



# SES COLLEGE

SREEKANDAPURAM  
EDUCATIONAL  
SOCIETY

Affiliated to **Kannur University**  
Accredited by NAAC at '**B**' Grade

SREEKANDAPURAM POST,  
KANNUR DISTRICT,  
KERALA, PIN:670631  
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**S.E.S. COLLEGE**

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## Criterion 1 – Curricular Aspects

### Key Indicator- 1.3 Curriculum Enrichment

**1.3.2 Average percentage of courses that include experiential learning through project work/field work/internship during last five years**



  
Dr. DOMINIC THOMAS  
Principal  
S.E.S. COLLEGE  
SREEKANDAPURAM

## Scheme of Open course

The open course is meant for all the students in the institution except the students of BSc Chemistry programme. External examination will be conducted at the end of V<sup>th</sup> semester.

### Options available for Open course (Chemistry)

No	Semester	Course code	Title of the course	Contact hour/ week	Credit
1	V	5D01CHE	Chemistry in Service to man	2	2
2	V	5D02CHE	Drugs-Use & Abuse	2	2
3	V	5D03CHE	Environmental Studies	2	2
4	V	5D04CHE	Nanomaterials	2	2

### Evaluation pattern

Mark system will be followed instead of direct grading for each question. For each course in the semester letter grade, grade point and % of marks are introduced in 7-point indirect grading system as per KUCBCSSUG 2014. Accordingly 20% of the total marks in each course are for internal evaluation and the remaining 80% for external evaluation.

#### Internal Evaluation (Core , Complementary & Open )

Components with percentage of marks of Internal Evaluation of Theory

- Attendance-25%
- Test papers-50%
- Assignment/ Seminar/Viva-25%

Internal evaluation is conducted by the concerned Department in mark system. Marks secured for internal evaluation need be send to University.

#### External Evaluation (Core , Complementary & Open )

External assessment will include Theory, Practical and Project evaluation conducted by University after the completion of a semester. Duration of theory examination for Core & Complementary courses will be 3 hours, where as for Open course is 2 hours. The practical examination for Core & Complementary will be of 4 hour duration.

#### Project work:

Project works will be carried out in fifth and sixth semesters. Not more than five students can form a group and undertake a project. Each individual student should submit a copy of the project report duly attested by the supervising teacher and Head of the

department. The report has to be presented at the time of practical examination conducted at the end of VI semester for evaluation.

**Study tour:**

**Students are required to visit a factory/Laboratory/Research Institute of repute during the course** and have to submit the report of the study tour at the end of the sixth semester during the time of practical examination. No credit will be separately given for study tour report.

Practical record, Project report & Study tour report must be certified by the teacher in charge and countersigned by the Head of the Department. Students should submit certified record of respective practical work at the time of University practical examination.

**Mark distributions**

Table 1: Internal and External marks for Core (Chemistry) courses:

Item	Marks		Total
	Internal	External	
Theory	10	40	50
Practical	10	40	50
Industrial visit	--	5	5
Project	4	16	20

Table 2: Internal and External marks for Complementary (Chemistry)

Item	Marks		Total
	Internal	External	
Theory	8	32	40
Practical	8	32	40

Table 3: Internal and External marks for Open Course (Chemistry)

Item	Marks		Total
	Internal	External	
Theory	5	20	25

Table 4: Distribution of Internal marks for Theory courses (Core, Complementary & Open).

Attendance	25%
Assignment /Seminar/Viva	25%
*Test paper	50%

\* At least two test papers are to be conducted and average of these two is to be taken for awarding mark.

## Components of Core (Chemistry)

The core courses of BSc Chemistry programme will consist of the following components.

- Theory
- Practical
- Project (Investigatory)
- Study tour (Visiting Factory/ science institute/laboratory).

### Scheme of Core course (Chemistry)

No.	Semester	Course code	Title of the Course	Credits	Contact hr/week
1	I	1B01CHE	Theoretical and Inorganic Chemistry	2	2
2	II	2B03CHE	Analytical Chemistry	2	2
3	II	1B02CHE & 2B02CHE	*Core Course Practical I Volumetric Analysis	3	2—I Sem 2—II Sem
4	III	3B04CHE	Organic Chemistry-I	3	3
5	IV	4B06CHE	Organic Chemistry-II	3	3
6	IV	3B05CHE & 4B05CHE	*Core Course Practicals 2 Inorganic Qualitative Analysis	3	2—III Sem 2—IV Sem
7	V	5B07CHE	Inorganic Chemistry-I	4	3
8	V	5B08CHE	Inorganic Chemistry-II	4	3
9	V	5B09CHE	Physical Chemistry- I	4	3
10	V	5B10CHE	Physical Chemistry- II	4	3
11	VI	6B14CHE	Organic Chemistry III	4	4
12	VI	6B15CHE	Physical Chemistry III	3	4
13	VI	6B16CHE	Physical Methods in Chemistry	3	3
14	VI	6B17CHE	Elective	3	3
15	VI	5B11CHE & 6B11CHE	*Core Course Practicals 3 Gravimetric Analysis	3	5—V Sem 2—VI Sem
16	VI	5B12CHE & 6B12CHE	*Core Course Practicals 4 Organic Chemistry	3	5---V Sem 3---VI Sem
17	VI	6B18CHE	*Core Course Practicals 5 Physical Chemistry	3	5
18	VI	5B13CHE & 6B13CHE	Project & Industrial Visit	2	1—Sem V 1---Sem VI

\* External examination will be held at the end of II/ IV/VI semester

## Elective

Elective is to be chosen as one of the following courses

- 6B14A MAT: Operations Research
- 6B14B MAT: Mathematical Economics
- 6B14C MAT: Classical Mechanics
- 6B14D MAT: Programming in Python

(See the syllabus of elective courses in **Annexure I**)

### 6B15 MAT: Project

- Project dissertation (project report) should be submitted to the university in typed format.
- The report should have at least 20 pages.
- Project can do individually or as a group comprising a maximum of 4 students
- External valuation and viva-voce of the project shall be done (individually).
- The pass condition shall be 14 marks which is 40% of the 35 marks.
- The project report should contain a Title Page, Certificate from the project guide counter signed by the Head of the Department, List of Contents, Preface and List of References.

The project evaluation and viva-voce shall be done by the external examiner based on the assessment of following components. Criterion for internal evaluation is also included in the table.

Sl.No.	External		Internal		Total Mark	Credit
	Components	Mark	Components	Mark		
1	Relevance of the Topic ---Reference/ Bibliography	5.6	Relevance of the Topic and content/ Use of Data	1.5	35	2
2	Viva - Voce	14	Viva-Voce	2		
3	Presentation ---Findings and Recommendations	8.4	Seminar Presentation/ Punctuality	1.5		
4		--	Scheme/Organization of Report/Layout	2		
Total		28		7	35	

#### References:

1. L. Lamport, LaTeX a Document Preparation System User's Guide and Reference Manual, Pearson Education Publications.
2. J. Gibaldi, W. S. Achtert and D. G. Nicholls, MLA Handbook for Writers of Research Papers, Published by Modern language Association of America 209.
3. S. G. Krantz, a Primer of Mathematical Writing, Universities Press.
4. Website: [http://: www. Chicago Manual of Style](http://www.ChicagoManualofStyle).

# **B.A.Economics-Project -Syllabus**

**Course Title : PROJECT**

**Credit : 2 (54 contact hours)**

**Course Code : 6 B16 ECO(Pr)**

**Semester : VI**

## **Course Objectives**

Generating new knowledge and updating existing knowledge from day to day experience is one of the aims of higher education. For this purpose a student is to be encouraged to search and research for new knowledge. A Student should be able to apply the theoretical knowledge that they have acquired in the class room environment to the real world situations by taking up any issue as a project that requires review, explanation or solution. The theme of the project need not be restricted to any particular course. Instead, the topic may be selected from any of the courses that the student is exposed to in various semesters.

This course is designed to enable the student to approach socio-economic issues in a theoretical perspective. The student is encouraged to collect and organize the existing information on the selected topic and arrive at his/her own logical conclusion by following a methodology and applying the analytical tool.

## **Instructions**

1. The project report should be in English.
2. All project reports will have a common structure. The general format to be followed is given below.
3. The three hours allotted for the project work shall be utilized for:
  - a) Equipping the students with methodology of project preparation,
  - b) Familiarizing the basic nature and structure of a project,
  - c) Preparing questionnaire,
  - d) Collecting data,
  - e) Analyzing data using Excel/SPSS software
4. Project work should ideally be prepared by a group consisting of not more than FIVE students. But in special circumstances (only with the consent of the concerned department) individual students

should also be permitted to submit the project work. If there are more than five students in a group, the project will not be accepted by the university.

5. The project report/work shall be evaluated by external examiner(s) as in the case of other papers. It should be brought under centralized valuation.

6. The evaluation of the project shall be on the basis of

- Conformity of the Project with the format suggested in the syllabus
- Methodology adopted
- Analytical aptitude of the student
- Overall performance of the work
- Findings of the report
- Contemporary relevance of the topic selected and
- VIVA VOCE conducted in respective colleges.

## **FORMAT FOR PREPARATION OF PROJECT REPORT**

### **1. Arrangement of contents:**

The sequence in which the project report material should be arranged and bound should be as follows:

1. Cover Page & Title Page
2. Abstract
3. Table of Contents
4. List of Tables
5. List of Figures
6. List of Symbols, Abbreviations and Nomenclature
7. Chapters
8. Appendices
9. References

The table and figures shall be introduced in the appropriate places.

### **2. Page dimension and typing**

The project report should be printed in A4 size bond paper and bound using flexible cover of the thick white

art paper or spiral binding. The cover should be printed in black letters and the text for printing should be identical. The impression on the typed copies should be black in colour. The

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general text of the report should be typed with 1.5 line spacing. The general text shall be typed in the Font style 'Times New Roman' and Font size 12. Paragraphs should be arranged in justified alignment with margins 1.25" each on top, bottom, left and right of the page with portrait orientation. The content of the report should vary between 25 and 30 pages.

### **3. Preparation format**

**3.1 Abstract** – Abstract should be one page synopsis of the project report typed with double line spacing, Font Style Times New Roman and Font Size 12.

**3.2 Table of Contents** – The title page (numbered with lower case Roman letter) will not find a place among the items listed in the Table of Contents. A specimen copy of the Table of Contents of the project report is given in **Appendix I**.

**3.3 List of Tables** – The list should use exactly the same captions as they appear above the tables in the text.

**3.6 List of Figures** – The list should use exactly the same captions as they appear below the figures in the text.

**3.7 List of Symbols, Abbreviations and Nomenclature** – Standard symbols, abbreviations etc. should be used.

**3.8 Chapters** – The chapters may be broadly divided into 3 parts (i) Introductory chapter, (ii) Chapters developing the main theme of the project work (iii) and Conclusion. Depending on the nature of the project selected by the student the introductory chapter should invariably contain the background of study, the problem, objectives, limitations, methodology and review of earlier studies. The main text will be divided into several chapters and each chapter may be further divided into several sub-divisions.

Each chapter should be given an appropriate title.

Tables and figures in a chapter should be placed in the immediate neighbourhood of the reference where they are cited. Endnotes may be given at the end of each chapter. They should be typed single space, with font size of 11 points.

**3.9 Appendices** – Appendices are provided to give supplementary information, which if included in the main text may serve as a distraction and may cloud the central theme.

- Appendices should be numbered using Arabic numerals, e.g. Appendix 1, Appendix 2, etc.
- Appendices, Tables and References appearing in appendices should be numbered and referred to at appropriate places

just as in the case of chapters.

- Appendices shall carry the title of the work reported and the same title shall be made in the contents page also.

**3.10 List of References** –The listing of references should be typed 4 spaces below the heading “REFERENCES” in alphabetical order in single spacing with left alignment. The reference material should be listed in the alphabetical order of the first author. The name of the author/authors should be immediately followed by the year and other details. A typical illustrative list given below relates to the citation example quoted above.

**References Books**

A material in the text may be cited as in reference 1 and an article in a journal may be cited as in reference 2.

1. Watson D. S. and Getz. M (1986): “Price Theory and its Uses”, Khosla Publishing House. Chapters 1, 2 and 3
2. Brown and Deaton (1972): “Models of Consumer Behaviour: A Survey”, Economic Journal, pp 1145-1236.

1. **Table and figures** - The word Table, means tabulated numerical data in the body of the project report as well as in the appendices. All other nonverbal materials used in the body of the project work and appendices such as charts, graphs, maps, photographs and diagrams may be designated as figures. No border line should be given to the pages.

**APPENDIX I**

**(A typical specimen of table of contents)**

<Font Style Times New Roman>

*TABLE OF CONTENTS*

**CHAPTER NO. TITLE PAGE NO.**

*ABSTRACT iii*

**LIST OF TABLE xvi**

*LIST OF FIGURES xviii*

**LIST OF SYMBOLS xxvii**

**1. INTRODUCTION 1**

1.1 GENERAL 1

1.2 ..... 2

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1.2.1 General 5

1.2.2 ..... 12

1.2.2.1 General 15

1.2.2.2 ..... 18

1.2.2.3 ..... 20

1.2.3 ..... 25

1.3 ..... 28

1.4 ..... 30

**2. LITERATURE REVIEW 32 2.1**

GENERAL 35

2.2 ..... 38

2.3 2.2 .....



## XI. 6B11ENG Project

### Aims:

- To broaden the perspectives of the students and train them in research writing based on information gathered from outside sources

### Objectives:

- To provide students training in documentation and research methodology.
- To foster an understanding of the mechanics of writing.
- To learn to structure information or informed ideas logically and effectively.
- To engage in a focused study of a topic.
- To learn to present and interpret information gathered through an extensive study of a subject.

Course Code	6B11ENG
Title of the Course	Project
Semester Assigned	6
No. of Credits	2
Contact hours/week	1
Total No. of contact hours	18
Core Texts	1.Klarer, Mario. <i>Introduction to Literary Studies</i> . London: Routledge, 2013. 2.MLA Handbook 7 <sup>th</sup> /8 <sup>th</sup> Edition

- A Project work with dissertation should be undertaken by all students
- Project work shall be carried out under the supervision of a teacher in the parent department
- The Project work shall be prepared according to the guidelines approved by the University. Two typed copies of the Project report shall be submitted to the HOD two weeks before the commencement of the ESE
- The external evaluation of the Project work shall be carried out at the end of the semester
- Every student has to do the Project work independently. No group Projects are accepted

### Evaluation of a Project

- Total marks for Project is 25 (20 external and 5 internal)
- The ESE of the Project work shall be conducted by two external examiners
- Submission of Project Report and presence of the student for viva are compulsory for internal evaluation
- No marks shall be awarded to a candidate if he/she fails to submit the Project Report for external evaluation
- A student shall be declared to pass in the Project Report Course if he/she secures minimum 40% marks of the aggregate and 40% separately for external
- In case a candidate fails, the Project work may be redone and the report may be resubmitted along with subsequent exams
- There shall be no improvement chance

Mark distribution may be done as follows

Internal 5 marks	
Components	Marks
Punctuality	1
Use of data	1
Scheme/organisation of report	2
Viva-voce	1

External 20 marks	
Components	Marks
Relevance of the topic	1
Statement of the objectives	2
Methodology/reference/bibliography	3
Presentation of facts/figures/language style/diagrams etc.	4
Quality of analysis	3
Findings and recommendations	2
Viva-voce	5

A typed Project of not more than 25 pages which is documented according to specifications in the MLA handbook may be submitted by the students on topics/ authors of their choice. Texts and literary pieces already listed in the syllabus may be avoided. The literary/cultural theories that they have imbibed during the course may be applied in the work. The latest MLA Handbook is to be used

(Core Reading Chapter 7 How to Write a Research Paper from Klarer, Mario. *Introduction to Literary Studies*. London: Routledge, 2013.)

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**APPENDIX TO ORDER No.Acad/C1/2181/2016 Dated 26/12/2016.**

**SEMESTER VI  
6B21BBA (Core XXI): PLACEMENT TRAINING AND  
PROJECT REPORT**

**Introduction**

During the sixth semester the candidate shall do a research project on a relevant business/management/banking/commerce topic. This research project is envisaged as a practical application of the research methodology course studied in the fourth semester of BBA Programme. Therefore, it is essential that primary data is collected as part of the research at least to some extent. Maximum four students as a group can take up a topic and the students in consultation and with the consent of the assigned guide may identify a topic and do research on that topic. To have more academic freedom and flexibility, the project shall be done without being attached to any business organization.

The candidates together shall prepare and submit a project report to the Department. The project report should be submitted to the Head of the Department on the last working day of the sixth semester.

The candidates together as a group shall prepare two copies of the report and submit them in the department. Out of the two copies submitted in the department, one copy shall be handed over to the external examiner at the time of viva-voce examination, which may be treated as a copy submitted to the University. The report shall be prepared as per American Psychological Association (APA) or Modern Language Association (MLA) format.

**Stages of Research Project**

The research project shall have the following stages:

- Selection of a broad area
- Preliminary review of literature
- Selection of a specific topic/research problem
- Detailed review of literature
- Establishment of research objectives
- Identification of variables

- Deciding the research design
- Preparation of the draft data collection tool
- Pre testing of the data collection tool
- Finalisation of the tool
- Field work and data collection
- Data analysis
- Report writing
- Draft project report presentation
- Final project report submission

### **Sample size**

Since the project is a group exercise, at least 100 samples should be selected for the study

### **Use of Statistical software**

Students shall be encouraged to use statistical software for data analysis.

### **Structure of the report**

1. Title page
2. Declaration by the student
3. Bonafide Certificate from guide countersigned by HOD
4. Acknowledgements
5. Table of Contents
6. List of Tables
7. List of charts and diagrams
8. List of Symbols, Abbreviations
9. Chapter I: Introduction (Background information, Statement of the Research problem, objectives of the study, Research methodology etc.)
10. Chapter II: Review of literature
11. Chapters III: Theoretical framework
12. Chapters IV: Data Analysis and Interpretations
13. Chapter V: Summary of findings and implications and Recommendations

14. Bibliography (books, journal articles etc. used for the project work).

15. Appendix (Questionnaire, specimen copies of forms, other exhibits etc.)

### **Page size and typing instructions**

The project report shall be prepared in A4 sized bond paper. The report shall be printed and spiral bound/hard bound with not less than 60 pages. The general text of the report shall be typed with 1.5 line spacing. The general text shall be typed in the font 'Times New Roman' with font size 12. Paragraphs shall be arranged in justified alignment with margins 1.25" each on top, bottom, left and right of the page with portrait orientation. No **boarder** line should be given to the pages.

### **Report Preparation format**

#### **1. Cover page & Title page**

A specimen copy of the cover page & title page of the project report are given in Appendix I

#### **2. Bonafide certificate**

The Bonafide certificate shall be in double line spacing using font style times new roman and font size 14 as per format in appendix II. The certificate shall carry the supervisors signature and shall be followed by supervisors name, academic designation (not any other responsibilities of administrative nature), department & full address of the institution where the supervisors has guided the student. The term 'SUPERVISOR' must be typed in capital letter above the SUPERVISOR's name and academic designation .It shall be countersigned by the HOD.

#### **3. Declaration by the student- Appendix III**

#### **4. Acknowledgement by the student**

It shall contain gratitude towards the help, service, facilities etc. offered by individuals and institution for completing the project report

#### **5. Table of contents**

The title page, Bonafide certificate and declaration by the student will not find a place among the items listed in the table of contents but the page numbers of which are in lower case Roman letters.

## **6. List of tables**

The list should exactly the same caption as they appear above the table in the text. By the word table, is meant, tabulated numerical data in the body of the project report as well as in the appendices.

## **7. List of figures**

The list should exactly the same caption as they appear below the figures in the text. All the other nonverbal material used in the body of the project work and appendices such as charts, graphs, maps, photographs and diagrams may be designed as figures.

## **8. List of symbols, Abbreviation and Nomenclature**

Standard symbols, abbreviations shall be used where ever necessary

## **9. Chapters**

Depending on the nature of the project selected by the student the introductory chapter should invariably contain the background of the study, the problem, objectives, limitation, methodology and review of earlier studies. The main text will be divided in to several chapters and each chapter may be further divided in to several sub-divisions.

## **10. Appendices**

Appendices are provided to give supplementary information, which if included in the main text, may serve as a distraction and cloud the central theme.

- Appendices should be numbered using Roman letters, e.g. Appendix I, Appendix II etc.
- Appendices, tables and reference appearing in Appendices should be numbered and referred to at appropriate places just as in the case of chapters.
- Appendices shall carry the title of the work reported and the same title shall be made in the contents page also.

## **11. List of references**

The listing of references should be typed 4 spaces below the heading “REFERENCES” in alphabetical order in single spacing with left aligned. American Psychological Association (APA) or Modern Language Association (MLA) style shall be followed for references.

## Evaluation of project report

The project report shall be subject to internal and external evaluation:

Maximum 10 marks shall be awarded by the supervising teachers. The internal marks shall be given as described below. Maximum 40 marks shall be awarded by external examiners. Out of the external 40 marks, 20 marks shall be given for the report and 20 marks shall be given for the performance in viva voce examination as specified below. All the group members shall be given equal marks for their report and the viva-voce marks may vary based on the performance of each student in viva voce examination.

| <b>Internal Evaluation</b><br>(10 marks or 20% of total marks) |              |
|----------------------------------------------------------------|--------------|
| <b>Components</b>                                              | <b>Marks</b> |
| Punctuality                                                    | 2 (20%)      |
| Use of data                                                    | 2 (20%)      |
| Scheme/organization of report                                  | 3 (30%)      |
| Viva- Voce                                                     | 3 (30%)      |
| <b>Total</b>                                                   | <b>10</b>    |

| <b>External Evaluation</b><br>( 40 marks or 80% of total marks)                          |              |
|------------------------------------------------------------------------------------------|--------------|
| <b>Components</b>                                                                        | <b>Marks</b> |
| Relevance of the Topic, Statement of Objectives, Methodology (Reference/ Bibliography)   | 8 (20%)      |
| Presentation, Quality of Analysis/Use of Statistical tools, Findings and recommendations | 12 (30%)     |
| Viva-Voce                                                                                | 20 (50%)     |
| <b>Total</b>                                                                             | <b>40</b>    |

## **6B25BCA LAB – VIII**

# **PROJECT**

**Hours per Week : Practical - 5**

**Credits : 4**

### **Project Guidelines**

The minimal phase for the project are: project search finalization and allocation, investigation of system requirement data and process Modeling system design program design, Program coding and Testing Procedures done, and system implementation procedures.

#### ***Project planning:***

The BCA Major Project is an involved exercise, which has to be planned well in advance. The topic should be chosen in the beginning of final year itself. Related reading training and discussions first internal project viva voce should be completed in the first term of final year.

#### **Selection of the project work**

Project work could be of three types.

#### **Developing solution for real life problem**

In this case a requirement for developing a computer-based solution already exists and the different stages of system development life cycle is to be implemented successfully. Examples are accounting software for particular organization, computerization of administrative function of an organization, web based commerce etc. The scope for creativity and exploration in such projects is limited but if done meticulously valuable experience in the industrial context can be gained.

#### **b) Innovative Product development**

These are projects where a clear-cut requirement for developing based solution may not exist but a possible utility for same is conceived by the proposer. An example is a Malayalam language editor with spell checker, hand written character processing.

#### **c) Research level project**

These are projects which involve research and development and may not be as structured and clear cut as in the above case. Examples are Malayalam character recognition, Neural net based speech recognizer etc. This type of projects provides more challenging opportunities to students, but at BCA level this may be a difficult choice. If any student identifies proper support in terms of guidance technology and reference from external organizations and also the supervisors are convinced of the ability of the

student(s) to take up the project it shall be permitted. The methodology and the reporting of such project could be markedly different from type (a) and is left to the proposer/external supervisor of the project.

### **Selection of team**

To meet the stated objectives, it is imperative that major project is done through a team effort. Though it would be ideal to select the team members at random and this should be strongly recommended, due to practical consideration students may also be given the choice of forming themselves into teams with three or four members. A team leader shall be selected. Team shall maintain the minutes of meeting of the team members and ensure that tasks have been assigned to every team member in writing. Team meeting minutes shall form a part of the project report. Even if student are doing project as groups each one must independently taken different modules of the work and must submit the report.

### **Selection of Tools**

No restrictions shall be placed on the students in the choice of platform / tools/languages to be utilized for their project work, though open source is strongly recommended, wherever possible. No value shall be placed on the use of tools in the evaluation of the project.

### **Selection of external organization & Guide.**

No restriction shall be placed on the student in the choice of external organization, where project work may be done, in terms of locality type (Private/ public) etc. It is the duty of the Head of Institution / Principal of the college to ensure that the aims, objectives and full project guidelines are communicated to the external organization. The guide should ideally be a postgraduate with work experience.

Students may also choose to do project in the college/institute especially product based work but in such cases the supervisors must ensure that

- (I) Industry practices are followed
- (II) the student undertake a planned visit to an IT industry with international operations to make up for the loss of experience
- (III) the service of an external guide with industry experience is obtained.

### **Project management**

Head of the Department /principal of the college should publish the list of students project topic, internal guide and external organization and teams agreed before the end of July. Changes in this list may be permitted for valid reasons and shall be considered favourably by the Head of the Department /principal of the college any time before commencement of the project. Students should submit a fortnightly report of the progress, which could be indication of percentage of completion of the project work. The students should ideally keep a daily activity book. Team meeting should be documented and same should be submitted at the end of the project work.

### **Documentation**

Three copies of the project report must be submitted by each student ( one for department library, one for the organization where the project is done , one for the external examiner and one for the student himself/herself). After affixing signature of external examiners two copies will be returned at the time of the viva which are for the external organization and for the candidate. A CD containing soft copy of the project report, source code and binaries recorded in different folders should also be submitted for the documentation in the library. The CD also should bear the name of the student , title of the project, year etc. the format for preparation of the project is standaeized from 2007 onwards. The following are the major guidelines. The final outer dimensions of the project report shall be 21cm X30 cm.the colour of the flap cover shall be light green/blue. Only hard binding should be done, with title of thesis and the words “<BRIEF TITLE> BCA Project Report 201...”displayed on the spine in 20 point , bold , Arial, as in example below. In case the title is too long, a shorter version of it may be used.

- The text of the report should be set in 12 pt , bookman , 1.5 spaced.
- Headings should be set as follows: CHAPTER HEADINGS 20 pt, Arial, Bold, All caps, Centered.
- Section Headings 14 pt Bookman old style, Bold, Left adjusted.
- Section Sub-heading 12 pt, Bookman old style.
- Title of figures tables etc are done in 12 point, Times New Roman, Italics, centered.

Content of the Project should be relevant and specify particularly with reference to the work. The report should contain the requirement specification of the work, Analysis, Design, Coding, testing and Implementation strategies done.

- Organizational overview (of the client organization, where applicable)
- Description of the present system
- Limitations of the present system
- The Proposed system- Its advantages and features

- Context diagram of the proposed system.
- Top level DFD of the proposed system with at least one additional level of expansion
- Menu Tree
- Program List (Sample code of major functions used)
- Files or tables (for DBMS projects) list. Class names to be entered for each file in OO systems.
- List of fields or attributes (for DBMS projects) in each file or table.
- Program – File table that shows the files/tables used by each program and the files are read, written to, updated, queried or reports were produced from them.
- Screen layouts for each data entry screen.
- Report formats for each report.

**Some general guidelines on documentation are:**

1. Certificate should be in the format :” **Certified that this report titled.....is a bonafide record of the project work done by Sri/Kum .....under our supervision and guidance, towards partial fulfillment of the requirement for award of the Degree of Bachelor of Computer Application (BCA) of the Kannur University**” with dated signature of internal guide, external guide and also Head of the Department/ College.
2. If the project is done in an external organization, another certificate on the letterhead of the organization is required: **“Certified that his/her report titled .....is a bonafide record of the project work done by Sri/Kum.....under my supervision and guidance, at the .....department of..... (Organization) towards partial fulfillment of the requirement for the award of the Degree of Bachelor of Computer Application of the Kannur University.**
3. Page numbers shall be set at right hand bottom, paragraph indent shall be set as 3.
4. Only 1.5 space need be left above a section or subsection heading and no space may be left after them.
5. References shall be IEEE format ( see any IEEE magazine for detail) While doing the project keep note of all books you refer, in the correct format and include them in alphabetical order in your reference list.

There shall be four components that will be considered in assessing a project work with weightage as indicated.

- Timely completion of assigned tasks as evidenced by team meeting minutes 20% or 2 marks
- Relevance of topic System study / Design of table/Individual involvement, team work and adoption of industry work culture 20% or 2 marks
- Project report Quality of project documentation (Precision, stylistics etc )/Achievement of project deliverables 30% or 3 marks
- Viva Effective technical presentation of project work 30% or 3 marks

Based on the above 4 components internal mark (10) can be awarded.

Dissertation /Project to be submitted at the end of third year shall be valued by two examiners appointed by University for the conduct of practical exam. The board of examiners shall award 40 marks based on the following components given in the table below.

| <b>External ( 80% of Total)</b>                                     |                   |              |
|---------------------------------------------------------------------|-------------------|--------------|
| <b>Components</b>                                                   | <b>% of Marks</b> | <b>Marks</b> |
| Written Synopsis/Abstract                                           | 12.5              | 5            |
| Content of the Project                                              | 12.5              | 5            |
| Quality of project work/Use of software/ tools                      | 12.5              | 5            |
| Perfection of the work<br>(Designs of tables/ Input & Output forms) | 25                | 10           |
| Live demo                                                           | 12.5              | 5            |
| Viva-Voce                                                           | 25                | 10           |
| <b>Total</b>                                                        | <b>100</b>        | <b>40</b>    |

| SCHEME OF CORE COURSES                                                                    |   |     |                                                        |                |                  |         |          |    |              |
|-------------------------------------------------------------------------------------------|---|-----|--------------------------------------------------------|----------------|------------------|---------|----------|----|--------------|
| Total Marks 1500 - Total Credits 120 - Working Days/Semester 90 - WorkingHrs/Semester 450 |   |     |                                                        |                |                  |         |          |    |              |
| Sl. No                                                                                    |   | Sem | Course Title                                           | Type of Course | Mark             | Credit  | Hrs/Week |    | Hrs/Semester |
| 1                                                                                         | 1 | I   | <b>1B01 COM</b><br>Management Concepts & Principles    | Core 1         | 50 (40+10)       | 2       | 3        | 11 | 54           |
| 2                                                                                         | 2 |     | <b>1B02 COM</b><br>Financial Accounting                | Core 2         | 50 (40+10)       | 3       | 4        |    | 72           |
| 3                                                                                         | 3 |     | <b>1C01 COM</b><br>Bus. Statistics                     | Comp 1         | 50 (40+10)       | 3       | 4        |    | 72           |
| 4                                                                                         | 1 | II  | <b>2B03 COM</b><br>Principles of Marketing             | Core 3         | 50 (40+10)       | 2       | 3        | 11 | 54           |
| 5                                                                                         | 2 |     | <b>2B04 COM</b><br>Human Resource Management           | Core 4         | 50 (40+10)       | 2       | 3        |    | 54           |
| 6                                                                                         | 3 |     | <b>2C02COM</b><br>Quantitative Tech. for Bus. Decision | Comp2          | 50 (40+10)       | 4       | 5        |    | 90           |
| 7                                                                                         | 1 | III | <b>3A11 COM</b><br>Disaster Management                 | Comm11         | 50 (40+10)       | 4       | 4        | 25 | 72           |
| 8                                                                                         | 2 |     | <b>3A12 COM</b><br>Numerical Skills for Business       | Comm 12        | 50 (40+10)       | 4       | 4        |    | 72           |
| 9                                                                                         | 3 |     | <b>3C03 COM</b><br>Basics of Research Methodology      | Comp 3         | 50 (40+10)       | 3       | 3        |    | 54           |
| 10                                                                                        | 4 |     | <b>3B05 COM</b><br>Advanced Accounting                 | Core 5         | 50 (40+10)       | 4       | 5        |    | 90           |
| 11                                                                                        | 5 |     | <b>3B06 COM</b><br>Optional I                          | Core 6         | 50 (40+10)       | 3       | 5        |    | 90           |
| 12                                                                                        | 6 |     | <b>3C04 COM</b><br>Business Regulatory Framework       | Comp 4         | 50 (40+10)       | 3       | 4        |    | 72           |
| 13                                                                                        | 1 | IV  | <b>4A13 COM</b><br>Entrepreneurship                    | Comm13         | 50 (40+10)       | 4       | 4        | 25 | 72           |
| 14                                                                                        | 2 |     | <b>4A14 COM</b><br>Environment Studies                 | Comm14         | 50 (40+10)       | 4       | 4        |    | 72           |
| 15                                                                                        | 3 |     | <b>4B07 COM</b><br>Income Tax Law & Practice I         | Core 7         | 50 (40+10)       | 4       | 5        |    | 90           |
| 16                                                                                        | 4 |     | <b>4B08 COM</b><br>Informatics Skills (T+P)            | Core 8         | 50 (20 + 20 +10) | 3 (2+1) | 4 (2+2)  |    | 72 (36+36)   |
| 17                                                                                        | 5 |     | <b>4B09 COM/Optional II</b>                            | Core 9         | 50 (40+10)       | 3       | 4        |    | 72           |

|                           |                       |                                                    |                                                           |                                          |                    |             |   |           |    |
|---------------------------|-----------------------|----------------------------------------------------|-----------------------------------------------------------|------------------------------------------|--------------------|-------------|---|-----------|----|
| 18                        | 6                     |                                                    | <b>4C05 COM</b><br>Corporate Law &<br>Business Regulation | Comp 5                                   | 50 (40+10)         | 3           | 4 |           | 72 |
| 19                        | 1                     | <b>V</b>                                           | <b>5B10 COM</b><br>Cost Accounting                        | Core 10                                  | 50 (40+10)         | 4           | 5 | <b>25</b> | 90 |
| 20                        | 2                     |                                                    | <b>5B11 COM</b><br>Corporate Accounting                   | Core 11                                  | 50 (40+10)         | 4           | 5 |           | 90 |
| 21                        | 3                     |                                                    | <b>5B12 COM</b><br>Auditing                               | Core 12                                  | 50 (40+10)         | 3           | 4 |           | 72 |
| 22                        | 4                     |                                                    | <b>5B13 COM</b><br>Income Tax Law &<br>Practice II        | Core 13                                  | 50 (40+10)         | 4           | 5 |           | 90 |
| 23                        | 5                     |                                                    | <b>5B14 COM</b><br>Optional III                           | Core 14                                  | 50 (40+10)         | 3           | 4 |           | 72 |
| 24                        | 6                     |                                                    | <b>5D01 COM</b><br>Open Course                            | Open                                     | 50 (40+10)         | 2           | 2 |           | 36 |
| 25                        | 1                     |                                                    | <b>VI</b>                                                 | <b>6B15 COM</b><br>Management Accounting | Core 15            | 50 (40+10)  | 4 |           | 5  |
| 26                        | 2                     | <b>6B16 COM</b><br>International Business          |                                                           | Core 16                                  | 50 (40+10)         | 4           | 5 | 90        |    |
| 27                        | 3                     | <b>6B17 COM</b><br>Modern Banking                  |                                                           | Core 17                                  | 50 (40+10)         | 4           | 5 | 90        |    |
| 28                        | 4                     | <b>6B18 COM</b><br>Financial<br>Markets & Services |                                                           | Core 18                                  | 50 (40+10)         | 3           | 3 | 54        |    |
| 29                        | 5                     | <b>6B19 COM</b><br>Optional IV                     |                                                           | Core 19                                  | 50 (40+10)         | 3           | 5 | 90        |    |
| 30                        | 6                     | <b>6B20 COM</b><br>Project                         |                                                           | Project                                  | 50 (40+10)         | 2           | 2 | 36        |    |
| <b>* Total</b>            |                       |                                                    |                                                           |                                          | 1500<br>(1200+300) | <b>* 98</b> |   |           |    |
| <b>No. of<br/>Courses</b> | <b>Type of Course</b> |                                                    |                                                           | <b>Credit</b>                            | <b>Mark</b>        |             |   |           |    |
| <b>4</b>                  | Common                |                                                    |                                                           | 16                                       | 4x50= 200          |             |   |           |    |
| <b>5</b>                  | Complementary         |                                                    |                                                           | 16                                       | 5x50= 250          |             |   |           |    |
| <b>19+1 Project</b>       | Core (62+2)           |                                                    |                                                           | 64                                       | 20x50= 1000        |             |   |           |    |
| <b>1</b>                  | Open                  |                                                    |                                                           | 2                                        | 1 X 50 =50         |             |   |           |    |
|                           | <b>* Total</b>        |                                                    |                                                           | <b>* 98</b>                              | <b>1500</b>        |             |   |           |    |
| <b>4</b>                  | English               |                                                    |                                                           | 14                                       | 200                |             |   |           |    |
| <b>2</b>                  | Additional Language   |                                                    |                                                           | 8                                        | 100                |             |   |           |    |
| <b>36</b>                 | <b>Total</b>          |                                                    |                                                           | <b>120</b>                               | <b>1800</b>        |             |   |           |    |

# 6B19CSC Project

**Theory 02 Lab Hours 03/ Week**

**Credit 5**

## ***Project Guidelines***

The minimal phase for the project are: project search finalization and allocation, investigation of system requirement data and process Modeling system design program design, Program coding and Testing Procedures done, and system implementation procedures.

### **Project planning:**

The B.Sc (Computer Science) Major Project is an involved exercise, which has to be planned well in advance. The topic should be chosen in the beginning of final year itself. Related reading training and discussions first internal project viva voce should be completed in the first term of final year.

### ***Selection of the project work***

*Project work could be of three types.*

#### **a) Developing solution for real life problem**

In this case a requirement for developing a computer-based solution already exists and the different stages of system development life cycle is to be implemented successfully. Examples are accounting software for particular organization, computerization of administrative function of an organization, web based commerce etc. The scope for creativity and exploration in such projects is limited but if done meticulously valuable experience in the industrial context can be gained.

#### **b) Innovative Product development**

These are projects where a clear-cut requirement for developing based solution may not exist but a possible utility for same is conceived by the proposer. An example is a Malayalam language editor with spell checker, hand written character processing.

### **c) Research level project**

These are projects which involve research and development and may not be as structured and clear cut as in the above case. Examples are Malayalam character recognition, Neural net based speech recognizer etc. This type of projects provides more challenging opportunities to students, but at B.Sc level this may be a difficult choice. If any student identifies proper support in terms of guidance technology and reference from external organizations and also the supervisors are convinced of the ability of the student(s) to take up the project it shall be permitted. The methodology and the reporting of such project could be markedly different from type (a) and is left to the proposer/external supervisor of the project.

#### **Selection of team**

To meet the stated objectives, it is imperative that major project is done through a team effort. Though it would be ideal to select the team members at random and this should be strongly recommended, due to practical consideration students may also be given the choice of forming themselves into teams with three or four members. A team leader shall be selected. Team shall maintain the minutes of meeting of the team members and ensure that tasks have been assigned to every team member in writing. Team meeting minutes shall form a part of the project report. Even if student are doing project as groups each one must independently taken different modules of the work and must submit the report.

#### **Selection of Tools**

No restrictions shall be placed on the students in the choice of platform / tools/languages to be utilized for their project work, though open source is strongly recommended, wherever possible. No value shall be placed on the use of tools in the evaluation of the project.

#### **Selection of external organization & Guide.**

No restriction shall be placed on the student in the choice of external organization, where project work may be done, in terms of locality type (Private/ public) etc. It is the duty of the Head of Institution / Principal of the college to ensure that the aims, objectives and full project guidelines are communicated to the external organization. The guide should ideally be a postgraduate with work experience.

Students may also choose to do project in the college/institute especially product based work but in such cases the supervisors must ensure that

- (I) Industry practices are followed
- (II) the student undertake a planned visit to an IT industry with international operations to make up for the loss of experience
- (III) the service of an external guide with industry experience is obtained.

### **Project management**

Head of the institute /principal of the college should publish the list of students project topic, internal guide and external organization and teams agreed before the end of July. Changes in this list may be permitted for valid reasons and shall be considered favourably by the Head of the institute /principal of the college any time before commencement of the project. Students should submit a fortnightly report of the progress, which could be indication of percentage of completion of the project work. The students should ideally keep a daily activity book. Team meeting should be documented and same should be submitted at the end of the project work.

### **Documentation**

Three copies of the project report must be submitted by each student ( one for department library, one for the organization where the project is done , one for the external examiner and one for the student himself/herself). After affixing signature of external examiners two copies will be returned at the time of the viva which are for the external organization and for the candidate. A CD containing soft copy of the project report, source code and binaries recorded in different folders should also be submitted for the documentation in the library. The CD also should bear the name of the student , title of the project, year etc. the format for preparation of the project is standaeized from 2007 onwards. The following are the major guidelines. The final outer dimensions of the project report shall be 21cm X30 cm.the colour of the flap cover shall be light green/blue. Only hard binding should be done, with title of thesis and the words "<BRIEF TITLE> BSc(CS) Project Report 201..."displayed on the spine in 20 point , bold , Arial, as in example below. In case the title is too long, a shorter version of it may be used.

- The text of the report should be set in 12 pt , bookman , 1.5 spaced.
- Headings should be set as follows: CHAPTER HEADINGS 20 pt, Arial, Bold, All caps, Centered.

1. Section Headings 14 pt Bookman old style, Bold, Left adjusted.

Section Sub-heading 12 pt, Bookman old style.

Title of figures tables etc are done in 12 point, Times New Roman, Italics, centered.

Content of the Project should be relevant and specify particularly with reference to the work. The report should contain the requirement specification of the work, Analysis, Design, Coding, testing and Implementation strategies done.

- Organizational overview (of the client organization, where applicable)
- Description of the present system
- Limitations of the present system
- The Proposed system- Its advantages and features
- Context diagram of the proposed system.
- Top level DFD of the proposed system with at least one additional level of expansion
- Menu Tree
- Program List (Sample code of major functions used)
- Files or tables (for DBMS projects) list. Class names to be entered for each file in OO systems.
- List of fields or attributes (for DBMS projects) in each file or table.
- Program – File table that shows the files/tables used by each program and the files are read, written to, updated, queried or reports were produced from them.
- Screen layouts for each data entry screen.
- Report formats for each report.

#### **Some general guidelines on documentation are:**

1. Certificate should be in the format :” **Certified that this report titled.....is a bonafide record of the project work done by Sri/ Kum .....under our supervision and guidance, towards partial fulfillment of the requirement for award of the Degree of B.Sc Computer Science of the Kannur University”** with dated signature of internal guide, external guide and also Head of the Department/ College.

2. If the project is done in an external organization, another certificate on the letterhead of the organization is required: **“Certified that his/her report titled .....is a bonafide record of the project work done by Sri/Kum.....under my supervision and guidance, at the .....department of..... (Organization) towards partial fulfillment of the requirement for the award of the Degree of B.Sc (Computer Science) of the Kannur University.**
3. Page numbers shall be set at right hand bottom, paragraph indent shall be set as 3.
4. Only 1.5 space need be left above a section or subsection heading and no space may be left after them.
5. References shall be IEEE format ( see any IEEE magazine for detail) While doing the project keep note of all books you refer, in the correct format and include them in alphabetical order in your reference list.

There shall be six components that will be considered in assessing a project work with weightage as indicated.

- Timely completion of assigned tasks as evidenced by team meeting minutes 20% or 4 marks
- Relevance of topic System study / Design of table/Individual involvement, team work and adoption of industry work culture 20% or 4 marks
- Project report Quality of project documentation (Precision, stylistics etc )/Achievement of project deliverables 30% or 6 marks
- Viva Effective technical presentation of project work 30% or 6 marks

Based on the above 6 components internal mark (20)can be awarded.

Dissertation /Project to be submitted at the end of third year shall be valued by two examiners appointed by University for the conduct of practical exam. The board of examiners shall award 80 marks based on the following components given in the table below.

| <b>External ( 80% of Total)</b>                                          |                   |              |
|--------------------------------------------------------------------------|-------------------|--------------|
| <b>Components</b>                                                        | <b>% of Marks</b> | <b>Marks</b> |
| Writing Synopsis/ Abstract                                               | 12.5              | 10           |
| Content of the Report                                                    | 12.5              | 10           |
| Quality of project work/Use of software/ tools                           | 12.5              | 10           |
| Perfection of the work done<br>(Designs of tables/ Input & Output forms) | 25                | 20           |
| Live demo                                                                | 12.5              | 10           |
| Viva-Voce                                                                | 25                | 20           |
| <b>Total</b>                                                             | <b>100</b>        | <b>80</b>    |

off, if it has a decimal part. The total marks of the CA shall be rounded off to the nearest whole number.

#### **END SEMESTER EVALUATION (ESE):**

*There shall be double valuation system of answer books. The average of two valuations shall be taken in to account. If there is a variation of more than 10% of the maximum marks, the answer books shall be valued by a third examiner. The final marks to be awarded shall be the average of the nearest two out of three awarded by the examiners. After that there shall be no provision for revaluation*

Pattern of questions: Questions shall be set to assess knowledge acquired, standard application of knowledge, application of knowledge in new situations, critical evaluation of knowledge and the ability to synthesize knowledge. Question paper for end semester theory examination shall consist of:

- i. Short answer type : 12 questions of which 10 to be answered.  $10 \times 3 = 30$  marks,
- ii. Essay type: 5 questions (one either –or question from each module)  $\times 10$  marks = 50 marks

*End Semester Evaluation in Practical courses* shall be conducted and evaluated by two examiners- one internal and one external. Details of scheme of evaluation of ESE practical courses are given along with respective syllabus.

**3.4 Project:** A project work has to be undertaken by all students. The project can be software development following all or some of the software development lifecycle or an R&D project. The hours allotted for project work may be clustered into a single slot so that students can do their work at a centre or location for a continuous period of time. The Major project work should be carried out in the Department /Institution or in a level Industry / R & D organization of national repute. Project work shall be carried out under the supervision of a Teacher. If the project is carried out in an Industry / R & D organization outside the campus, then a co-guide shall be selected from the concerned organization. If the project work is of interdisciplinary in nature, a co-guide shall be taken from the other department concerned. Every student should do the Project individually and no grouping is allowed. All the candidates are required to get the approval of their synopsis and the guide before commencement of the project from the Department. A co-guide should be a postgraduate in CS or allied subject or a person of eminence in the area in which student has chosen the project. At the end of the semester the candidate shall submit the Project report (two bound copies and one soft copy) duly approved by the guide and co-guide for End Semester Evaluation. The project report shall be prepared according to the guidelines approved by the University.

#### ***Evaluation of Project:***

- i. A Departmental committee duly constituted by the Head of the Department will review the project periodically.
- ii. **Continuous Assessment of project work:** There shall be three internal presentations before the committee (Minimum two members, including the guide). The assessment is based on presentation, interim report and viva voce. The total mark for CA shall be divided among the three presentations in the ratio 20%:30%:50%. Each internal presentation shall be evaluated based on the following components:

| Component                                                             | % of marks |
|-----------------------------------------------------------------------|------------|
| Understanding of the problem / concepts                               | 25         |
| Adhering to methodology.                                              | 20         |
| Quality of presentation and demonstration (Demonstration is optional) | 15         |
| Quantum of work / effort                                              | 30         |
| Organization and content of mid-term report                           | 10         |

- iii. End Semester Assessment of Project:** A board of two examiners appointed by the University shall conduct ESE evaluation. The evaluation shall be based on the report, presentation of the work, demonstration of the work (optional) and a detailed viva voce based on the work carried out. A candidate will not be permitted to attend the Project evaluation without duly certified project reports. Also a project will be evaluated only if the candidate attend the ESE presentation and Viva voce on the scheduled date and time. A board shall evaluate a maximum of 10 candidates in a day. The ESE evaluation shall consist of the following components:

| Component                                                                                                                                                                                                                                                                 | % of marks |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Understanding of the problem/requirements/ concepts related to the project                                                                                                                                                                                                | 15         |
| Adhering to methodology (Software engineering phases or research methodology) and the candidates understanding of the components of methodology                                                                                                                           | 15         |
| Quality of Modeling of the problem and solution/ database design / form design / reports / testing (For research projects - relevance /novelty of the work(s)/ use of data/ proposal of new models /analysis of algorithms/ comparison and analysis of results /findings) | 20         |
| Quality of presentation / demonstration                                                                                                                                                                                                                                   | 15         |
| Quantum of work / effort - assessed through the content of report, presentation and viva.                                                                                                                                                                                 | 25         |
| Organization and content of report                                                                                                                                                                                                                                        | 10         |

- iv.** A student shall be declared to pass in the Project report course if she/he secures minimum 40 % marks of the aggregate and 40% separately for external.
- v.** If a candidate fail in the evaluation of Project, he/she has to repeat the project course along with the next batch and undergo both CA and ESE. *Unlike theory/practical courses, the CA mark will not retained.*
- vi.** There shall be no improvement chance for the marks obtained in the Project course.

**3.5 Seminar:** Each student shall select a relevant topic, prepare a seminar report and give a presentation (30 to 45 minutes), under the guidance of a faculty member. The evaluation of seminar

Table 2(a):

| SEMESTER I |                                           |          |          |           |           |           |
|------------|-------------------------------------------|----------|----------|-----------|-----------|-----------|
| S No.      | Title of the course                       | Hrs/week | Credits  | Marks     |           |           |
|            |                                           |          |          | IA**      | ESE***    | Total     |
| 1          | Common course (English) I                 | 5        | 4        | 10        | 40        | 50        |
| 2          | Common course (English) II                | 4        | 3        | 10        | 40        | 50        |
| 3          | Common course(Addl. language) VII         | 4        | 4        | 10        | 40        | 50        |
| 4          | <b>Core course ( Theory-1B01PHY)</b>      | <b>2</b> | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 5          | <b>Core course (Practical I-4B05PHY)*</b> | <b>2</b> | -        | -         | -         | -         |
| 6          | Complementary (I) Theory I (Maths)        | 4        | 3        | 10        | 40        | 50        |
| 7          | Complementary (II) Theory I               | 2        | 2        | 8         | 32        | 40        |
| 8          | Complementary (II) Practical I *          | 2        | -        | -         | -         | -         |
| Total      |                                           | 25       | 19       | 58        | 232       | 290       |

\*External examination at the end of fourth semester

\*\*Internal assessment ; \*\*\* End Semester Examination ( external assessment)

Table 2(b):

| SEMESTER II |                                           |          |          |           |           |           |
|-------------|-------------------------------------------|----------|----------|-----------|-----------|-----------|
| S No        | Title of the course                       | Hrs/week | Credits  | Marks     |           |           |
|             |                                           |          |          | IA        | ESE       | Total     |
| 1           | Common course (English) III               | 5        | 4        | 10        | 40        | 50        |
| 2           | Common course (English) IV                | 4        | 3        | 10        | 40        | 50        |
| 3           | Common course(Addl. language) VIII        | 4        | 4        | 10        | 40        | 50        |
| 4           | <b>Core course ( Theory-2B02PHY )</b>     | <b>2</b> | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 5           | <b>Core course (Practical I-4B05PHY)*</b> | <b>2</b> | -        | -         | -         | -         |
| 6           | Complementary (I) Theory II(Maths)        | 4        | 3        | 10        | 40        | 50        |
| 7           | Complementary (II) Theory II              | 2        | 2        | 8         | 32        | 40        |
| 8           | Complementary (II) Practical *            | 2        | -        | -         | -         | -         |
| Total       |                                           | 25       | 19       | 58        | 232       | 290       |

\*External examination at the end of fourth semester

Table 2(c):

| SEMESTER III |                                           |          |          |           |           |           |
|--------------|-------------------------------------------|----------|----------|-----------|-----------|-----------|
| S No.        | Title of the course                       | Hrs/week | Credits  | Marks     |           |           |
|              |                                           |          |          | IA        | ESE       | Total     |
| 1            | Common course (English) V                 | 5        | 4        | 10        | 40        | 50        |
| 2            | Common course(Addl. language) IX          | 5        | 4        | 10        | 40        | 50        |
| 3            | <b>Core course ( Theory-3B03PHY)</b>      | <b>3</b> | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 4            | <b>Core course (Practical I-4B05PHY)*</b> | <b>2</b> | -        | -         | -         | -         |
| 5            | Complementary (I) Theory III(Maths)       | 5        | 3        | 10        | 40        | 50        |
| 6            | Complementary (II) Theory III             | 3        | 2        | 8         | 32        | 40        |
| 7            | Complementary (II) Practical *            | 2        | -        | -         | -         | -         |
| Total        |                                           | 25       | 16       | 48        | 192       | 240       |

\*External examination at the end of fourth semester

Table 2(d):

| SEMESTER IV |                                            |           |          |           |           |           |
|-------------|--------------------------------------------|-----------|----------|-----------|-----------|-----------|
| S No.       | Title of the course                        | Hrs/w eek | Credit s | Marks     |           |           |
|             |                                            |           |          | IA        | ESE       | Total     |
| 1           | Common course (English) VI                 | 5         | 4        | 10        | 40        | 50        |
| 2           | Common course(Addl. language) X            | 5         | 4        | 10        | 40        | 50        |
| 3           | <b>Core course ( Theory-4B04PHY )</b>      | <b>3</b>  | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 4           | <b>Core course (Practical I -4B05PHY )</b> | <b>2</b>  | <b>4</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 5           | Complementary (I) Theory IV(Maths)         | 5         | 3        | 10        | 40        | 50        |
| 6           | Complementary (II) Theory IV               | 3         | 2        | 8         | 32        | 40        |
| 7           | Complementary (II) Practical               | 2         | 4        | 8         | 32        | 40        |
| Total       |                                            | 25        | 24       | 66        | 264       | 330       |

Table 2(e):

| SEMESTER V |                                               |           |          |           |           |           |
|------------|-----------------------------------------------|-----------|----------|-----------|-----------|-----------|
| S N o.     | Title of the course                           | Hrs/ week | Cre dits | Marks     |           |           |
|            |                                               |           |          | IA        | ESE       | Total     |
| 1          | Open course                                   | 2         | 2        | 5         | 20        | 25        |
| 2          | <b>Core course ( Theory-5B06PHY)</b>          | <b>3</b>  | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 3          | <b>Core course ( Theory-5B07PHY )</b>         | <b>3</b>  | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 4          | <b>Core course (Theory-5B08PHY )</b>          | <b>3</b>  | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 5          | <b>Core course (Theory-5B09PHY)</b>           | <b>3</b>  | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 6          | <b>Core course (Theory-5B10PHY)</b>           | <b>3</b>  | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 7          | <b>Core course (Practical II -6B16PHY )!</b>  | <b>4</b>  | -        | -         | -         | -         |
| 8          | <b>Core course ( Practical III -6B17PHY)!</b> | <b>4</b>  | -        | -         | -         | -         |
| Total      |                                               | 25        | 17       | 55        | 220       | 275       |

! External examination at the end of sixth semester

Table 2(f):

| SEMESTER VI |                                                |           |          |           |           |           |
|-------------|------------------------------------------------|-----------|----------|-----------|-----------|-----------|
| S No.       | Title of the course                            | Hrs/w eek | Cre dits | Marks     |           |           |
|             |                                                |           |          | IA        | ESE       | Total     |
| 1           | <b>Core course (Theory -6B11PHY</b>            | <b>3</b>  | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 2           | <b>Core course ( Theory-6B12PHY)</b>           | <b>3</b>  | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 3           | <b>Core course ( Theory-6B13PHY )</b>          | <b>3</b>  | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 4           | <b>Core course (Theory-6B14PHY )</b>           | <b>3</b>  | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 5           | <b>Core course (Theory-6B15PHY) - Elective</b> | <b>3</b>  | <b>3</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 6           | <b>Core course (Practical II-6B16PHY )</b>     | <b>4</b>  | <b>4</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 7           | <b>Core course ( Practical III-6B17PHY)</b>    | <b>4</b>  | <b>4</b> | <b>10</b> | <b>40</b> | <b>50</b> |
| 8           | <b>Project (6B18PHY)</b>                       | <b>2</b>  | <b>2</b> | <b>5</b>  | <b>20</b> | <b>25</b> |
| 9           | <b>Study tour (6B19PHY)</b>                    | -         | -        | -         | -         | -         |
| Total       |                                                | 25        | 25       | 75        | 300       | 375       |



# SES COLLEGE

SREEKANDAPURAM [REDACTED]  
EDUCATIONAL [REDACTED]  
SOCIETY [REDACTED]

Affiliated to Kannur University  
Accredited by NAAC at 'B' Grade

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## Criterion 1 – Curricular Aspects

### Key Indicator- 1.3 Curriculum Enrichment

**1.3.2 Average percentage of courses that include experiential learning through project work/field work/internship during last five years**

**M. A. PROGRAMME IN ENGLISH LANGUAGE AND  
LITERATURE (CCSS)**

**REVISED SYLLABUS – 2016 ADMISSION ONWARDS**

(To be followed in the affiliated colleges under Kannur University)

**SEMESTER 1—Four Core Courses and one Elective (select one among three)**

| Semester     | Course Code | Title                                                                                                                         | Internal   | External   | Total      | Credit    | Hours     |
|--------------|-------------|-------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|-----------|-----------|
| <b>I</b>     | ENG 1C01    | British Literature: Chaucer to Seventeenth Century                                                                            | 20         | 80         | 100        | 4         | 5         |
|              | ENG 1C02    | British Literature: Eighteenth Century                                                                                        | 20         | 80         | 100        | 4         | 5         |
|              | ENG 1C03    | Literary Criticism                                                                                                            | 20         | 80         | 100        | 4         | 5         |
|              | ENG 1C04    | History and Structure of English Language                                                                                     | 20         | 80         | 100        | 4         | 5         |
|              | ENG 1E01    | <b>Elective</b> (Choose one among three)<br>Malayalam Literature in Translation<br>Media Studies<br>English Language Teaching | 20         | 80         | 100        | 4         | 5         |
|              | ENG 1E02    |                                                                                                                               |            |            |            |           |           |
|              | ENG 1E03    |                                                                                                                               |            |            |            |           |           |
| <b>TOTAL</b> |             |                                                                                                                               | <b>100</b> | <b>400</b> | <b>500</b> | <b>20</b> | <b>25</b> |

**SEMESTER 2—Three Core Courses and one Elective (select one among three)**

| Semester     | Course Code | Title                                                                                            | Internal  | External   | Total      | Credit    | Hours     |
|--------------|-------------|--------------------------------------------------------------------------------------------------|-----------|------------|------------|-----------|-----------|
| <b>II</b>    | ENG 2C05    | Literature of the Romantic Period                                                                | 20        | 80         | 100        | 4         | 7         |
|              | ENG 2C06    | Literature of the Victorian Period                                                               | 20        | 80         | 100        | 4         | 7         |
|              | ENG 2C07    | Modern Literary Theory                                                                           | 20        | 80         | 100        | 4         | 6         |
|              | ENG 2E04    | <b>Elective</b> (Choose one among three)<br>Translation Studies<br>World Drama<br>Dalit Writings | 20        | 80         | 100        | 4         | 5         |
|              | ENG 2E05    |                                                                                                  |           |            |            |           |           |
|              | ENG 2E06    |                                                                                                  |           |            |            |           |           |
| <b>TOTAL</b> |             |                                                                                                  | <b>80</b> | <b>320</b> | <b>400</b> | <b>16</b> | <b>25</b> |

**SEMESTER 3—Four Core Courses and one Elective (select one among three)**

| Semester   | Course Code                      | Title                                                                                                                                      | Internal   | External   | Total      | Credit    | Hours     |
|------------|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|------------|-----------|-----------|
| <b>III</b> | ENG 3C 08                        | Twentieth Century British Literature                                                                                                       | 20         | 80         | 100        | 4         | 6         |
|            | ENG 3C09                         | Linguistics                                                                                                                                | 20         | 80         | 100        | 4         | 4         |
|            | ENG 3C10                         | Indian Writing in English                                                                                                                  | 20         | 80         | 100        | 4         | 5         |
|            | ENG 3C11                         | American Literature                                                                                                                        | 20         | 80         | 100        | 4         | 6         |
|            | ENG 3E07<br>ENG 3E08<br>ENG 3E09 | <b>Elective</b> (Choose one among three)<br>Introduction to Cultural Studies<br>European Fiction<br>Introduction to Comparative Literature | 20         | 80         | 100        | 4         | 4         |
|            | <b>TOTAL</b>                     |                                                                                                                                            | <b>100</b> | <b>400</b> | <b>500</b> | <b>20</b> | <b>25</b> |

**SEMESTER 4—Six Core Courses including Project Work and Viva-voce**

| Semester  | Course Code | Title                 | Internal | External   | Total      | Credit     | Hours     |
|-----------|-------------|-----------------------|----------|------------|------------|------------|-----------|
| <b>IV</b> | ENG 4C 12   | Postcolonial Writings | 20       | 80         | 100        | 4          | 6         |
|           | ENG 4C 13   | Women's Writing       | 20       | 80         | 100        | 4          | 6         |
|           | ENG 4C 14   | Film Studies          | 20       | 80         | 100        | 4          | 6         |
|           | ENG 4C 15   | Comprehension         | 20       | 80         | 100        | 4          | 4         |
|           | ENG PR 16   | Project               | 20       | 80         | 100        | 4          | 3         |
|           | ENG 4C 17   | Viva-Voce             | 00       | 100        | 100        | 4          | 0         |
|           |             | <b>TOTAL</b>          |          | <b>100</b> | <b>500</b> | <b>600</b> | <b>24</b> |

**Details of Marks, Credit and Hours**

|                     |                                                                                                                                                                                |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Internal Assessment | 380 (Maximum 20 marks for a course. Test Paper: 5 Marks; Assignment: 5 Marks; Seminar/Viva: 5 Marks Attendance: 5 Marks)<br>Comprehension Course Internal (20 marks oral test) |
| External Evaluation | 1620                                                                                                                                                                           |
| Total Marks         | 2000                                                                                                                                                                           |
| Total Credits       | 80                                                                                                                                                                             |
| Total Hours         | 25 per week                                                                                                                                                                    |

\*\*\*\*\*

- a. Total marks for semester – I -300
- b. Total marks for semester – II- 425
- c. Total marks for semester – III- 375
- d. Total marks for semester – IV- 400
- e. Total marks for semester I to IV- 1500

## **II. Practicals**

### **Practical –I**

#### **MCJ 2 P 01 Newspaper production, Video production, Magazine production and Radio production.**

##### **1. Lab Newspapers: 5 Marks**

Each student shall submit five single-page printed A3-size lab-newspapers either in Malayalam or in English, prepared as part of reporting assignments within the semester, to be evaluated by external examiners.

##### **2. Newspaper Front Page: 5 Marks**

Each student shall edit and design the front page of an A3-size newspaper either in Malayalam or in English, with the stories given by the external examiners.

##### **3. Video production: 10 Marks**

Students, divided into teams of four members each, shall produce a video of their choice without dialogue limited to five minutes, during the semester and submit it for external valuation.

##### **4. Magazine production: 10 Marks**

Students shall be divided into teams of five members each, to bring out a printed multi-color 32-page-magazine either in Malayalam or in English, reported, subbed and designed by them during the semester. It shall be submitted for external valuation.

##### **5. Radio production: 10 Marks**

Each student shall produce a seven minutes radio feature / documentary on a topic and submit it for external valuation.

## **Practical –II**

### **MCJ 4P 02 PSA production, TV News bulletin production and Short film production**

#### **1. PSA production: 10 Marks**

Each student shall produce a Public Service Advertisement (PSA) in print/ audio/ visual format and submit it for external valuation.

#### **2. TV News bulletin production: 10 Marks**

Students either in groups of 4-5 or individually shall report, edit and present a news bulletin either in Malayalam or in English and submit it for external valuation. The duration of a solo news bulletin shall be seven minutes while for group productions it will be 25 minutes.

#### **3. Short film production: 20 Marks**

Students divided into teams of four or five members each shall produce either a documentary or a short film of 15-minutes, in Malayalam or English, within the semester and submit it for external valuation.

### **III. Dissertation:**

In the fourth semester each student shall submit a dissertation on any topic of his/her interest. The dissertation aims at introducing the students with research methodology and to prepare them for doing further research. Students are required to do a dissertation on a topic relating to an area of study chosen in consultation with the faculty. Each student shall be guided in his/her project by a member of the faculty.

#### **IV. VIVA:**

A Viva Voce examination will be conducted at the end of IV semester covering the whole programme including the project.

## **COURSES FOR M.COM**

| Semester                   | Course Code | Title                                        | Marks    |          |             | Credit    |
|----------------------------|-------------|----------------------------------------------|----------|----------|-------------|-----------|
|                            |             |                                              | Internal | External | Total       |           |
| I                          | COM1C01     | Business Environment & Policy                | 15       | 60       | 75          | 4         |
|                            | COM1C02     | Quantitative Techniques & Operation Research | 15       | 60       | 75          | 4         |
|                            | COM1C03     | Management Information System                | 15       | 60       | 75          | 4         |
|                            | COM1C04     | Organizational Behaviour                     | 15       | 60       | 75          | 4         |
|                            | COM1C05     | Accounting for Business Decisions            | 15       | 60       | 75          | 4         |
|                            | Total       |                                              | 75       | 300      | 375         | 20        |
| II                         | COM2C06     | Strategic Management                         | 15       | 60       | 75          | 4         |
|                            | COM2C07     | Research Methodology & Computer Application  | 15       | 60       | 75          | 4         |
|                            | COM2C08     | Costing for Management Decisions             | 15       | 60       | 75          | 4         |
|                            | COM2C09     | Advanced Business Accounting                 | 15       | 60       | 75          | 4         |
|                            | COM2C10     | Financial Management                         | 15       | 60       | 75          | 4         |
|                            | Total       |                                              | 75       | 300      | 375         | 20        |
| III                        | COM3C11     | Marketing Management                         | 15       | 60       | 75          | 4         |
|                            | COM3C12     | Corporate Accounting                         | 15       | 60       | 75          | 4         |
|                            | COM3C13     | Income Tax Law & Practice                    | 15       | 60       | 75          | 4         |
|                            | COM3C14     | Wealth Tax & Indirect Taxes                  | 15       | 60       | 75          | 4         |
|                            | COM3C15     | Human Resource Management                    | 15       | 60       | 75          | 4         |
|                            | Total       |                                              | 75       | 300      | 375         | 20        |
| <b>Elective A. Finance</b> | COM4E01     | Security Analysis & Portfolio Management     | 15       | 60       | 75          | 4         |
| IV                         | COM4E02     | International Financial Management           | 15       | 60       | 75          | 4         |
|                            | COM4E03     | Financial Markets & Services                 | 15       | 60       | 75          | 4         |
|                            | COM4E04     | Corporate Tax Planning & Management          | 15       | 60       | 75          | 4         |
|                            | COM4Pr      | Project Report/Dissertation                  |          |          | 25          | 2         |
|                            | COM4C16     | Viva-Voce                                    |          |          | 50          | 2         |
|                            | Total       |                                              | 60       | 240      | 375         | 20        |
| <b>Grand Total</b>         |             |                                              |          |          | <b>1500</b> | <b>80</b> |

(Continued in Page-2)

|                                  |         |                                   |    |    |    |   |
|----------------------------------|---------|-----------------------------------|----|----|----|---|
| <b>Elective B.<br/>Marketing</b> | COM4E05 | Consumer Behavior                 | 15 | 60 | 75 | 4 |
| IV                               | COM4E06 | Advertising & Sales<br>Management | 15 | 60 | 75 | 4 |
|                                  | COM4E07 | Services Marketing                | 15 | 60 | 75 | 4 |
|                                  | COM4E08 | Logistics Management              | 15 | 60 | 75 | 4 |

|                                                   |         |                                       |    |    |    |   |
|---------------------------------------------------|---------|---------------------------------------|----|----|----|---|
| <b>Elective C.<br/>International<br/>Business</b> | COM4E09 | International Business<br>Environment | 15 | 60 | 75 | 4 |
| IV                                                | COM4E10 | Foreign Trade Management              | 15 | 60 | 75 | 4 |
|                                                   | COM4E11 | International Banking                 | 15 | 60 | 75 | 4 |
|                                                   | COM4E12 | International Marketing               | 15 | 60 | 75 | 4 |

**KANNUR UNIVERSITY**  
**M Sc COMPUTER SCIENCE**  
**Course Structure and Scheme of Evaluation (From 2014 Admission)**  
**(CBSS- For affiliated Colleges)**

***CREDIT DISTRIBUTION***

| <b>Semester</b> | <b>Core</b> | <b>Elective</b> | <b>Practical</b> | <b>Project</b> | <b>Total</b> |
|-----------------|-------------|-----------------|------------------|----------------|--------------|
| <b>1</b>        | <b>17</b>   | <b>0</b>        | <b>3</b>         | <b>0</b>       | <b>20</b>    |
| <b>2</b>        | <b>16</b>   | <b>0</b>        | <b>5</b>         | <b>0</b>       | <b>21</b>    |
| <b>3</b>        | <b>13</b>   | <b>3</b>        | <b>5</b>         | <b>0</b>       | <b>21</b>    |
| <b>4</b>        | <b>2</b>    | <b>9</b>        | <b>0</b>         | <b>7</b>       | <b>18</b>    |
| <b>Total</b>    | <b>48</b>   | <b>12</b>       | <b>13</b>        | <b>7</b>       | <b>80</b>    |

**COURSE STRUCTURE**

**SEMESTER 1**

| <b>Course Code</b> | <b>Course title</b>                    | <b>Instructional Hrs/week</b> |          |          | <b>MARKS</b> |            |              | <b>Credit</b> |
|--------------------|----------------------------------------|-------------------------------|----------|----------|--------------|------------|--------------|---------------|
|                    |                                        | <b>L</b>                      | <b>P</b> | <b>T</b> | <b>CA</b>    | <b>ESA</b> | <b>TOTAL</b> |               |
| MCS1C01            | Discrete Mathematics                   | 3                             | 0        | 1        | 20           | 80         | 100          | 3             |
| MCS1C02            | Computer Organization and Architecture | 3                             | 0        | 1        | 20           | 80         | 100          | 3             |
| MCS1C03            | Digital Systems and Microprocessors    | 4                             | 0        | 0        | 20           | 80         | 100          | 4             |
| MCS1C04            | Operating Systems                      | 3                             | 0        | 1        | 20           | 80         | 100          | 3             |
| MCS1C05            | Introduction to Programming            | 4                             | 0        | 0        | 20           | 80         | 100          | 4             |
| MCS1P01            | Lab – I ( IP/OS)                       | 0                             | 8        | 2        | 20           | 80         | 100          | 3             |
| <b>Total</b>       |                                        | <b>17</b>                     | <b>8</b> | <b>5</b> | <b>120</b>   | <b>480</b> | <b>600</b>   | <b>20</b>     |

## SEMESTER 2

| Course Code | Course title                         | Instructional Hrs/week |    |   | MARKS |     |       | Credit |
|-------------|--------------------------------------|------------------------|----|---|-------|-----|-------|--------|
|             |                                      | L                      | P  | T | CA    | ESA | TOTAL |        |
| MCS2C06     | Java Programming                     | 3                      | 0  | 0 | 20    | 80  | 100   | 3      |
| MCS2C07     | Data Structures& Algorithms          | 3                      | 0  | 0 | 20    | 80  | 100   | 3      |
| MCS2C08     | Database Management Systems          | 3                      | 0  | 0 | 20    | 80  | 100   | 3      |
| MCS2C09     | Computer Networks                    | 3                      | 0  | 0 | 20    | 80  | 100   | 3      |
| MCS2C10     | Formal Languages and Finite Automata | 3                      | 0  | 0 | 20    | 80  | 100   | 3      |
| MCS2P02     | Lab – II ( Java/DS/DBMS)             | 0                      | 7  | 1 | 20    | 80  | 100   | 3      |
| MCS2P03     | Case Study I                         | 0                      | 3  | 2 | 10    | 40  | 50    | 2      |
| MCS2C11     | Seminar                              | 0                      | 0  | 2 | 50    | 0   | 50    | 1      |
| Total       |                                      | 15                     | 10 | 5 | 180   | 520 | 700   | 21     |

## SEMESTER 3

| Course Code | Course title                                  | Instructional Hrs/week            |   |   | MARKS |     |       | Credit |   |
|-------------|-----------------------------------------------|-----------------------------------|---|---|-------|-----|-------|--------|---|
|             |                                               | L                                 | P | T | CA    | ESA | TOTAL |        |   |
| MCS3C12     | Computer Graphics                             | 3                                 | 0 | 0 | 20    | 80  | 100   | 3      |   |
| MCS3C13     | System Programming & Compiler Design          | 3                                 | 0 | 0 | 20    | 80  | 100   | 3      |   |
| MCS3C14     | System Administration and Network Programming | 3                                 | 0 | 0 | 20    | 80  | 100   | 3      |   |
| MCS3C15     | Software Engineering                          | 3                                 | 0 | 0 | 20    | 80  | 100   | 3      |   |
| MCS3C16     | Research methodology                          | 1                                 | 0 | 1 | 50    | 0   | 50    | 1      |   |
| ELECTIVE I  | MCS3E01                                       | Digital Signal Processing         | 3 | 0 | 0     | 20  | 80    | 100    | 3 |
|             | MCS3E02                                       | Probability and Statistics        |   |   |       |     |       |        |   |
|             | MCS3E03                                       | Fuzzy Systems                     |   |   |       |     |       |        |   |
|             | MCS3E04                                       | Design and Analysis of Algorithms |   |   |       |     |       |        |   |
|             | MCS3E05                                       | Information Security              |   |   |       |     |       |        |   |
| MCS3P04     | Lab – III (CG /NP&A/SP&CD)                    | 0                                 | 6 | 2 | 20    | 80  | 100   | 3      |   |
| MCS3P05     | Case study II                                 | 0                                 | 3 | 2 | 10    | 40  | 50    | 2      |   |
| Total       |                                               | 16                                | 9 | 5 | 180   | 520 | 700   | 21     |   |

## SEMESTER 4

| Course Code | Course title      | Instructional Hrs/week      |    |   | MARKS |     |       | Credit |   |
|-------------|-------------------|-----------------------------|----|---|-------|-----|-------|--------|---|
|             |                   | L                           | P  | T | CA    | ESA | TOTAL |        |   |
| ELECTIVE 2  | MCS4E06           | Digital Image Processing    | 3  | 0 | 0     | 20  | 80    | 100    | 3 |
|             | MCS4E07           | Digital Speech Processing   |    |   |       |     |       |        |   |
|             | MCS4E08           | Operations Research         |    |   |       |     |       |        |   |
|             | MCS4E09           | Linux Kernel                |    |   |       |     |       |        |   |
|             | MCS4E10           | Simulation and Modeling     |    |   |       |     |       |        |   |
| ELECTIVE 3  | MCS4E11           | Mobile Computing            | 3  | 0 | 0     | 20  | 80    | 100    | 3 |
|             | MCS4E12           | Pattern Recognition         |    |   |       |     |       |        |   |
|             | MCS4E13           | Artificial Neural Networks  |    |   |       |     |       |        |   |
|             | MCS4E14           | High Performance Computing  |    |   |       |     |       |        |   |
|             | MCS4E15           | Visual Cryptography         |    |   |       |     |       |        |   |
| ELECTIVE 4  | MCS4E16           | Linux Device Drivers        | 3  | 0 | 0     | 20  | 80    | 100    | 3 |
|             | MCS4E17           | Data Mining                 |    |   |       |     |       |        |   |
|             | MCS4E18           | Natural Language Processing |    |   |       |     |       |        |   |
|             | MCS4E19           | Cyber Forensic              |    |   |       |     |       |        |   |
|             | MCS4E20           | Artificial Intelligence     |    |   |       |     |       |        |   |
| MCS3Pr04    | Project           | 0                           | 16 | 5 | 20    | 80  | 100   | 7      |   |
| MCS4C17     | General Viva Voce | -                           | -  | - | -     | 100 | 100   | 2      |   |
| Total       |                   | 9                           | 16 | 5 | 80    | 420 | 500   | 18     |   |



  
 Dr. DOMINIC THOMAS  
 Principal  
 S.E.S. COLLEGE  
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