



# **GURUDEV ARTS & SCIENCE COLLEGE**

( Affiliated to KANNUR UNIVERSITY )

Managed by the Catholic Diocese of Bathery

## **DVV CLARIFICATIONS**

### **Criterion 1**

#### **Curricular Aspects**

#### **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.

Submitted to National Assessment and Accreditation Council (NAAC)

**PROGRAMME WISE UNIVERSITY SYLLABUS SPECIFYING THE  
COURSE, PROJECT WORK/FIELD WORK/INTERNSHIP**

# KANNUR UNIVERSITY

## Course Structure for BBM Programme

Working Days per Semester : 90

Credits for Common Courses : 38

Credits for Core Courses : 65

Credits for Complimentary Courses : 13

Credits for Open Courses : 4

Total Credits for the Programme : 120

5  
4  
3  
2

Table of Core Courses

No	Semester	Course Code	Title of the course	Contact Hour/week	Credits
1	First	1B01BBM	Methodology of Business Studies	5	4
2	Second	2B02BBM	Principles & Practices of Management	5	4
3	Third	3B03BBM	Financial Accounting	5	4
4	Third	3B04BBM	Business Environment	4	4
5	Third	3B05BBM	Industrial Visit & Preparation of Report	4	2
6	Fourth	4B06BBM	Financial Management	5	4
7	Fourth	4B07BBM	Marketing Management	4	4
8	Fourth	4B08BBM	Human Resource Management	4	4
9	Fifth	5B09BBM	Organisational Behaviour	5	4
10	Fifth	5B10BBM	Business Research Methods	4	3
11	Fifth	5B11BBM	Operations Management	5	4
12	Fifth	5B12BBM	Emerging Trends in Management	4	2
13	Fifth	5B13BBM	International Business	5	4
14	Sixth	6B14BBM	Specialisation Course	5	4
15	Sixth	6B15BBM	Specialisation Course	5	4
16	Sixth	6B16BBM	Specialisation Course	5	4
17	Sixth	6B17BBM	Specialisation Course	5	4
18	Sixth	6B18BBM	Organisational Training /Project Work	3	2





## SEMESTER-VI

### 6B18 BBM ORGANISATIONAL TRAINING & PROJECT WORK

Objective	<ul style="list-style-type: none"><li>· To understand about different types of organizational structures and about the various functional areas in an organization</li><li>· To expose the students to work environment existing in an industrial concern and to help them to understand about the general workplace behavior</li><li>· To have awareness as to how the theoretical aspects learned in the class rooms are applied in real industrial situations.</li><li>· To gain experience in Preparing reports about Organizational Study</li></ul>		
Pedagogy	Lecturers ,Assignments, Practical Exercises, Case Discussion, Seminars etc.		
Core Course	4 Credits	4 Teaching hours. per week	Internal viva voce and Project Evaluation. Marks 50 & External viva voce and Project Evaluation. Marks 100

- During the sixth semester the candidate shall do a project for a business organization.
- The candidate shall prepare and submit a project report to the Department. The report shall be printed and spiral bound with not less than 50 A4 size pages.
- The project report should be submitted to the Head of the Department one month before the last working day of the sixth semester.

#### Project work shall have the following stages

- Project proposal presentation
  - Field work and data analysis
  - Report writing
  - Draft project report presentation
  - Final project report submission
- The project shall be done individually.
  - The candidate shall prepare at least two copies of the report: one copy for submission to the Department and one copy for the student

#### Duration of project work

The duration for project work is 3 weeks



  
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### Structure of the Report

- Title page
- Certificate from the organization ( for having done the project work.
- Certificate from guide
- Acknowledgements
- Contents
- Chapter I : Introduction (Objectives, Scope, Data Collection, Duration of the study.
- Chapter II: Industry, Company, Product Profile
- Chapters III :Review of Literature ( Functional Departments.
- Chapter IV: Data Analysis & Interpretation, SWOT
- Chapter V : Summary, Findings and Recommendations.
- Appendix ( Questionnaire, specimen copies of forms, other exhibits etc..
- Bibliography ( Details of books, journals etc.

### Evaluation of Project Report (Max Marks :150)

The project report shall be subject to double evaluation

- The candidate should appear for the internal viva and Report Evaluation , Marks :50 (25 + 25)
- The candidate should also appear for the External Viva Voce and Project Evaluation, Marks : 50 (25 +25).



  
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### Scheme for Core Course (Chemistry)

No	Semester	Course Code	Title of the course	Contact Hours/week	Credits
1	I	1B01CHE	Methodology of Chemistry as Discipline of Science	2	2
2	I	1B02CHE	Core course Practical -I Volumetric Analytics Part- I	2	-
3	II	2B03CHE	Theoretical and Inorganic Chemistry	2	2
4	II	2B02CHE	Core course practical -I Volumetric Analytics Part -II	2	4
5	III	3B04 CHE	Inorganic Chemistry-I	3	3
6	III	3B05CHE	Core Course Practical -I I Inorganic Qualitative Analysis & Preparation Part -I	2	-
7	IV	4B06 CHE	Inorganic Chemistry-II	3	3
8	IV	4B05 CHE	Core Course Practical -I I Inorganic Qualitative Analysis & Preparation Part -II	2	2
9	V	5B07 CHE	Physical Chemistry -I	5	4
10	V	5B08 CHE	Physical Methods in Chemistry	4	4
11	V	5B09 CHE	Organic Chemistry-I	4	4
12	V	5B10 CHE	Core Course Practical-III Gravimetric Analysis	5	-
13	V	5B11 CHE	Core Course Practical-IV Organic Chemistry	5	-
14	V	5B12 CHE	Project /Industrial Visit	-	4
15	VI	6B13 CHE	Physical Chemistry -II	5	4
16	VI	6B14 CHE	Organic Chemistry-II	4	4
17	VI	6B15 CHE	Elective A.Environmental Chemistry B. Food Chemistry C. Industrial Chemistry D. Synthetic Organic Chemistry E. Analytical Chemistry F. Nano Materials -Synthesis & Practice	4	4
18	VI	6B10&11CHE	Core Course Practicals -III&IV	5	6
19	VI	6B16 CHE	Core Course Practical Physical Chemistry	5	4



## VIVA VOCE

Viva voce examination based on practical will be conducted along with every practical examination.

## STUDY TOUR

Students are required to visit at least one Laboratory/factory/Research Institute of eminence during the course and submit the Study tour report separately along with practical records at the time of practical Exam (6<sup>th</sup> Semester).

## PROJECT REPORT:

Students should undertake a group project work related to chemistry and submit the report along with practical records during VI semester practical. (Guide lines given in Annexure I)

### General Guidelines of Project Work

1. Students should undertake the project work related to Biochemistry only.
2. The UG level project work is a group activity, maximum number of students being limited to five. However each student should prepare and submit the project report separate.
3. The matter should be typed on A-4 size paper with Times New Roman font of size 12 points, with double spacing between the lines and margins of 1.5' at the left, 1' at the right, 1' each at the top and bottom.
4. The report should be printed in plain white paper in black ink only. Color inks for charts and graphs can be used, provided it does not hamper the readability. The logo of the college can be displayed in the report.
5. The project report should be hard bound/ spiral bound / paper back.





## KANNUR UNIVERSITY

## POST GRADUATE PROGRAMMES IN CHEMISTRY

(Revised syllabi under choice credit based semester system with effect from 2014 admission)

The syllabi of MSc programmes in chemistry offered in the affiliated colleges of the university under semester system has been revised in the light of the decision of the Board of studies meeting in chemistry (PG). The revised syllabi are to be effective from 2014 admission onwards. There are two independent PG programmes in chemistry, namely MSc Chemistry and MSc Material Chemistry. All these MSc programmes are equivalent in all respect for employment and higher studies. Each of these two PG programmes shall extend over a period of two academic years comprising of four semesters, each of 450 hours in 18 weeks duration.

Candidate with bachelor degree in Chemistry with Mathematics and Physics as subsidiary subjects are eligible for admission to these courses. Rules regarding minimum marks required for the bachelor degree, reservation etc., will be as that laid down by the University from time to time. The course work shall be in accordance with the scheme of valuation and syllabus prescribed. The course consists of four theory papers and three practical papers (to be continued in semester II) in the 1<sup>st</sup> semester, three theory papers, one elective paper and three practical papers in the II<sup>nd</sup> semester, three theory papers, one elective paper and three practical papers (to be continued in semester iv) in the III<sup>rd</sup> semester. Two theory papers, one elective paper, three practical papers, a project and general viva voce in the IV<sup>th</sup> semester. The students may select one elective paper from each of the elective group. Each theory paper and elective paper is of 3 hours duration and each practical paper is of 6 hours duration. The total marks for the entire course shall be 1500 and total credit for the entire course shall be 80. 20% of marks shall be allocated for internal assessment of theory and practical papers each. The syllabus and scheme of examination is given below.

## Course Structure

Semester I								
Semester	Paper code	Title	Hours allotted per week	Duration of exam	Marks for ESA	Marks for CA	Total	Credit
Semester I	CHE1C.01	Theoretical Chemistry I	4	3	60	15	75	4
	CHE1C.02	Inorganic Chemistry I	4	3	60	15	75	4
	CHE1C.03	Organic Chemistry I	4	3	60	15	75	4
	CHE1C.04	Physical Chemistry I	4	3	60	15	75	4
	CHE1P.01	Inorganic Chemistry Practical I	3	To be continued in semester II				
	CHE1P.02	Organic Chemistry Practical I	3					
	CHE1P.03	Physical Chemistry Practical I	3					





Semester II								
Semester II	CHE2E.01/02	Elective paper I*	4	3	60	15	75	4
	CHE2C.05	Theoretical Chemistry II	4	3	60	15	75	4
	CHE2C.06	Organic Chemistry II	4	3	60	15	75	4
	CHE2C.07	Physical Chemistry II	4	3	60	15	75	4
	CHE1&2P.01	Inorganic Chemistry Practical I	3	6	40	10	50	2
	CHE1&2P.02	Organic Chemistry Practical I	3	6	40	10	50	2
	CHE1&2P.03	Physical Chemistry Practical I	3	6	40	10	50	2
Semester III								
Semester III	CHE3E.03/04	Elective paper II*	4	3	60	15	75	4
	CHE3C.08	Inorganic Chemistry II	4	3	60	15	75	4
	CHE3C.09	Organic Chemistry III	4	3	60	15	75	4
	CHE3C.10	Physical Chemistry III	4	3	60	15	75	4
	CHE3P.04	Inorganic Chemistry Practical II	3	To be continued in semester IV				
	CHE3P.05	Organic Chemistry Practical II	3					
	CHE3P.06	Physical Chemistry Practical II	3					
Semester IV								
Semester IV	CHE4C.11	Inorganic Chemistry III	4	3	60	15	75	4
	CHE4C.12	Inter disciplinary topics and instrumentation techniques	4	3	60	15	75	4
	CHE4E.05/06	Elective Paper III*	4	3	60	15	75	4
	CHE3&4P.04	Inorganic Chemistry Practical II	3	6	40	10	50	2
	CHE3&4P.05	Organic Chemistry Practical II	3	6	40	10	50	2
	CHE3&4P.06	Physical Chemistry Practical II	3	6	40	10	50	2
	CHE4Pr	Project	4		32	8	40	4
	CHE4C13	Viva Voce (General)			35		35	4



\*The students may choose one elective from each of the following

\*Elective Paper I 01. Environmental chemistry and disaster management

02. Ceramics and composites

\*Elective Paper II 03. Polymers and material chemistry

04. Computational chemistry

\*Elective Paper III 05. Nanomaterial chemistry

06. Medicinal chemistry

- |                                     |      |
|-------------------------------------|------|
| a. Total marks for semester – I     | 300  |
| b. Total marks for semester – II    | 450  |
| c. Total marks for semester – III   | 300  |
| d. Total marks for semester – IV    | 450  |
| e. Total marks for semester I to IV | 1500 |

## 2. Project Work and Viva Voce

a) Each students shall carry out a project work in one of the broad areas of theoretical/Organic/physical/environmental/inorganic chemistry for a period of minimum 12 weeks duration in the IV<sup>th</sup> semester under the supervision of a teacher of the department. A student may, in certain cases be permitted to do the project work in an industrial/research organization on the recommendation of the department coordinator. In such cases, one of the teachers from the department shall act as co-supervisor.

b) The candidate shall submit 2 copies of the dissertation based on the results of the project work at the end of the program.

c) Every student has to do the project work independently. No group projects are accepted. The project should be unique with respect to title, project content and project layout. No two project report of any students should be identical, in any case as this may lead to the cancellation of project report by the university.

d) The ESE of the project work shall be conducted by two external examiners. The evaluation of the project will be done at two stages.





- i. Internal evaluation (supervising teacher/s will assess the project and award internal marks)
  - ii. External evaluation (by external examiners appointed by the university)
- e) Pass conditions
- i. The students shall declare to pass the project report course if she/he secures minimum 40% marks (internal and external put together). In an instance of inability of obtaining a minimum of 40% marks, project work may be redone and the report may be resubmitted along with subsequent exams through parent department. There shall be no improvement chance for the marks obtained in the project report.

f) Assessment of different components of project may be taken as below

Internal (Viva) 20% of total		External (80% of Total)	
Components	% of internal marks	Components	% of external marks
Punctuality	10	Relevance of topic	5
Use of data	10	Statement of the topic	10
Scheme Organization of report	30	Methodology/reference/bibliography	15
Viva-voce	50	Presentation of facts/figures/language style/diagrams etc	20
		Quality of analysis/ use of statistical tolls	15
		Findings and recommendations	10
		Viva-voce	25

g) Viva voce shall be conducted by two examiners; both of them shall be external examiners. Viva-voce based on theory and practical papers of all semesters including elective papers.

### 3. Continuous assessment

a) This assessment shall be based on predetermined transparent system involving periodic written tests, assignments, seminars and attendance in respect of theory courses and based on tests, lab skill, record/viva and attendance in respect of practical courses.

b) The percentage of marks assigned to various components for internal is as follows

#### Theory

	Components	% of internal marks
1)	Two test paper	40
2)	Assignments	20
3)	Seminars/Presentation of case study	20
4)	Attendance	20



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## Components of Core (Chemistry)

The core courses of BSc Chemistry programme will consists 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 Practicals5 Physical Chemistry	3	5
18	VI	5B13CHE & 6B13CHE	Project & Industrial Visit	2	1—SemV 1---Sem VI

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





### 8. Chemical Kinetics – Hydrolysis of methyl acetate using HCl acid.

#### Note:

1. A minimum number of 8 experiment should be done
2. Electronic balance may be used for practical work.

#### VIVA VOCE

Viva voce examination based on practical will be conducted along with every practical examination.

#### REFERENCES

1. A.I.Vogel - A Text Book of Qualitative Analysis including semi-micro methods
2. V.V.Ramanujan – Semi micro Qualitative Analysis.
3. A.I.Vogel – A Text Book of Quantitative Inorganic Analysis.
4. A.I.Vogel - Elementary Practical Organic Chemistry.
5. A.O.Thomas – Practical Chemistry for B.Sc Chemistry.
6. A Findlay – Practical Physical Chemistry.
7. R.C.Das & E Behara – Experimental Physical Chemistry.
8. N.K.Vishnoi – Advanced Practical Chemistry.
9. Y.B. Yadav, Practical Physical Chemistry.

#### STUDY TOUR

Students are required to visit at least one Laboratory/factory/Research Institute of eminence during the course and submit the Study tour report separately along with practical records at the time of practical Exam (6<sup>th</sup> Semester).

#### PROJECT REPORT:

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#### General Guidelines of Project Work

1. Students should undertake the project work related to Chemistry only.
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- 3 The matter should be typed on A-4 size paper with Times New Roman font of size 12 points, with double spacing between the lines and margins of 1.5" at the left, 1" at the right, 1" each at the top and bottom.
- 4 The report should be printed in plain white paper in black ink only. Color inks for charts and graphs can be used, provided it does not hamper the readability. The logo of the college can be displayed in the report.
- 5 The project report should be hard bound/ spiral bound / paper back.

#### **Format of the Project Report**

<b>Title</b>
<div style="border: 1px solid black; border-radius: 50%; width: 60px; height: 60px; margin: 0 auto; display: flex; align-items: center; justify-content: center;"><div style="text-align: center; padding: 5px;">emb lem</div></div>
<b>Name of the student</b>
<b>Department</b>
<b>College</b>
<b>Month &amp; Year</b>





emb  
lem

**Project Report**

**Submitted to Kannur University in partial fulfillment**

**for the B.Sc Degree (Chemistry)**

**By**

**Name of the student**

**Reg. No.**

**Name & Designation Project Guide:**

**Signature Name and Designation**

**of Head of the Dept.**

**Examiners:**

**1.**

**2.**



Page I : Certificate (By Project Guide)

Page 2. Declaration (By Student)

Page 3. Acknowledgement

Page 4 . Contents

Chapter I : Introduction

Chapter II : Aim of the project/Problem Statement

Chapter III : Review

Chapter IV : The Study/Present work

Chapter V : Data Analysis/ Discussion

Chapter VI :Conclusion

Bibliography




  
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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>	2	3	10	40	50
5	<b>Core course (Practical I-4B05PHY)*</b>	2	-	-	-	-
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>	2	3	10	40	50
5	<b>Core course (Practical I-4B05PHY)*</b>	2	-	-	-	-
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>	3	3	10	40	50
4	<b>Core course (Practical I-4B05PHY)*</b>	2	-	-	-	-
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	Core course ( Theory-4B04PHY )	3	3	10	40	50
4	Core course (Practical I -4B05PHY )	2	4	10	40	50
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	Core course ( Theory-5B06PHY)	3	3	10	40	50
3	Core course ( Theory-5B07PHY )	3	3	10	40	50
4	Core course (Theory-5B08PHY )	3	3	10	40	50
5	Core course (Theory-5B09PHY)	3	3	10	40	50
6	Core course (Theory-5B10PHY)	3	3	10	40	50
7	Core course (Practical II -6B16PHY)!	4	-	-	-	-
8	Core course ( Practical III -6B17PHY)!	4	-	-	-	-
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	Core course (Theory -6B11PHY	3	3	10	40	50
2	Core course ( Theory-6B12PHY)	3	3	10	40	50
3	Core course ( Theory-6B13PHY )	3	3	10	40	50
4	Core course (Theory-6B14PHY )	3	3	10	40	50
5	Core course (Theory-6B15PHY) - Elective	3	3	10	40	50
6	Core course (Practical II-6B16PHY )	4	4	10	40	50
7	Core course ( Practical III-6B17PHY)	4	4	10	40	50
8	Project (6B18PHY)	2	2	5	20	25
9	Study tour (6B19PHY)	-	-	-	-	-
Total		25	25	75	300	375





11. Phase Shift Oscillator using Transistor
12. Bridge Rectifier- study of ripple factor with and without filter (by soldering)
13. Op-amp - inverting and non-inverting amplifier, voltage follower
14. Op-amp - differentiator & integrator
15. Wein Bridge Oscillator using IC 741
16. Realization of logic gates using transistors(by soldering)

**Computer Programming using python\***

1. Solution of equations by bisection method (square root of a number)
2. Solution of equations by Newton - Raphson method (cube root of a number)
3. Numerical Integration - Trapezoidal and Simpson's  $1/3^{\text{rd}}$  rule
4. Solution of differential equation Runge - Kutta method (Harmonic Oscillator)

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\*Students must be encouraged to use Linux operating system.

**Books for Reference:**

1. Practical Physics by Sasikumrar (PHI)
2. Core course Experimental Physics by Dr. P Sethumadhavan & Dr. A K Anila (Manjusha publication, Vol. I and Vol. II)
3. Electronics Lab Manual by Dr. K A Navas (Rajath Publishers, Vol. I and Vol. II)
4. Electronics Laboratory Primer by S Poorna Chandra & B Sasikala (S Chand)
5. Python for Education by Ajith Kumar B P (Calicut University Central Co-Operative Stores)
6. Core Course Practical Physics I and II by C J Babu & K Vijayalakshmi (Calicut University Central Co-Operative Stores).

**BSc (Physics): Core XVIII**

**6B18PHY: Project**

Semester- VI,

Credit-2,

Contact hours/week: 2 hrs.

Max. Ext. Marks -20,

Max. Int. Marks -5.

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To be done under the guidance of a teacher.

Topics for project must be selected with the guidance of the concerned teacher.

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**Scheme of Core course (Biochemistry) .**

No.	Semester	Course code	Title of the Course	Credits	Contact hr/week
1	I	1B01BCH	Bio organic Chemistry -I	3	4
2	II	2B02BCH	Physical Aspects in Biochemistry	3	4
3	III	3B03BCH	Biomolecules	3	3
4	III	3B04BCH & 3B05BCH	Core course 4 Practical 1,Part I Core course 5 Practical 2,PartI	-	4
5	IV	4B06BCH	Physiological Aspects of Biochemistry	3	3
6	IV	4B04BCH & 4B05BCH	Core course 4 Practical 1,Part II Core course 5 Practical 2,PartII	3+4	4
7	V	5B07BCH	Bioenergetics and general metabolism	4	5
8	V	5B08BCH	Computational techniques in biochemistry	4	4
9	V	5B09BCH	Immunology&Immunological Techniques	4	4
10	V	5B10BCH	Genetics I	4	4
11	V	5B11BCH & 5B12BCH	Core course 11 Practical 3,Part I Core course 12 Practical 4,PartI	-	6
12	VI	6B13BCH	Clinical biochemistry	4	4
13	VI	6B14BCH	Genetics-II	4	4
14	VI	6B15BCH	Elective	4	4
15	VI	6B11BCH & 6B12BCH	Core course 11 Practical 3,Part II Core course 12 Practical 4,PartII	4+3	9
16	VI	6B16BCH	Core Course 16 Project/Industrial Visit	2	4



Table 10. Type of Questions & Marks for External Examination- Complementary Biochemistry

	Total Questions	No. Of Questions to be answered	Mark for each Question	Total Marks
Very short answer	5	5	1	5
Short answer	6	4	2	8
Short essay/Problems	5	3	3	9
Essay	4	2	5	10
	20	14		32

Table 11. Type of Questions & Marks for External Examination - Open course Biochemistry

	Total Questions	No. Of Questions to be answered	Mark for each Marks for each Question	Total Marks
Very short answer	5	5	1	5
Short answer	5	3	2	6
Short essay/Problems	5	3	3	9
Total	15	11		20

#### Distribution of marks for the practical examination:

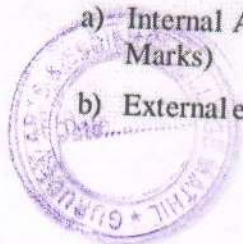
The distribution of marks will be decided by the concerned Board of Examinations.

## ANNEXURE I

### Guidelines for the Evaluation of Projects

#### 1. PROJECT EVALUATION

1. Evaluation of the Project Report shall be done under Mark System.
2. The evaluation of the project will be done at two stages:
  - a) Internal Assessment (supervising teachers will assess the project and award internal Marks)
  - b) External evaluation (external examiner appointed by the University)





c) Marks secured for the project will be awarded to candidates, combining the internal and external Marks

3. The internal to external components is to be taken in the ratio 1:4. Assessment of different components may be taken as below.

Internal(20% of total)		External( 80% of Total)	
Components	% of internal Marks	Components	% of external Marks
Punctuality	20	Relevance of the Topic, Statement of Objectives, Methodology (Reference/ Bibliography)	20
Use of Data	20	Presentation, Quality of Analysis/Use of Statistical tools, Findings and recommendations	30
Scheme/Organization of Report	30	Viva-Voce	50
Viva-Voce	30		

4. Internal Assessment should be completed 2 weeks before the last working day of VI<sup>th</sup> semester.
5. Internal Assessment marks should be published in the department.
8. Project evaluation shall be done in the VI semester along with practical exams.
9. Chairman Board of Examinations, may at his discretion, on urgent requirements, make certain exception in the guidelines for the smooth conduct of the evaluation of project.

## 2. PASS CONDITIONS-

1. Submission of the Project Report and presence of the student for viva are compulsory for internal evaluation. No marks shall be awarded to a candidate if she/he fails to submit the Project Report for external evaluation.
2. The student should get a minimum of 40 % marks for pass in the project.
3. There shall be no improvement chance for the Marks obtained in the Project Report.
4. In an instance of inability of obtaining a minimum of 40% marks, the project work may be re-done and the report may be re-submitted along with subsequent exams through parent department.



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### Scheme of B.Sc. Mathematics (Core)

Seme ster	Course Code	Title of the Course	Contact hours	Credits	Ext. Exam Hours	Marks			
						External		Inter nal	Total
						Agg.	Max.		
I	1B01 MAT	Differential Calculus	72	4	3	72	48	12	60
II	2B02 MAT	Integral Calculus	72	4	3	72	48	12	60
III	3B03 MAT	Elements of Mathematics I	90	4	3	72	48	12	60
IV	4B04 MAT	Elements of Mathematics II	90	4	3	72	48	12	60
V	5B05 MAT	Real Analysis	90	4	3	72	48	12	60
	5B06 MAT	Abstract Algebra	90	4	3	72	48	12	60
	5B07 MAT	Differential Equations, Laplace Transform and Fourier Series	90	4	3	72	48	12	60
	5B08 MAT	Vector Calculus	72	4	3	72	48	12	60
	5B09 MAT	Graph Theory	72	3	3	72	48	12	60
	5D-----	Open Course	36	2	2	30	20	5	25
VI	6B10 MAT	Linear Algebra	90	4	3	72	48	12	60
	6B11 MAT	Numerical Methods and Partial Differential Equations	90	4	3	72	48	12	60
	6B12 MAT	Complex Analysis	90	4	3	72	48	12	60
	6B13 MAT	Mathematical Analysis and Topology	90	4	3	72	48	12	60
	Elective		90	3	3	72	48	12	60
	6B14A MAT	Operations Research							
	6B14B MAT	Mathematical Economics							
	6B14C MAT	Classical Mechanics							
	6B14D MAT	Programming in Python	60		2	46	30		
		Theory Practical	30		2	26	18		
	6B15 MAT	Project	---	2	---	---	28	7	35
Total (Core + Project + Open course)			---	54+2+2 = 58	---	---	672+ 28+20 =720	168+ 7+5 =180	840+ 35+25 =900





## 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).



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## M.SC DEGREE PROGRAMME IN MATHEMATICS (KUCBSS)

### SCHEME AND SYLLABUS (2017 ADMISSION)

#### 1. COURSE STRUCTURE:

Course Code	Course Title	Lecture Hours/ Week	Duration of Examination (Hours)	Credits	Marks
-------------	--------------	------------------------	---------------------------------------	---------	-------

#### FIRST SEMESTER

MAT1C01	Basic Abstract Algebra	5	3	4	100
MAT1C02	Linear Algebra	5	3	4	100
MAT1C03	Real Analysis	5	3	4	100
MAT1C04	Basic Topology	5	3	4	100
MAT1C05	Differential Equations	5	3	4	100
Total				20	500

#### SECOND SEMESTER

MAT2C06	Advanced Abstract Algebra	5	3	4	100
MAT2C 07	Measure and Integration	5	3	4	100
MAT2C08	Topology	5	3	4	100
MAT2C09	Complex Analysis	5	3	4	100
MAT2C10	Partial Differential Equations& integral equations	5	3	4	100
Total				20	500





### THIRD SEMESTER

MAT3C11	Number Theory	5	3	4	100
MAT3C12	Functional Analysis	5	3	4	100
MAT3C13	Complex Function Theory	5	3	4	100
MAT3C14	Advanced Real Analysis	5	3	4	100
MAT3E...	Elective-1	5	3	4	100
Total				20	500

### FOURTH SEMESTER

MAT4C15	Operator Theory	5	3	4	100
MAT4C16	Differential Geometry	5	3	4	100
MAT4E...	Elective-2	5	3	4	100
MAT4D01	Project Work	10	-	4	100
MAT4V01	Viva-Voce	-	-	4	100
Total				20	500

Total Marks: 2000

Total Credits: 80

#### Elective Course for Third Semester :

1. MAT3E01 Graph Theory
2. MAT3E02 Probability Theory
3. MAT3E03 Calculus of Variations

#### Elective Course for Fourth Semester :

1. MAT4E04 Commutative Algebra
2. MAT4E05 Fourier and Wavelet Analysis
3. MAT4E06 Operations Research



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## 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
I	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	Elective (Choose one among three) Malayalam Literature in Translation	20	80	100	4	5
	ENG 1E02	Media Studies					
	ENG 1E03	English Language Teaching					
	<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
II	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	Elective (Choose one among three) Translation Studies	20	80	100	4	5
	ENG 2E05	World Drama					
	ENG 2E06	Dalit Writings					
	<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
III	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 ENG 3E08 ENG 3E09	Elective (Choose one among three) Introduction to Cultural Studies European Fiction 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
IV	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>	<b>25</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)
External Evaluation	1620
Total Marks	2000
Total Credits	80
Total Hours	25 per week

\*\*\*\*\*



Jay Leyda (Ed. and Translated) *Sergei Eisenstein: Film Form (Essays in Film Theory)*  
Ed. Manju Jain *Narratives of Indian Cinema*  
Mainspring Publishers *Introducing Film Studies*

### Question paper pattern

Duration: 3 Hrs

Maximum Marks: 80

#### I Essay (40 marks)

- |  |            |
|--|------------|
| (a) One essay of 350 words out of two from Module 1                            | (10 marks) |
| (b) One essay of 350 words out of two from Module 2<br>(From Film Genres only) | (10 marks) |
| (c) One essay of 350 words out of two from Module 3                            | (10 marks) |
| (d) One essay of 350 words out of two from Module 4                            | (10 marks) |

#### II Eight out of ten paragraph questions (100 words) from all modules

(8 X 5 = 40 marks)

## ENG 4C15 COMPREHENSION

The Comprehension course comprises only the texts prescribed for the core courses in the PG programme. The question paper will consist of 40 (forty) multiple choice objective type questions and 40 (forty) fill in the blanks questions requiring one word or phrase each as answers.

The questions will test the overall understanding of the topics and the texts prescribed. This course is intended to equip the students to face the UGC-NET and similar examinations. The course will carry 20 internal marks based only on oral test of similar questions.

## ENG PR 16 PROJECT

The students are expected to prepare, under the guidance of a supervising teacher, a dissertation based on an intensive study on any author or a topic of their choice. Dissertation exclusively on texts prescribed for study as part of the M.A. course is to be avoided.

### Guidelines:

- |               |   |  |
|---------------|---|--|
| No. of Copies | : | One typed and hard-bound copy to be submitted to the university    |
| Length        | : | 12000-14000 words (50-60 pages back to back)                       |
| Font          | : | Times New Roman/Calibri, 12 point. Headings 14 points.             |
| Line Spacing  | : | Double space between lines, No additional space between paragraphs |
| Alignment     | : | Left aligned; Headings centralized.                                |





Margins	:	1.6" on left, 1.1 on all other sides.
Citation and Bibliography	:	As per MLA Style sheet (8 <sup>th</sup> edn.)
Deadline for Submission	:	Within 14 days after the date of the last external examination of fourth semester
Internal assessment	:	By the supervising teacher (Max marks: 20)
External valuation	:	At the valuation camp (Max. Marks: 80).

In the Comprehensive Viva in Semester 4, questions are to be asked from the project too.

Criteria for Evaluation (both internal and external)	:	Clarity of thought and expression, Logicity of arguments, Relevance and novelty of the topic, grip over the theoretical/analytical tools, conformity to methodology.
---	---	--

### ENG 4C 17 VIVA VOCE

The viva-voce will be based on all courses including the electives and the project. Questions testing extensive and intensive understanding of the topics and the texts prescribed will be asked. The viva voce board will consist of two external examiners appointed by the university. The viva of one candidate will have the duration of minimum 20 minutes. The course does not carry any internal marks.

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### 1. Table of Core Course

No	Course Code	Title of Course	Hours/Week	Credit	Semester
1	1B01ENG	History of English Language and Literature	6	4	1
2	2B02ENG	Studies in Prose	6	4	2
3	3B03ENG	Linguistics	5	4	3
4	3B04ENG	English in the Internet Era	4	4	3
5	4B05ENG	Studies in Poetry	4	4	4
6	4B06ENG	Literary Criticism	5	5	4
7	5B07ENG	Modern Critical Theory	5	5	5
8	5B08ENG	Drama: Theory and Literature	5	4	5
9	5B09ENG	Studies in Fiction	5	4	5
10	5B10ENG	Women's Writing	5	4	5
11	6B11ENG	Project	3	2	5
12	6B12ENG	Malayalam Literature in Translation ✓	5	4	6
13	6B13ENG	New Literatures in English ✓	5	4	6
14	6B14ENG	Indian Writing in English ✓	5	4	6
15	6B15ENG	Film Studies ✓	5	4	6
16	6B16ENG	Elective 01, 02, 03 ✓	5	4	6

### 2. Table of Electives

No	Course Code	Title of Course	Hours/Week	Credit	Semester
1	6B16(1)ENG	World Literature in Translation	5	4	6
2	6B16(2)ENG	Indian Writing in Translation	5	4	6
3	6B16(3)ENG	Writing for Media	5	4	6

### 3. Open Course

No	Course Code	Title of Course	Hours/Week	Credit	Semester
1	5D01(1)ENG	English for Competitive Examination	2	2	5



  
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## 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



  
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## 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
Elective A. Finance	COM4E01	Security Analysis & Portfolio Management	15	60	75	4
	COM4E02	International Financial Management	15	60	75	4
IV	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
Grand Total					1500	80



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### Scheme Core, General and Open - Courses (BCA)

S.No	Sem	Course Code	Course Name	Hours/Week		Credits
				Theory	Practical	
1	I	1A11BCA	Informatics for Computer Application	3		4
2	I	1B01BCA	Programming in C	2	2	2
3	II	2B02BCA	Digital Systems	3		2
4	II	2B03BCA	Object Oriented Programming Using C++	2		3
5	II	2B04BCA	Lab – I Programming in C			2
6	II	2B05BCA	Lab – II Programming in C++		2	2
7	III	3A12BCA	Data Structure	4	3	4
8	III	3A13BCA	Database Management System	4	2	4
9	III	3B06BCA	Computer Organization	4		3
10	III	3B07BCA	Introduction to Microprocessors	4		3
11	IV	4A14BCA	Numerical Analysis	4		4
12	IV	4B08BCA	Operating System	4		3
13	IV	4B09BCA	Java Programming	4		3
14	IV	4B10BCA	Linux Administration	4		3
15	IV	4B11BCA	Lab-III Data Structures and DBMS			3
16	IV	4B12BCA	Lab-IV Java Programming, Shell Programming and Linux Administration		5	3



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17	V	5B13BCA	Software Engineering	4		3
18	V	5B14BCA	Data Communication & Networks	4		3
19	V	5B15BCA	Enterprise Java Programming	4	4	3
20	V	5B16BCA	C# and .Net Programming	3	4	2
21	V	5D --BCA	Open Course	2		2
22	VI	6B17BCA	Web Technology	2		2
23	VI	6B18BCA	Data Mining & Data Warehousing	4		3
24	VI	6B19BCA	Elective I	4		3
25	VI	6B20BCA	Elective II	4		3
26	VI	6B21BCA	System Software	3		2
27	VI	6B22BCA	Lab – V Enterprise Java Programming			3
28	VI	6B23BCA	Lab – VI .Net Programming			3
29	VI	6B24BCA	Lab – VII Web Technology		3	2
30	VI	6B25BCA	Lab – VIII Project		5	4

### Scheme of Open course for 5<sup>th</sup> semester

Sl. No.	Sem	Course Code	Name of the Course	Hours / Week	Credit
1	V	5D01BCA	Programming with C	2	2
2	V	5D02BCA	Web Technology	2	2
3	V	5D03BCA	Database Management System	2	2

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## 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 existing 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 a 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

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