools/Platform, Languages to be used

5. A complete Structure of the program:

i. Analysis.

ii. Numbers of Modules.

iii. Data Structures or Tables

iv. Process Logic.

v. Types of Report Generation.

6. Scope of future Application.

**Project Report Formulation.**

1. Title Page.

2. Certificate Page.

3. Declaration Page.

4. Acknowledgment Page.

5. Index or Content Page.

6. Documentation.

   i. Introduction/Objectives.

   ii. Preliminary System Analysis.

   iii. Source Code.

   iv. Input screen & Output Screen.

   v. Features of Project and its limitations.

   vi. Future Scope of the project.

   vii. Bibliography

| Distribution of Mark of Project on the basis of following | | | | |
|---|---|---|---|---|
| **Module** | **Maximum Marks** | | **Min. Marks for Passing** | |
| | IA | UE | IA | UE |
| a) Synopsis relevance with that of final work | 10 | 10 | 4 | 4 |
| b) Project Work | 10 | 10 | 4 | 4 |
| c) Project Report | 10 | 10 | 4 | 4 |
| d) Presentation of Project Work | 20 | 20 | 8 | 8 |
| Total | **50** | **50** | **20** | **20** |

[Max. Marks: 50]

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# Guidelines for Project

Instruction:

Towards the end of the Sixth semester of study, a student will be examined in the Course "Project Work".

a. Project Work may be done individually or in groups (Maximum 5 students) in case of bigger projects. However if project is done in groups, each student must be given a responsibility for a distinct module and care should be taken to monitor the progress of individualstudent.

b. The Project Work should be done using the tools covered inB.Com

c. The Project Work should be of such a nature that it could prove useful or be relevant from the System-oriented/Application/commercial / managementangle.

d. The project work will carry 50marks.

e. The external viva-voce examination for Project Work would be held as per the Examination Time Table of the second year of study, by a panel of one external and one Internalexaminer.

f. Head/Co-ordinator of Computer Dept. must reject any project title which was already carried out in any computer course in the college. He must maintain a Record that lists the projects along with other detail (like Guide, Session, and Number of students working on project etc) that was carried out so far and must be shown to external examiner at the time ofexamination.

Types of Project

As majority of the students are expected to work out a project in some industry/research and development laboratories/educational institutions/software export companies, it is suggested that the project is to be chosen which should have some direct relevance in day-today activities of the candidates in his/her institution. The Applications Areas of project – Financial / Marketing / Database Management System/ Relational Database Management System / E-Commerce / Internet / Manufacturing / web Designing /Hardware and Software interaction based etc.

Project Proposal (Synopsis)

The project proposal should be prepared in consultation with the guide. The Project Guide May alter the sequence as given below depending upon the nature of project.

**Guide :**The project guide must be a person having minimum Qualification M.C.M / M.Sc. (Computer Science) / MCA. The project proposal should clearly state the objectives and environment of the proposed project to be undertaken. It should have full details in the followingform:

- Title of theProject
- Objectives and Hypothesis of theProject
- Project Category (DBMS/RDBMS/OOPS/Web Designing/Internetetc.)
- Tools/Platform, Languages to be used
- 

Project Report Formulation.

1. TitlePage.
2. CertificatePage.
3. DeclarationPage.
4. AcknowledgmentPage.
5. Index or ContentPage.
6. Documentation.
    a) Introduction/Objectives.
    b) ProjectCategory.
    c) Software RequirementSpecification.
    d) SystemDesign.
        ▪ SourceCode.
        ▪ Input screen & OutputScreen.
7. Future Scope of theproject.
8. Bibliography
9. Appendix *( if any)

# Guidelines for Project
**B.Com. (other than IT)**
**Instructions:**
Towards the end of the Sixth semester of study, a student will be examined in the Course "Project Work".
a. Project Work may be done individually or in groups (Maximum 10 students) in case of bigger projects. However if project is done in groups, each student must be given a responsibility for a distinct module and care should be taken to monitor the progress of individual student.
b. The Project Work should be done using the syllabus covered in B.Com.
c. The Project Work should be of such a nature that it could prove useful or be relevant from the Commerceand Management angle.
d. The project work will carry 50 marks and would be evaluated internally.
e. The internalevaluation of the project including the viva-voce would be done by the internal examiner/sauthorized by the head of the institute. Project Work would be held as per the Examination Time Table of the year of study and final evaluation would be done by the panel of guide and the internal examiner authorized by the head of the institute
f. Head/Coordinator of Departmentmust reject any project title which was already carried out in any such course/specialization in the college. He must maintain a Record that lists the projects along with other details (like Guide, Session, and Number of students working on project etc) that was carried out so far and must be shown to internal examiner at the time of examination.

## Types of Project
As majority of the students are expected to work out a project in domain of their specialization/educational institutions/trade and business organizations, it is suggested that the project is to bechosen which should have some direct relevance in day-to-day activities of the candidates in his/herinstitution. The broad Application Areas of project–Finance/ Marketing / Human Resource / E-Commerce / Banking / Insuranceetc.

## Project Proposal (Synopsis)
The project proposal should be prepared in consultation with the guide. The Project Guide May alter thesequence of contents depending upon the nature of project.

## Guide
The project guide must be an approved regular/CHB faculty (as per rules of the university) having minimum Qualification M.Com. The project proposal should clearly state the objectives and environment of the proposed project to be undertaken. It should have full details in the following format:

## Project Report Format
1. Title Page.
2. Certificate Page.
3. Declaration Page.
4. Acknowledgment Page.
5. Index or Content Page.
6.Documentation: -.
a)Introduction/Objectives.
b) Literature Survey
c) Data Collection and Tabulation
d) Data Processing and Interpretation
e) Conclusions
Bibliography, Appendix( if any)

# GONDWANA UNIVERSITY, GADCHIROLI

## MASTER OF COMMERCE
### (TWO YEARS COURSE IN FACULTY OF COMMERCE)
### COURSE AND EXAMINATION SCHEME WITH CHOICE BASED CREDIT SYSTEM

| Area | Unique Subject Code (USC) | Subject | Teaching Scheme | | | | Examination Scheme | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Weekly Hours | | | No. | Theory | | | | |
| | | | L | T | Total Hours | of Credits | Duration of Paper (Hrs.) | Max. Marks ESE | Max. Marks Internal Assessment IE | Total | Min. Passing Marks |
| Core Course | PCC4C01 | Advanced Management Accounting | 4 | - | 4 | 5 | 3 | 80 | 20 | 100 | 40 |
| Compulsory Foundation | PCC4F0P | Project + Seminar | 4 | - | 4 | 14 | - | Seminar-50 Project   E- 50 + I-50 | | 150 | - |
| Elective Foundation See instructions for selecting subjects from 'Pool of subjects' | See 'Pool of Subjects' for USC | Elective - I | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 |
| Elective See instructions for selecting subjects from 'Pool of subjects' | See 'Pool of Subjects' for USC | Elective - II | 4 | - | 4 | 4 | 3 | 80 | 20 | 100 | 40 |

IV – SEMESTER

L= LECTURES    T= THEORY    ESE= END SEMESTER EXAMINATION    IE= INTERNAL EVALUATION

Principal
Sardar Patel Mahavidyalaya
Chandrapur

SEAL