MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH

(Deemed To Be University U/S 3 OF UGC ACT, 1956), CHENNAI.

12, Vembuliamman Koil Street, West K.K. Nagar, Chennai – 600 078

FACLUTY OF HUMANITIES AND SCIENCE

DEPARTMENT OF COMPUTER SCIENCE

REGULATIONS AND SYLLABUS

(REGULATIONS – 2018)

Effective from the Academic Year 2018 – 2019

MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH

REGULATIONS -2018

Vision

- To be a world-class institution, transforming society through value-based diverse programs and healthcare advancements, leading to the all-around development of human resources, knowledge, innovation, entrepreneurship, and research.

Mission

- To become an institute of eminence by developing world-class professionals in the field of healthcare, science, liberal arts, technology and research with a focus on the societal good.
- To create an enabling state-of-the-art infrastructure, intellectual capital and provide best-in-class learning experience with a freedom to innovate and invent.
- To foster values and ethics so as to develop students and learners into responsible citizens of the Nation and the world.

MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH

FACULTY OF HUMANITIES AND SCIENCE
REGULATIONS -2018

VISION

- Provide quality education which would make learning effective and expand the frontiers of knowledge to serve the society

MISSION

- To be a world class institution committed to develop individuals to meet global challenges.
- To instil a sense of confidence and leadership qualities in the minds of students for the wholesome personality development

$V r Scanth$

PRINCIPAL
FACULTY OF HUMANITIES & SCIENCE
MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH
(Deemed to be University)
No: 12, Vembuliamman Koil Street,
West K.K. Nagar, Chennai-600 078

LIST OF PROGRAMS:

STREAMS IN ARTS

- B.A (Bachelor in English)
- B. Com (Bachelor in Commerce)
- B. Com (CA) (Bachelor in Commerce with Computer Applications)
- B. Com (CS) (Bachelor in Commerce with Corporate Secretary ship)

STREAMS IN SCIENCE

- B.C.A (Bachelor in Computer Applications)
- B.Sc. (Bachelor in Computer Science)
- B.Sc. (Bachelor in Mathematics)
- B.Sc. (Bachelor in Visual Communication)

STREAMS IN PROFESSIONAL PROGRAM

- B.B.A (Bachelor in Business Administration)

MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH

FACULTY OF HUMANITIES AND SCIENCE

REVISED REGULATIONS -2018

In exercise of the powers conferred by the Board of Management, Meenakshi Academy of Higher Education and Research, Chennai here by makes the following Regulations:

1. SHORT TITLE

These Regulations shall be called "THE REGULATIONS FOR B.A., B.Sc., B.C.A., B.Com., AND B.B.A DEGREE PROGRAMS UNDER FACULTY OF HUMANITIES AND SCIENCE OF MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH".

2. COMMENCEMENT

They shall come into force from the academic year 2018 –2019 onwards.

The Revised Regulations and the Syllabus are subject to modification by the Standing Academic Council of MAHER from time to time.

3. TITLE OF THE PROGRAM

It shall be called as Bachelor of Arts (English), Bachelor of Science (Computer Science / Mathematics / Visual Communication), Bachelor of Computer Applications, Bachelor of Commerce (General / Computer Applications / Corporate Secretaryship) and Bachelor of Business Administration.

4. ELIGIBILITY FOR ADMISSION

Candidates should have passed in the Higher Secondary Examination (Academic or Vocational Stream) conducted by the Government of Tamil Nadu or an examination accepted as equivalent thereof by the Academic Council of MAHER and the subjects specified below:

For all B.A., B.Sc., B.C.A., B.Com and B.B.A Degree Programs - Under Faulty of Humanities and Science

S.No.	Program and Branch	Major Subjects Of Study In HSE (+2)
1	B.A English	A Pass in the Higher Secondary Examinations (Academic or Vocational Stream)
2	B.Sc Mathematics	Mathematics or Statistics or Business Mathematics
3	B.Sc Visual Communication	A Pass in the Higher Secondary Examinations (Academic or Vocational Stream)
4	B.Sc Computer Science	Computer Science or Mathematics or Statistics or Business Mathematics
5	B.C.A	Computer Science or Mathematics or Statistics or Business Mathematics
6	B.Com (General)	Accountancy and Commerce
7	B.Com (Computer Applications)	Accountancy, Commerce and Computer Science

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| 8 | B.Com (Corporate Secretaryship) | Accountancy and Commerce |
| 9 | B.B.A | A Pass in the Higher Secondary Examinations (Academic or Vocational Stream) |

5. CRITERIA FOR SELECTION

Students for all Degree Programs shall be admitted based on performance at the Qualifying Examination conducted by the Government of Tamil Nadu or an examination accepted as equivalent thereof by the Academic Council of MAHER.

6. AGE LIMIT FOR ADMISSION

Candidate should have completed the age of 17 years at the time of admission or would complete the age of 17 years on or before 31st December of the year of admission to the first year Degree Program.

7. ELIGIBILITY CERTIFICATE

No candidate from other states shall be admitted to the Degree Program unless the candidate has obtained and produced Eligibility Certificate issued by this University. The candidate has to make an application to MAHER with the Original and Xerox copies of the following documents along with the prescribed fee.

1) Higher Secondary or equivalent Examination Mark Sheet and

2) Transfer Certificate Candidate should obtain Eligibility Certificate before the last date for admission as notified by MAHER.

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8. REGISTRATION

A candidate admitted to the Degree Program of MAHER shall register by remitting the prescribed fees along with the application form for registration duly filled in and forwarded to this MAHER through the Head of the Institution within the stipulated date.

9. DURATION OF THE PROGRAM

The Duration of the program is for a period of three years (Six semesters). Each academic year shall comprise of two semester's viz. Odd and Even semesters. Odd semesters shall be from June / July to October / November and Even Semesters shall be from November / December to April / May. There shall be not less than 90 working days for each semester (Exclusive of the days for the conduct of University end-semester examinations).

10. CUT OFF DATES FOR ADMISSION TO EXAMINATIONS

The candidates admitted from 1st June to 31st July of the academic year be registered to take up their of November of the academic year. There will not be any admission after 31st July for the academic year.

11. CREDIT REQUIRMENTS AND ELIGIBILITY FOR AWARD OFDEGREE

A candidate shall be eligible for the award of the Degree only if he/she has undergone the prescribed course of study under the Faculty of Humanities and Science of MAHER for a period of not less than three academic years and passed the examinations of all the Six Semesters prescribed earning a minimum of 140 credits as per the distribution given in Regulation 12 for Part I, II, III, IV & V and also fulfilled such other conditions as have been prescribed thereof.

12. PROGRAM OF STUDY, CREDITS AND SCHEME OF EXAMINATION.

12.1 The Program Components and Credit Distribution shall consist of the following: (Minimum Number of Credits to be obtained)

Program Component	Name of the Course	Credits allotted for Four Semester Language Papers (B.A & B.Sc Courses)	Credits allotted for Two Semester Language Paper (B.Com, B.B.A &B.C.A Courses)
PART I	Tamil or Other Languages	12	6
PART II	English	12	6
PART III	Core Courses	60	76
	Allied Courses	20	16
	Project/ Three Elective Courses	15	15
PART IV	i. Basic Tamil/ Advanced Tamil/ NME (Non Major Elective)	4	4
	ii. Soft Skill Courses	12	12
	iii. Environmental Studies	2	2
	iv. Value Education	2	2
PART V	Extension Activities	1	1
Total Credits		140	140

12.2 DETAILS OF PROGRAM OF STUDY OF PARTS I – V

12.2.1 **PART I:** Tamil: According to the syllabus and text-books prescribed from time to time

12.2.2 **PART II:** English: According to the syllabus and text-books prescribed from time to time

12.2.3 **PART III :** Core, Allied and Project/Three Elective Courses: As prescribed by the Board of Studies.

12.2.4 **PART IV:** I Non Major Elective (NME). II. Soft Skill Courses.III. Environmental Studies. IV. Value Education

12.2.5 **PART V:** Extension Activities: Students shall be awarded a maximum of 1 Credit for Compulsory Extension Service. All the Students shall have to enroll for NSS /NCC/ NSO (Sports & Games) Rotract/ Youth Red Cross or any other Service Organizations in the Faculty of Humanities and Science and shall have to put in compulsory minimum attendance of 40 hours which shall be duly certified by the Principal of the Faculty of Humanities and Science before 31st March in a year. If a student lacks 40 hours attendance in the first year, he or she shall have to compensate the same during the subsequent years. Those students who complete minimum attendance of 40 hours in one year will get 'half-a-credit and those who complete the attendance of 80 or more hours in Two Years will get 'one credit'. Literacy and Population Education and Field Work shall be compulsory components in the above extension service activities.

12.2.6 Scheme of Examinations and syllabus of each programme given separately in Annexure –I
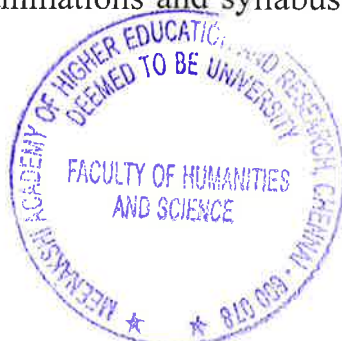
13 INSTRUCTIONAL (TEACHING) HOURS

13.1 For First, Second, Third and Fourth semesters:

Course	BA, BBA and B. Com	B. Sc without Practical	B. Sc and BCA with Practical
Language	4+2hours*	4+2hours*	4+2hours*
English	4+2hours@	4+2hours@	4+2hours@
Core course I	5 hours	5 hours	5 hours Theory
			3 hours Practical
Core course II	5 hours	5 hours	-
Allied course	6 hours	6 hours	5 hours Theory
			3 hours Practical
Non-Major Elective Course	2 hours	2 hours	2 hours
Total	**30 hours**	**30 hours**	**30 hours**

*2 hours for Part IV Environmental Studies/ Value Education

@2 hours for Soft Skills Courses.
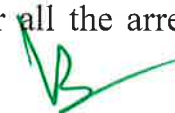
13.2 For Fifth and Six Semesters:

Program	BA,BBAandB.Com	B.Scand BCA
CoreCourse(each)	6hours	6hours
ElectiveCourse(each)	5hours	5hours

14. EXAMINATION AND EVALUATION

14.1 Register for all subjects: Students shall be permitted to proceed from the First Semester up to Final Semester irrespective of their failure in any of the Semester Examination. For this purpose, Students shall register for all the arrear

subjects of earlier semesters along with the current (subsequent) Semester Subjects.

14.2 Marks for Internal and End Semester Examinations for PART I, II, III, and IV

Category	Theory	Practical
InternalAssessment	25	40
End-Semester(University)Examination	75	60

14.3 Procedure for Awarding Internal Marks

Course	Particulars	Marks
	Tests (2 out of 3)	10
Theory Papers	Attendance	5
	Seminars	5
	Assignments	5
	Total	25
	Attendance	5
Practical Papers	Test best 2 out of 3	30
	Record	5
	Total	40
Project	Internal Marks (best 2 out of 3 presentations)	20
	Viva-Voce	20
	Project Report	60
Total		**100**

14.4 (i)   Awarding Marks for Attendance (out of 5)

Attendance below 60% = 0 marks, 61 % to 75% = 3 marks,

76 % to 90% = 4 marks and above 91%= 5 marks

(ii)   Conducting Practical and Project Viva-voce Examination: By Internal and External Examiners

14.5. Question Paper Pattern for End Semester (University) Examination

SECTION – A

(30 words)10 questions out of 12 questions

10 X 2 marks =20 marks

SECTION – B

(200 words) 5 questions out of 7 questions

5 X 5 marks = 25 marks

SECTION – C

(500 words) 3 questions out of 5 questions

3 X 10 marks = 30 marks

TOTAL = 75 marks

14.6. PASSING MINIMUM

14.6.1 The passing minimum for Internal Assessment shall be 40% out of 25 Marks (i.e.10 Marks). Failed candidates in the Internal Assessment are permitted to improve their Internal Assessment marks in the subsequent semesters (2 chances will be given) by writing tests and by submitting Assignments.

14.6.2 For external examination, passing minimum shall be 40% [Forty Percentage] of the maximum marks prescribed for the paper for each Paper / Practical / Project and Viva-Voce.

14.6.3 In the aggregate [External/Internal] the passing minimum shall be of 40%.

14.6.4. He/She shall be declared to have passed the whole examination, if he/she passes in all the papers and practical wherever prescribed as per the scheme of the examinations by earning 140 CREDITS in PartI, II, III, IV & V. He/she shall also fulfill the extension activities prescribed earning a minimum of 1 credit to qualify for the Degree.

14.7. RETOTALLING OF THE ANSWER SCRIPTS:

There shall be no revaluation of for UG Students. However, all UG Students who appeared for their Semester Examinations are eligible for applying for re totalling of their answer scripts.

15. CONDONATION

15.1. Students must have 75% of attendance in each course for appearing the examination.

15.2. Students who have 74% to 70% of attendance shall apply for Condonation in the prescribed form with the prescribed fee of Rs.500/- (Rupees Five Hundred only).

15.3. Students who have 69% to 60% of attendance shall apply for Condonation in prescribed form with prescribed fee of Rs.500/- (Rupees Five Hundred only) along with the Medical Certificate.

15.4. Students who have below 60% of attendance are not eligible to appear for the examination. They shall re-do the semester(s) after completion of the programme.

16. CLASSIFICATION OF SUCCESSFUL STUDENTS

16.1. PART I TAMIL / OTHER LANGUAGES;

PART IIENGLISH AND

PART III CORESUBJECTS, ALLIED, ELECTIVES COURSES AND PROJECT:

16.1.1 For each of the three parts, there shall be separate classification on the basis of CGPA as indicated in regulation 18.2.

16.1.2 A successful candidate who secures 75% and above of the marks in his / her first appearance in all the subjects in Part III within the prescribed period will be declared to have passed in first class with Distinction.

16.1.3 Successful Students passing the Examinations for the Part I, Part II and Part III courses and securing the marks (a) 60 percent and above and (b) 50 percent and above but below 60 percent in the aggregate shall be declared to have passed the examination in the FIRST and SECOND class respectively; all other successful candidates shall be declared to have passed the examination in the THIRD Class.

17. MARKS AND GRADES:

The following table shows the marks, gradepoints and letter grades to indicate the performance of the Student:

MARKS	GRADEPOINTS	LETTERGRADE
96 and above	10	S+
90- 95	9.5	S
86-90	9	D++
81-85	8.5	D+
76-80	8	D
71-75	7.5	A++
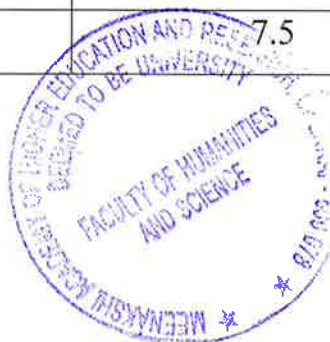
66-70	7	A+
61-65	6.5	A
56-60	6	B+
51-55	5.5	B
46-50	5	C+
40-45	4.5	C
Below 40	0	F

18.1. Computation of Grade Point Average (GPA) in a Semester, Cumulative Grade Point Average (CGPA) and Classification

GPA for a Semester: $= \sum_i C_i G_i \div \sum_i C_i$

That is, GPA is the sum of the multiplication of grade points by the credits of the courses divided by the sum of the credits of the courses in a semester.

CGPA for the entire programme: $= \sum_n \sum_i C_{ni} G_{ni} \div \sum_n \sum_i C_{ni}$

That is, CGPA is the sum of the multiplication of grade points by the credits of the entire programme divided by the sum of the credits of the courses of the entire programme Where,

Ci = Credits earned for course i in any semester,

Gi = Grade Points obtained for course i in any semester

ni = Semester in which such courses were credited.

18.2. Letter Grade and Class

CGPA	GRADE	CLASSIFICATION OF FINAL RESULT

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9.51 and above	S+	First Class Exemplary *
9.01-9.50	S	
8.51-9.00	D + +	
8.01-8.50	D +	First Class with Distinction *
7.51-8.00	D	
7.01-7.50	A + +	
6.51-7.00	A +	First Class
6.01-6.50	A	
5.51-6.00	B +	
5.01-5.50	B	Second Class
4.51-5.00	C +	Third Class
4.00 - 4.50	C	
Below 4.00	F	Fail

*The Students who have passed in the first appearance and within the prescribed semester of the UG Programme (Major, Allied and Elective courses only) are eligible.

19. RANKING

Students who pass all the examinations prescribed for the Program in the FIRST APPEARANCE ITSELF ALONE are eligible for Ranking / Distinction.

20. RE-ADMISSION AFTER BREAK OF STUDY

a) The calculation of the break of study of the candidate for readmission shall calculate from the date of first discontinuance of the Course instead of from the date of admission.

b)   Candidates having break of study shall be considered for re admission provided, they are not subjected to any disciplinary action and no charges pending or contemplated against them.

c)   All readmissions of candidates are subject to the approval of the Vice-Chancellor.

d)   A candidate having a break of study upto 3 years from the date of discontinuation shall apply for the readmission for condonation to the Academic Officer of this University. The candidates may be readmitted in the corresponding course of study. The candidate has to fulfill the attendance requirements of the University and shall be granted exemption in the subjects he/she has already passed.

e)   Candidates having a break of study of 4 years and above from the date of discontinuance and more than two spells of break will not be considered for readmission.

21.   MAXIMUM PERIOD FOR COMPLETION OF THE PROGRAMS TO QUALIFY FOR A DEGREE

21.1 The candidate has to successfully complete the program in 6 years i.e., double the duration of the program from the date of joining.

21.2 Students qualifying during the extended period (after normal period of 3 years), shall not be eligible for RANKING.

22.   Grievance Redressal Committee

The College shall form a Grievance Redressal Committee for each course in each department with the Course Teacher and the HOD as the members. This
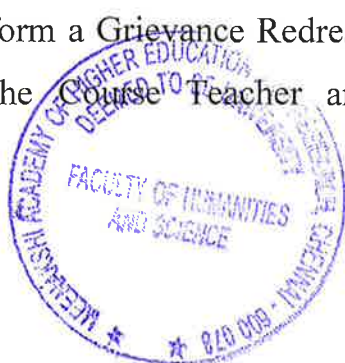
Committee shall solve all grievances relating to the Internal Assessment marks of the students.

SUMMARY OF CREDIT ALLOCATION

Course Component	Name of the Course	Credits allotted for Four Semester Language Papers (B.A & B.Sc Courses)
PART I	Tamil or Other Languages	12
PART II	English	12
PART III	Core Courses	60
	Allied Courses	20
	Project/ Three Elective Courses	15
PART IV	i. Basic Tamil/ Advanced Tamil/ NME (Non Major Elective)	4
	ii. Soft Skill Courses	12
	iii.EnvironmentalStudies	2
	iv. Value Education	2
PART V	Extension Activities	1
Total Credits		140

Course Component	Name of the Course	Credits allotted for Two Semester Language Paper (B.Com, B.B.A &B.C.A Courses)
PART I	Tamil or Other Languages	6
PART II	English	6
PART III	Core Courses	76
	Allied Courses	16
	Project/ Three Elective Courses	15
PART IV	i. Basic Tamil/ Advanced Tamil/ NME (Non Major Elective)	4
	ii. Soft Skill Courses	12
	iii.EnvironmentalStudies	2
	iv. Value Education	2
PART V	Extension Activities	1
Total Credits		140

PROGRAM AND PROGRAM SPECIFIC OUTCOME

PROGRAMS BACHELOR OF COMPUTER SCIENCE

PROGRAM OUTCOMES (PO's)

PO1: Able to understand the basic concepts of Programming concepts.

PO2: Able to understand the various combinational and sequential circuits and successfully applied in embedded fields

PO3: Able to identify data types, algorithms and understand to apply in integrated development environment to write, compile and test simple object oriented programs.

PO4: Understanding the concept of stacks, queues and basic operation of doubly linked list.

PO5: Understanding Memory management and optimization techniques for the improvement of system performance.

PO6: Able to design and implement a database system and apply Normalization techniques for the development of application software.

PO7: Understanding the design and development of web pages and web applications using Java script and HTML.

PO8: Able to understand, analyze and applied data mining techniques in real time database and evaluate the various real world problem.

PO9 : Understanding various searching and sorting techniques and analyze its efficiency.

PO10: Able to understand the Performance and reliability of client server based and network system and identify security issues in networking.

PROGRAM SPECIFIC OUTCOMES (PSO's)

PSO1: Understanding the basic concepts of programming languages and applied the techniques in various programming environment.

PSO2: Able to understand the various concepts of computing to improve the system performance and network based system.

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SEMESTER 1

Sem ester	Par t	Course Components	Course		Teaching Per Week			Cou rse Cre dits	University Examination		Total Marks
			Code	Title	L	T	P		CIA	Externa l	
I	I	Language Course - I (LC); Tamil	LT 2101	Tamil - I	3	0	0	3	25	75	100
	II	English Language Course - I (ELC); English	LE 2102	English I	3	0	0	3	25	75	100
	III	Core Course CC - I	CS2 101	Programmin g in C	3	1	0	4	25	75	100
		Core Course CP - I	CS2 102	Programmin g in C Lab	3	0	1	4	25	75	100
		Allied Course AC - I	AM2 701	Mathematics I	3	1	0	4	25	75	100
	IV	Non Major Elective - I	NES 2801	Non Major Elective - I	2	0	0	2	25	75	100
		Career Development Course - I	CD 2801	Soft Skills - I: Essentials of Language and Communicat ion	2	0	1	3	40	60	100
				Total				23			700

SEMESTER-II

Sem ester	Par t	Course Components	Course		Teaching Per Week			Cou rse Cre dits	University Examination		Total Marks
			Cod e	Title	L	T	P		CIA	Externa l	
II	I	Language Course - II (LC); Tamil	LT 2201	Tamil - II	3	0	0	3	25	75	100
	II	English Language Course - II (ELC); Tamil	LE 2202	English II	3	0	0	3	25	75	100

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Sem	Part	Course Component	Code	Title	L	T	P	Credits	CIA	External	Total
	III	Core Course CC - II	CS2201	Digital Electronics and Microprocessor	3	1	0	4	25	75	100
	III	Core Course CP - II	CS2202	Digital Electronics and Microprocessor Lab	3	0	1	4	25	75	100
		Allied Course AC - II	AM2704	Mathematics II	3	1	0	4	25	75	100
		Non Major Elective - II	NES2804	Non Major Elective - II	2	0	0	2	25	75	100
	IV	Career Development Course - I	CD2802	Soft Skills - II: Essentials of Spoken and Presentation skills	2	0	1	3	40	60	100
				Total				23			700

SEMESTER-III

Semester	Part	Course Components	Course Code	Title	Teaching Per Week			Course Credits	University Examination		Total Marks
					L	T	P		CIA	External	
III	I	Language Course - III (LC); Tamil	LT2301	Tamil - III	3	0	0	3	25	75	100
	II	English Language Course - III (ELC); Tamil	LE2302	English III	3	0	0	3	25	75	100
	III	Core Course CC - III	CS2301	Programming in C++ and Data Structures	3	1	0	4	25	75	100
	III	Core Course CP - III	CS2302	Data Structures using C++	3	0	1	4	25	75	100
		Allied Course AC - III	AM2710	Statistical Methods and its	3	1	0	4	25	75	100

				Applications I							
	IV	Career Development Course - III	ES2981	Environmental Studies	2	1	0	3	40	60	100
		Career Development Course - IV	CD2803	Soft Skills - III: Personality Enrichment	2	0	1	3	40	60	100
				Total				23			700

SEMESTER-IV

Semester	Part	Course Components	Course Code	Course Title	Teaching Per Week L	T	P	Course Credits	University Examination CIA	External	Total Marks
IV	I	Language Course - IV (LC); Tamil	LT2401	Tamil - IV	3	0	0	3	25	75	100
	II	English Language Course - IV (ELC); Tamil	LE2402	English IV	3	0	0	3	25	75	100
	III	Core Course CC - IV	CS2401	Programming in Java	3	1	0	4	25	75	100
		Core Course CP - IV	CS2402	Java Programming Lab	3	0	1	4	25	75	100
		Allied Course AC - IV	AM2711	Statistical Methods and its Applications II	3	1	0	4	25	75	100
		Allied Practical AP - IV	AM2715	Statistical Methods and its Applications	3	0	1	4	25	75	100
	IV	Career Development	VE2001	Value Educati	2		0	2	40	60	100
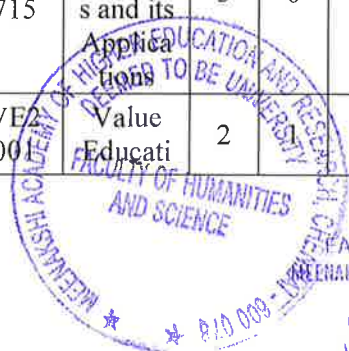
Course - V			on							
Career Development Course - VI	CD 2891	Soft Skills - IV: Quantitative Aptitude	2	0	1	3	40	60	100
			Total				27			700

SEMESTER-V

Seme ster	Pa rt	Course Components	Course		Teaching Per Week			Cou rse Cre dits	University Examination		Total Marks
			Cod e	Title	L	T	P		CI A	External	
V	III	Core Course CC - V	CS2 501	Operating System	3	1	0	4	25	75	100
		Core Course CC - VI	CS2 502	Database Management System	3	1	0	4	25	75	100
		Core Course CC - VII	CS2 503	Computer Architecture & Organization	3	1	0	4	25	75	100
		Core Course CP - V	CS2 504	RDBMS Lab	3	0	1	4	25	75	100
		Core Elective I	CS2 901	Core Elective I	2	1	2	5	40	60	100
				Total				21			700

SEMESTER-VI

Semester	Part	Course Components	Course Code	Course Title	L	T	P	Course Credits	CIA	External	Total Marks
VI	III	Core Course CC - VIII	CS2601	Data Communication and Networking	3	1	0	4	25	75	100
		Core Course CC - IX	CS2602	Web Technology	3	1	0	4	25	75	100
		Core Course CC - X	CS2603	Web Application Lab	3	0	1	4	25	75	100
		Core Elective II	CS2902	Core Elective II	3	1	1	5	25	75	100
		Core Elective III	CS2903	Core Elective III	3	1	1	5	25	75	100
	V	Extension Activities	NSS/NCC/CSS		0	0	1	1	-	-	
			Total					23			500

NON-MAJOR –SEMESTER 1

Semester	Part	Course Components	Course Code	Course Title	L	T	P	Course Credits	CIA	External	Total Marks
I	IV	Non Major Elective - I	NES 2801	HTML	2	0	0	2	25	75	100
			NES 2811	Business& Office applications	2	0	0	2	25	75	100
			NES 2812	MS Access	2	0	0	2	25	75	100
			NES 2813	Web applications	2	0	0	2	25	75	100
			NES 2814	Flash	2	0	0	2	25	75	100

*students will be provided an option to choose any one course from above electives

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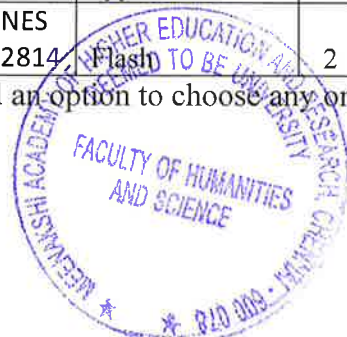No: 12, Vembuliamman Koil Street,
West K.K. Nagar, Chennai-600 078

NON-MAJOR –SEMESTER II

Semester	Part	Course Components	Course		Teaching Per Week			Course Credits	University Examination		Total Marks
			Code	Title	L	T	P		CIA	External	
II	IV	Non Major Elective - I	NES2804	HTML lab	0	0	2	2	40	60	100
			NES2815	Business& Office applications lab	0	0	2	2	40	60	100
			NES2816	MS Access lab	0	0	2	2	40	60	100
			NES2817	Web applications lab	0	0	2	2	40	60	100
			NES2818	Flash lab	0	0	2	2	40	60	100

*students will be provided an option to choose any one course from above electives

CORE ELECTIVES- SEMESTER V

Semester	Part	Course Components	Course		Teaching Per Week			Course Credits	University Examination		Total Marks
			Code	Title	L	T	P		CIA	External	
IV	III	Core Elective II	CS2901	Visual Programming	3	2	0	5	25	75	100
			CS2911	RDBMS& Oracle	3	1	1	5	40	60	100
			CS2912	UNIX Programming	3	2	0	5	25	75	100

*students will be provided an option to choose any one course from above electives

CORE ELECTIVES- SEMESTER VI

Semester	Part	Course Components	Code	Title	L	T	P	Course Credits	CIA	External	Total Marks
IV	III	Core Elective II	CS 2902	Data Mining	3	2	0	5	25	75	100
			CS 2913	Software Testing	3	2	0	5	25	75	100
			CS 2914	Object Oriented Analysis and Design	3	2	0	5	25	75	100
		Core Elective III	CS2903	Client/Server Computing	3	2	0	5	25	75	100
			CS 2915	Software Engineering	3	2	0	5	25	75	100
			CS 2916	Computer Graphics	3	2	0	5	25	75	100

*students will be provided an option to choose any one course from above electives

TITLE OF THE COURSE/ PAPER	Programming in C		
CORE	I Year & First Semester	Credit: 4	Code: CS2101
COURSEOBJ ECTIVES	1. Tolearnthefundamentalprogrammingconceptsandmethodologieswhichareessential to building good Cprograms. 2. To learn different control structures like decision control, loop control and specialcases. 3. To develop an in-depth understanding of functions, prototypes and parameterpassing 4. TodesignanddevelopCprograms,usingtheconceptofarrays,structures,pointers,operations on pointers and creation and deletion of files.		
COURSE OUTLINE	**Unit1**:CfundamentalsCharacterset-Identifierandkeywords-datatypes-constants-Variables - Declarations - Expressions - Statements - Arithmetic, Unary, Relational and logical, Assignment and Conditional Operators - Library functions.		
	Unit-2: Data input output functions - Simple C programs - Flow of control - if, if-else, while,do- while,forloop,Nestedcontrolstructures-Switch,breakandcontinue,gotostatements-Comma operator.		
	Unit 3: Functions –Definition - proto-types - Passing arguments - Recursions. Storage Classes - Automatic, External, Static, Register Variables – Multi-file programs.		
	Unit-4: Arrays - Defining and Processing - Passing arrays to functions – Multi-dimension arrays - Arrays and String. Structures - User defined data types - Passing structures to functions - Self- referential structures – Unions - Bit wise operations.		
	Unit-5 : Pointers - Declarations - Passing pointers to Functions - Operation in Pointers - Pointer and Arrays - Arrays of Pointers - Structures and Pointers - Files : Creating , Processing ,Opening and Closing a data file.		
REFRENCES	1. E.Balaguruswamy, 1995, Programming in ANSI C, TMH Publishing Company Ltd. 2. B.W. Kernighan and D.M.Ritchie, 1988, The C Programming Language, 2nd Edition, PHI. 3. H. Schildt, C,2004, The Complete Reference, 4th Edition, TMH 4. Gottfried,B.S, 1996,Programming with C, Second Edition, TMH Pub. Co. Ltd., NewDelhi 5. Kanetkar Y., 1999, let us C, BPB Pub., NewDelhi.		

COURSE OUTCOMES:

CS2101.1: Understanding the basic concepts of programming and to analyze a problem to develop an algorithm to solve it.
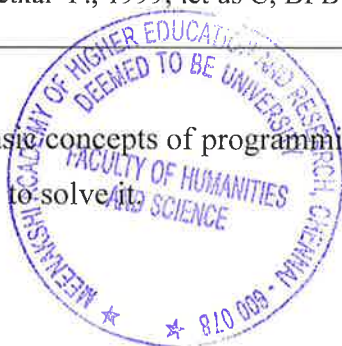
CS2101.2: Able to design, implement programs using the fundamental control structures in C.

CS2101.3: Able to define data types and use them in simple data processing applications, mathematical and engineering applications.

CS2101.4: Also by learning the basic programming constructs they can easily switch over to any other language in future.

Mapping Function of PO's and CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2101.1	2	3	2	3	3	3	3	3	3	2	2	3
CS2101.2	2	3	2	2	3	3	3	3	3	2	2	1
CS2101.3	2	2	2	2	3	3	3	2	2	2	2	2
CS2101.4	2	2	3	2	2	3	2	2	2	3	3	3
AVERAGE	2	2.5	2.25	2.25	2.75	3	2.75	2.5	2.5	2.25	2.25	2.25

TITLE OF THECOURSE/PAPER	**Practical – I Programming in C**		
CORE	I Year & First Semester	Credit: 4	Code: CS2102
COURSEOBJECTIVES	1. To train the students to the basic concepts of the C programminglanguage. 2. It involves a lab component which is designed to give the student hands-on experience with theconcepts. 3. To apply good programming principles to the design and implementation of CPrograms 4. To demonstrate an understanding of primitive data types, values, operators and expressions in C Programs.		

COURSEOUTLINE	I Summation of Series :
	
	    1. Sin(x), 2. Cos(x), 3. Exp(x) (Comparison with built in functions) II String Manipulation:
	
	    1. Counting the no. of vowels, consonants, words, white spaces in a line of text and array oflines
	
	    2. Reverse a string & check forpalindrome.
	
	    3. Substring detection,
	
	count and removal Finding and
	
	replacingsubstrings
	
	III Recursion :
	
	    1. $^nP_r, ^nC_r$
	
	    2. GCD of twonumbers
	
	    3. Fibonaccisequence
	
	    4. Maximum &Minimum		

COURSE OUTCOMES:

CS2102.1: Able to Read, understand and trace the execution of programs written in C language.

CS2102.2: Able to enhance their analyzing and problem solving skills and use the same for writing programs in C.

CS2102.3: Identify tasks in which the numerical techniques learned are applicable and apply them to write programs, and hence use computers effectively to solve the task.

CS21O2.4: Understanding the right data representation formats based on the requirements of the problem and write the program on a computer, edit, compile, debug, correct, recompile and run it.

Mapping Function of PO's and CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2102.1	2	3	2	3	3	3	3	3	3	2	2	3
CS2102.2	2	3	2	2	3	3	3	3	3	2	2	1
CS2102.3	2	2	2	2	3	3	3	2	2	2	2	2
CS2102.4	2	2	3	2	2	3	2	2	2	3	3	3
AVERAGE	2	2.5	2.25	2.25	2.75	3	2.75	2.5	2.5	2.25	2.25	2.25

TITLE OF THECOURSE/ PAPER	Digital Electronics & Microprocessors		
CORE	I Year & Second Semester	Credit: 4	Code: CS2201
COURSEOBJECTIVES	1. Tounderstandandexaminethestructureofvariousnumbersystemsand itsapplication in digitaldesign. 2. To acquire the basic knowledge of digital logic levels and understanding the fundamental concepts and techniques used in digitalelectronics. 3. To understand 8085 and 8051 architecture and the instruction set of an Intel microprocessor 4. To study the assembly language programming will be studied as well as the design of various types of digital and analoginterfaces.		
COURSEOUTLINE	**Unit 1:** Binary Systems & Code conversion, Boolean Algebra & Logic Gates – Truth Tables – Universal Gates – Simplification of Boolean functions: SOP, POS methods – K-map, – CombinationalLogic:Adders&Subtractors–Multiplexer–Demultiplexer-Encoder–Decoder.		
	Unit-2: SequentialLogic:RS,ClockedRS,D,JK,MasterSlaveJK,TFlip-Flops–ShiftRegisters – Types of Shift Registers – Counters: Ripple Counter – Synchronous Counters – Up-Down Counter.		
	Unit 3: Introduction to Microprocessors, Microcomputers, and Assembly Language – Microprocessor Architecture and Its Operations – Memory – I/O Devices – 8085 MPU – Introduction to 8085 Instructions – Data Transfer Operations – Addressing Modes - Arithmetic, Logic and Branch Operations – Writing Assembly Language Programs .		
	Unit-4: Time Delay Programs: Time Delay Using One Register – Using a Register Pair – Using a Loop within Loop Technique – Counter Design with Time Delay – Stack and Subroutines – BCD to Binary Conversion and Vice-versa – BCD to HEX Conversion and Vice-versa – Binary to ASCII Conversion and Vice-versa – BCD Addition and Subtraction .		
	Unit-5 : 8085 Interrupt – Vectored Interrupts – Interfacing I/O Devices: Basic Interfacing Concepts – Interfacing Input Devices- Memory-Mapped I/O.		

REFRENCES	1. M. Morris Mano,2005, Digital Logic and Computer Design, Prentice-Hall of India Pvt. Ltd.
	2. Ramesh S. Gaonkar,1999,Microprocessor Architecture, Programming, and Applications with the 8085, 5th Edition,Penram International Publishing (India) Pvt. Ltd.
	3. D. P. Leach and A. P. Malvino,2002,Digital Principles and Applications,5th Edition, Tata McGraw, Hill Publishing Co.Ltd.
	4. V. Vijayendran,2004,Digital Fundamentals,S. Viswanathan (Printers & Publishers) Pvt.Ltd

COURSE OUTCOMES:

CS2201.1: Have a thorough understanding of the fundamental concepts and techniques used in digital electronics.

CS2201.2: Ability to understand, analyze and design various combinational and sequential circuits and to identify and prevent various hazards and timing problems in a digital design.

CS2201.3: The program prepares students to successfully compete for employment in Electronics, Manufacturing and Embedded fields.

CS2201.4: Ability to design Memory Interfacing circuits, I/O circuits and implement programs on 8085, ARM, PIC.

Mapping Function of PO's and CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2201.1	3	3	2	3	3	3	3	2	3	3	3	3
CS2201.2	2	3	3	3	3	3	3	3	3	3	3	2
CS2201.3	3	3	3	3	3	2	2	2	2	2	3	3
CS2201.4	3	3	3	2	3	3	3	3	3	1	3	3
AVERAGE	2.75	3	2.75	2.75	3	2.75	2.75	2.5	2.75	2.25	3	2.75

TITLE OF THECOURSE/PAPER	**Practical II - Digital Electronics & Microprocessors Lab**		
CORE	I Year & Second Semester	Credit: 4	Code: CS2202
COURSEOBJECTIVES	1. To understand the basics of digital electronics, Boolean algebra, and able to designthesimplelogiccircuitsandtest/verifythefunctionalityofthelogiccircuits. 2. ToPracticedifferenttypesofwiringandinstrumentsconnectionskeepinginmind technical, Economical, safetyissues. 3. To familiarize the students with the programming and interfacing of microprocessors and microcontrollers. 4. To provide strong foundation for designing real world applications using microprocessors and microcontrollers.		
COURSEOUTLINE	**DIGITAL ELECTRONICS:** 1. Verification of Truth Table for AND, OR, NOT, NAND, NOR and EX-ORgates. 2. Realization of NOT, AND, OR, EX-OR gates with only NAND and only NOR gates. 3. Karnaugh Map Reduction and Logic CircuitImplementation. 4. Verification of DeMorgan'sLaw. 5. Implementation of Half-Adder andHalf-Subtractor. 6. Implementation of Full-Adder andFull-Subtractor. 7. Four Bit BinaryAdder 8. Four Bit Binary Subtractorusing 1's and 2'sComplement. **MICROPROCESSOR:** 9. 8 Bit Addition andSubtraction. 10. 16 BitAddition. 11. BCD Addition. 12. BCDSubtraction. 13. 8 BitMultiplication. 14. BCDMultiplication. 15. 8 BitDivision. 16. Searching for an Element in anArray. 17. Sorting in Ascending and DescendingOrders. 18. Finding Largest and Smallest Elements from anArray. 19. Reversing ArrayElements. 20. Block Move		
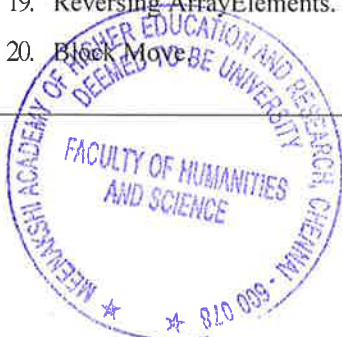
COURSE OUTCOMES:

CS2202.1: Understanding the basic digital circuits and to verify their operation and apply the design procedures to design basic sequential circuits.

CS2202.2: Helps to identify testing strategies and select proper instruments to evaluate performance characteristics of electronic circuit.

CS2202.3: Able to design electrical circuitry to the Microprocessor I/O ports in order to interface the processor to external devices.

CS2202.4: Able to apply knowledge and demonstrate programming proficiency using the various addressing modes and data transfer instructions of the target microprocessor and microcontroller.

Mapping Function of PO's and CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2202.1	3	3	2	3	3	3	3	2	3	3	3	3
CS2202.2	2	3	3	3	3	3	3	3	3	3	3	2
CS2202.3	3	3	3	3	3	2	2	2	2	2	3	3
CS2202.4	3	3	3	2	3	3	3	3	3	1	3	3
AVERAGE	2.75	3	2.75	2.75	3	2.75	2.75	2.5	2.75	2.25	3	2.75
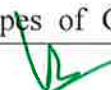
Title of the Course/	**Paper –V PROGRAMMING IN C++ AND DATA STRUCTURES**		
Core	**II Year & Third Semester**	Credit: 4	Code: CS2301
Objective of the course	1.This course introduces the basic concepts of programming in C++ and Data Structures 2. Deals with OOPS Concepts such as Inheritance, Polymorphism. 3. Introduces the concepts of Data Structures and its types. 4. Linear Data structure – Stack, Arrays, Linked List and its applications. 5. To understand about Non-Linear Data Structures (Tree and Graph) and its applications.		
Course outline	Unit 1: Introduction to C++; Tokens, Keywords, Identifiers, Variables, Operators, Manipulators, Expressions and Control Structures in C++; Pointers - Functions in C++ - Main Function - Function Prototyping - Parameters Passing in Functions - Values Return by Functions - Inline Functions - Friend and Virtual Functions		
	Unit-2: Classes and Objects; Constructors and Destructors; and Operator Overloading and Type Conversions - Type of Constructors - Function overloading. Inheritance : Single Inheritance - Multilevel Inheritance - Multiple Inheritance - Hierarchical Inheritance - Hybrid Inheritance. Pointers, Virtual Functions and Polymorphism; Managing Console I/O operations.		
	Unit 3: Working with Files: Classes for File Stream Operations - Opening and Closing a File - End-of-File Deduction - File Pointers - Updating a File - Error Handling during File Operations - Command-line Arguments. Data Structures: Definition of a Data structure - primitive and composite Data Types, Asymptotic notations, Arrays, Operations on Arrays, Order lists.		
	Unit-4:Stacks - Applications of Stack - Infix to Postfix Conversion, Recursion, Maze Problems - Queues - Operations on Queues, Queue Applications, Circular Queue. Singly Linked List - Operations, Application - Representation of a Polynomial, Polynomial Addition; Doubly Linked List - Operations, Applications.		
	Unit-5 : Trees and Graphs: Binary Trees - Conversion of Forest to Binary Tree, Operations - Tree Traversals; Graph - Definition, Types of Graphs, Hashing		
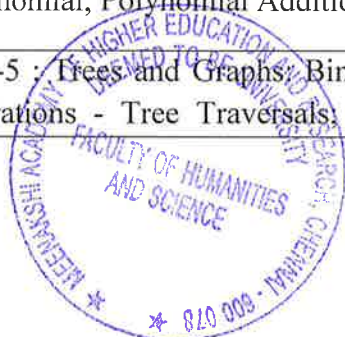
Tables and Hashing Functions, Traversal - Shortest Path; Dijkstra's Algorithm.

REFRENCES

1. E. Balagurusamy,1995,Object Oriented Programming with C++, Tata McGraw-Hill Publishing Company Ltd.
2. E.Horowitz and S.Shani,1999,Fundamentals of Data Structures in C++ , Galgotia Pub.
3. Robert Lafore, Object Oriented Programming in Microsoft C++, Galgotia publication.
4. H.Schildt, C++,1998,The Complete Reference-1998-TMH Edition, 1998

COURSE OUTCOMES:

CS2301.1: Understanding the basic concepts of programming and to analyse a problem to develop an algorithm to solve it.

CS2301.2: Able to design, implement programs in Data Structures using C++.

CS2301.3: Able to define data types and use them in Stack, Linked list, Tree and Graph.

CS2301.4: Also by learning the basic programming constructs they can easily switch over to any other language in future.

Mapping Function of PO's and CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2301.1	3	2	3	2	3	2	2	3	3	2	3	3
CS2301.2	2	2	3	3	2	2	3	3	3	3	2	3
CS2301.3	2	3	2	2	3	3	3	2	2	3	3	3
CS2301.4	3	3	3	2	2	2	3	2	3	3	3	3
AVERAGE	2.5	2.5	2.75	2.25	2.5	2.25	2.75	2.5	2.75	2.75	2.75	3

Title of the Course/	**PRACTICAL – III DATA STRUCTURES USING C++**		
Core	**II Year & Third Semester**	Credit: 4	Code: CS2302
Objective of the course	This course deals with practical implementation of Data Structure using C++.		
Course outline	1. Implement PUSH, POP operations of stack using Arrays. 2. Implement PUSH, POP operations of stack using Pointers. 3. Implement add, delete operations of a queue using Arrays. 4. Implement add, delete operations of a queue using Pointers. 5. Conversion of infix to postfix using stack operations 6. Postfix Expression Evaluation. 7. Addition of two polynomials using Arrays and Pointers. 8. Creation, insertion, and deletion in doubly linked list. 9. Binary tree traversals (in-order, pre-order, and post-order) using linked list. 10. Depth First Search and Breadth first Search for Graphs using Recursion.		

COURSE OUTCOMES:

CS2302.1: Able to Read, understand and trace the execution of programs .

CS2302.2: Able to enhance their analyzing and problem solving skills and use the same for writing programs in Data Structures using C++.

CS2302.3: Identify tasks in which the applications are applied effectively to understand the concept.

CS2302.4: Understanding the right data representation format based on their requirements.

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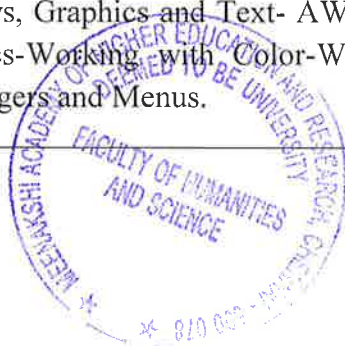PRINCIPAL

Mapping Function of PO's and CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2302.1	3	2	3	2	3	2	2	3	3	2	3	3
CS2302.2	2	2	3	3	2	2	3	3	3	3	2	3
CS2302.3	2	3	2	2	3	3	3	2	2	3	3	3
CS2302.4	3	3	3	2	2	2	3	2	3	3	3	3
AVERAGE	2.5	2.5	2.75	2.25	2.5	2.25	2.75	2.5	2.75	2.75	2.75	3

Title of the Course/	**Paper –VII - PROGRAMMING IN JAVA**		
Core	**II Year & Fourth Semester**	Credit: 4	Code: CS2401
Objective of the course	1. This course introduces the basic concepts of Object Oriented Programming. 2. Introduction of Classes and Objects, Vector and Wrapper classes. 3. A detailed session about Interfaces and Packages. 4. Managing and Handles Errors and Exceptions, Applets and File concepts. 5. Brief introduction about the basics of Networking and AWT classes.		
Course outline	Unit 1: Introduction to Java-Features of Java-Basic Concepts of Object Oriented Programming-Java Tokens-Java Statements-Constants-Variables-Data Types- Type Casting-Operators-Expressions-Control Statements: Branching and Looping Statements.		
	Unit-2: Classes, Objects and Methods-Constructors-Methods Overloading-Inheritance-Overriding Methods-Finalizer and Abstract Methods-Visibility Control –Arrays, Strings and Vectors-String Buffer Class-Wrapper Classes.		
	Unit 3: Interfaces-Packages-Creating Packages-Accessing a Package-Multithreaded Programming-Creating Threads-Stopping and Blocking a Thread-Life Cycle of a Thread-Using Thread Methods-Thread Priority-Synchronization-Implementing the Runnable Interface .		
	Unit-4: Managing Errors and Exceptions-Syntax of Exception Handling Code-Using Finally Statement-Throwing Our Own Exceptions-Applet Programming-Applet Life Cycle-Graphics Programming-Managing Input/Output Files: Concept of Streams-Stream Classes-Byte Stream Classes-Character Stream Classes – Using Streams-Using the File Class-Creation of Files-Random Access Files-Other Stream Classes.		
	Unit-5: : Network basics –socket programming – proxy servers – TCP/IP – Net Address – URL – Datagrams -Java Utility Classes-Introducing the AWT: Working with Windows, Graphics and Text- AWT Classes- Working with Frames-Working with Graphics-Working with Color-Working with Fonts-Using AWT Controls, Layout Managers and Menus.		

	REFRENCES
	1. .E. Balagurusamy,2004,Programming with JAVA, 2nd Edition,Tata McGraw-Hill Publishing Co.Ltd.
	2. .Herbert Schildt,2005,The Complete Reference Java^{TM}2, 5thEdition,Tata McGraw-Hill

COURSE OUTCOMES:

CS2401.1 Able to analyze the basic concepts of OOPS..

CS2401.2: Able to understand the concepts of Objects and Classes.

CS2401.3: Able to understand the concepts of Interfaces and Packages, Life cycle of Thread.

**CS2401.4:** Involves learning of Errors and error handling, AWT Classes and the basics of Networking.

Mapping Function of PO's and CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2401.1	3	2	3	2	3	2	2	3	3	3	3	3
CS2401.2	2	2	3	3	2	3	2	3	3	3	2	3
CS2401.3	2	2	2	3	2	3	3	2	3	3	3	3
CS2401.4	3	3	3	3	2	3	3	3	3	2	3	3
AVERAGE	2.5	2.25	2.75	2.75	2.25	2.75	2.5	2.75	3	2.75	2.75	3

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Title of the Course/	**PRACTICAL – IV: JAVA PROGRAMMING LAB**		
Core	**II Year & Fourth Semester**	Credit: 4	Code: CS2402
Objective of the course	This course gives the practical training in JAVA programming		
Course outline	**APPLICATIONS:** 1. Substring Removal from a String. Use String Buffer Class. 2. Determining the Perimeter and Area of a Triangle. Use Stream Class. 3. Determining the Order of Numbers Generated randomly using Random Class. 4. Usage of Calendar Class and Manipulation. 5. Implementation of Point Class for Image Manipulation. 6. String Manipulation Using Char Array. 7. Database Creation for Storing E-mail Addresses and Manipulation. 8. Usage of Vector Classes. 9. Interfaces and Packages 10. Implementing Thread based Applications and Exception Handling. 11. Application using Synchronization such as Thread based, Class based and Synchronized Statements. 12. Textfiles (copy, display, counting characters, words and lines) 13. Data file creating and processing for electricity billing. 14. Data file creating and processing for telephone billing **APPLETS:** 15. Working with Frames and Various Controls. 16. Working with Dialog Box and Menus. 17. Working with Colors and Fonts. 18. Drawing various shapes using Graphical statements. 19. Working with panel and all types of Layout. 20. Design a simple calculator with minimal of 10 operations 21. Usage of buttons, labels, text components in suitable application 22. Usage of Radio buttons, check box ,choice list in suitable application.		
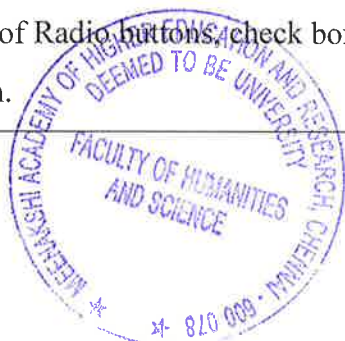
COURSE OUTCOMES:

CS2402.1: Able to Read, understand the OOPS concepts and trace the execution of programs.

CS2402.2: Able to enhance their analyzing, problem solving skills and use the same for writing programs in Java

CS2402.3: Identify tasks in which the Applications and Applets are applied effectively to understand the concept.

CS2402.4: Understanding the right data representation format based on their requirements.

Mapping Function of PO's and CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2402.1	3	2	3	2	3	2	2	3	3	3	3	3
CS2402.2	2	2	3	3	2	3	2	3	3	3	2	3
CS2402.3	2	2	2	3	2	3	3	2	3	3	3	3
CS2402.4	3	3	3	3	2	3	3	3	3	2	3	3
AVERAGE	2.5	2.25	2.75	2.75	2.25	2.75	2.5	2.75	3	2.75	2.75	3

Title of the Course/	**OPERATING SYSTEM**		
Core	**III Year & Fifth Semester**	Credit: 4	Code: CS2501
Objective of the course	1. This course introduces the functions of operating systems. 2. To hide the details of the hardware resources from the users. 3. To provide users a convenient interface to use the computer system 4.		
Course outline	Unit 1: Introduction: Views –Goals –Types of system – OS Structure – Components – Services - System Structures – Layered Approach -Virtual Machines - System Design and Implementation. Process Management: Process - Process Scheduling – Cooperating Process –Threads – Interprocess Communication. CPU Scheduling : CPU Schedulers – Scheduling criteria – Scheduling Algorithms		
	Unit-2:– Process Synchronization: Critical-Section problem - Synchronization Hardware – Semaphores – Classic Problems of Synchronization – Critical Region – Monitors. Deadlock : Characterization – Methods for handling Deadlocks – Prevention, Avoidance, and Detection of Deadlock - Recovery from deadlock.		
	Unit 3: Memory Management : Address Binding – Dynamic Loading and Linking – Overlays – Logical and Physical Address Space - Contiguous Allocation – Internal & External Fragmentation . Non Contiguous Allocation:Paging and Segmentation schemes –Implementation – Hardware Protection – Sharing - Fragmentation.		
	Unit-4:VirtualMemory :: Demand Paging – Page Replacement - Page Replacement Algorithms – Thrashing. – File System: Concepts – Access methods – Directory Structure –Protection Consistency Semantics – File System Structures – Allocation methods – Free Space Management.		

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Unit-5 : I/O Systems: Overview - I/O Hardware – Application I/O Interface – Kernel I/O subsystem – Transforming I/O Requests to Hardware Operations – Performance. Secondary Storage Structures : Protection – Goals- Domain Access matrix – The security problem – Authentication – Threats – Threat Monitoring – Encryption..

REFRENCES

1. Silberschatz A., Galvin P.B., Gange,.2002 , Operating System Principles ,Sixth Edition, John Wiley & Sons.

2. H.M. Deitel ,1990, An Introduction to Operating System,- Second Edition,Addison Wesley.

COURSE OUTCOMES

CS2501.1: Able to understand the views, Goals and structures of an operating system

CS2501.2: Able to understand the concept of Process Management and CPU scheduling algorithms

CS2501.3: Understanding the concepts of virtual memory & memory management.

CS2501.4: Understanding the Principles of Deadlock detection & Avoidance.

Mapping Function of PO's and CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2501.1	3	3	2	3	3	3	3	2	3	3	3	3
CS2501.2	3	2	3	3	2	3	2	3	3	3	3	2
CS2501.3	3	3	3	3	3	2	3	3	3	3	3	3
CS2501.4	3	3	2	2	3	3	3	3	2	3	3	3
AVERAGE	3	2.75	2.5	2.75	2.75	2.75	2.75	2.75	2.75	3	3	2.75

Title of the Course/	**Paper - X - DATABASE MANAGEMENT SYSTEMS**		
Core	**III Year & Fifth Semester**	Credit: 4	Code: CS2502
Objective of the course	1. This course introduces the basic concepts of database management systems 2. To give a good formal foundation on the relational model of data and usage of Relational Algebra 3. To improve knowledge to advanced SQL topics like embedded SQL, procedures connectivity through JDBC 4. To express the principles behind systematic database design approaches by covering conceptual design, logical design through normalization. 5. To provide an overview of physical design of a database system, by discussing Database indexing techniques and storage techniques.		
Course outline	Unit 1: Advantages and Components of a Database Management Systems – Feasibility Study – Class Diagrams – Data Types – Events – Normal Forms – Integrity – Converting Class Diagrams to Normalized Tables – Data Dictionary.		
	Unit-2: Query Basics – Computation Using Queries – Subtotals and GROUP BY Command – Queries with Multiple Tables – Subqueries – Joins – DDL & DML – Testing Queries		
	Unit 3: Effective Design of Forms and Reports – Form Layout – Creating Forms – Graphical Objects – Reports – Procedural Languages – Data on Forms – Programs to Retrieve and Save Data – Error Handling.		
	Unit-4: Power of Application Structure – User Interface Features – Transaction – Forms Events – Custom Reports – Distributing Application – Table Operations – Data Storage Methods – Storing Data Columns – Data Clustering and Partitioning.		
	Unit-5 : Database Administration – Development Stages – Application Types – Backup and Recovery – Security and Privacy – Distributed Databases – Client/Server Databases – Web as a Client/Server System – Objects – Object Oriented Databases – Integrated Applications		

REFRENCES

1. G. V. Post – Database Management Systems Designing and Building Business Application – McGraw Hill International edition – 1999.

2. Raghu Ramakrishnan – Database Management Systems – WCB/McGraw Hill – 1998.

3. C.J. Date – An Introduction to Database Systems – 7th Edition – Addison Wesley - 2000.

COURSE OUTCOMES

CS2502.1: Able to understand the features of database management systems and Relational database.

CS2502.2: To Design conceptual models of a database using ER modeling for real life applications and also construct queries in Relational Algebra.

CS2502.3 : To Create and populate a RDBMS for a real life application, with constraints and keys, using SQL and Retrieve any type of information from a data base by formulating complex queries in SQL

CS2502.4: To Analyze the existing design of a database schema and apply concepts of normalization to design an optimal database

Mapping Function of PO's and CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2502.1	3	3	2	3	3	3	3	2	3	3	3	3
CS2502.2	3	2	3	3	2	3	2	3	3	3	3	2
CS2502.3	3	3	3	3	3	2	3	3	3	3	3	3
CS2502.4	3	3	2	2	3	3	3	3	2	3	3	3
AVERAGE	3	2.75	2.5	2.75	2.75	2.75	2.75	2.75	2.75	3	3	2.75

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Title of the Course/	**COMPUTER ARCHITECTURE AND ORGANIZATION**		
Core	**III Year & Fifth Semester**	Credit: 4	Code: CS2503
Objective of the course	1. This course introduces the architecture of various computers and its organization. 2. Analyze processor performance improvement using instruction level parallelism. 3. To Study the various data transfer techniques in digital computer. 4. To understand the microprocessor architecture and study assembly language programming.		
Course outline	Unit 1: Computer Evolution: Pentium and Power PC Evolution. Computer System: Components – Function – Interconnection Structures – Bus Interconnection – Basics of PCI Bus. Memory: Characteristics – Hierarchy – Cache Memory – Principles – Cache Design – Locality of Reference.		
	Unit-2: Main Memory: Static RAM – Dynamic RAM – Types of ROM – Memory Chip Organization – Types of DRAM. External Memory: Magnetic Disk – Basics of RAID – Optical Memory – Magnetic Tapes		
	Unit 3: :Input/Output: External Devices – I/O Module – Programmed I/O – Interrupt Driven I/O – DMA – I/O Channels & Processors. Computer Arithmetic: ALU – Integer Representation and Arithmetic – Floating Point Representation and Arithmetic. Instruction Set: Characteristics – Operand Types – Operation Types – Addressing Modes – Instruction Formats – Pentium and Power PC Operands, Operations, Addressing Modes (Simple Examples).		
	Unit-4:CPU: Organization of Processors and Registers – Instruction Cycle – Instruction Pipelining – Pentium Processor. RISC: Characteristics – Large Register File – Register Optimization – Architecture – RISC Vs CISC Characteristics – Pipelining.		
	Unit-5: Control Unit: Micro-Operations – Control of Processors – Hardwired Implementation - Micro Programmed Control Concepts – Microinstruction Sequencing – General Microinstruction Execution. **REFRENCES** 1. W. Stallings ,2003,Computer Organization and Architecture, 6th Edition- PHI,New Delhi. 2. C. Hamacher, Z. Vranesic, S.Zaky, 2002, Computer Organization,5[th]Edition,Mcgraw Hill.		

COURSE OUTCOMES

CS2503.1: Able to understand the basic organization of computer and the architecture of 8086 microprocessor.

CS2503.2: To implement assembly language program for given task for 8086 microprocessor.

CS2503.3: To reveal and perform computer arithmetic operations on integer, real numbers and Categorize memory organization and also explain the function of each element of a memory hierarchy

CS2503.4: To classify and compare different methods for computer I/O mechanisms.

MAPPING FUNCTION OF PO's, CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2503.1	3	3	3	3	3	3	3	2	3	3	2	3
CS2503.2	2	2	3	3	3	3	3	3	3	3	3	3
CS2503.3	3	2	3	3	3	2	3	3	3	3	2	3
CS2503.4	2	3	3	2	3	3	2	3	2	3	2	3
AVERAGE	2.5	2.5	3	2.75	3	2.75	2.75	2.75	2.75	3	2.25	3

Title of the Course/	**PRACTICAL – V: RDBMS LAB**		
Core	**III Year & Fifth Semester**	Credit: 4	Code: CS2504
Objective of the course	1. This course train the students to implement the database applications 2. to present SQL and procedural interfaces to SQL comprehensively 3. to introduce the concepts of transactions and transaction processing		
Course outline	Create database and performing the operations given below using a Menu Driven program: Insertion, (b)Deletion, (c)Modification, (d)Generating a reports (Simple) for the following Systems using any RDBMS package : 1. Payroll 2. Mark sheet Processing 3. Savings bank account for banking 4. Inventory System 5. Invoice system 6. Library information system 7. Student information system 8. Income tax processing system 9. Electricity bill preparation system 10. Telephone directory maintenance.		

COURSE OUTCOMES

CS2504.1: To design and create a database table structures for a given problem-domain

CS2504.2: Ableto understand the Formulate query, using SQL, solutions to a broad range of query and data update problems.

CS2504.3: To Use a desktop database package to create, populate, maintain, and query a database.

CS2504.4: To analyze information storage problem and derive an information model expressed in the form

MAPPING FUNCTION OF PO's, CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2504.1	3	3	3	3	3	3	3	2	3	3	2	3
CS2504.2	2	2	3	3	3	3	3	3	3	3	3	3
CS2504.3	3	2	3	3	3	2	3	3	3	3	2	3
CS2504.4	2	3	3	2	3	3	2	3	2	3	2	3
AVERAGE	2.5	2.5	3	2.75	3	2.75	2.75	2.75	2.75	3	2.25	3

Title of the Course/ Paper	**VISUAL PROGRAMMING**		
Elective	**III Year & Fifth Semester**	Credit: 5	Code: CS2901
Objective of the course	1. To inculcate knowledge on Visual Basic concepts and Programming. 2. Learn about the Visual Studio integrated development environment. 3. Identify VB errors and Use VB help features.		
	Unit 1: Customizing a Form - Writing Simple Programs - Toolbox - Creating Controls - Name Property - Command Button - Access Keys - Image Controls - Text Boxes - Labels - Message Boxes - Grid - Editing Tools - Variables - Data Types - String - Numbers.		
	Unit-2: Displaying Information - Determinate Loops - Indeterminate Loops - Conditionals - Built-in Functions - Functions and Procedures.		
	Unit 3: Lists - Arrays - Sorting and Searching - Records - Control Arrays - Combo Boxes - Grid Control - Projects with Multiple forms - DoEvents and Sub Main - Error Trapping.		
	Unit-4:VB Objects - Dialog Boxes - Common Controls - Menus - MDI Forms - Testing, Debugging and Optimization - Working with Graphics.		
	Unit-5: Monitoring Mouse activity - File Handling - File System Controls - File System Objects - COM/OLE - automation - DLL Servers - OLE Drag and Drop. **REFRENCES** 1. Gary Cornell - Visual Basic 6 from the Ground up - Tata McGraw Hill - 1999. 2. Noel Jerke - Visual Basic 6 (The Complete Reference) - Tata McGraw Hill – 1999		

COURSE OUTCOMES

CS2901.1: To understand and design Visual Basic applications.

CS2901.2: Able toUnderstand how to perform operations and store results.

CS2901.3: Understand the concept of data-driven program execution flow control in Visual Basic programming.

CS2901.4: Understand additional Visual Basic controls and loops to do repetition.

MAPPING FUNCTION OF PO's, CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2901.1	3	3	3	2	3	3	3	3	2	3	3	2
CS2901.2	3	2	3	3	3	3	3	2	3	2	3	3
CS2901.3	3	3	2	3	3	2	3	3	3	3	3	3
CS2901.4	2	3	3	2	2	3	3	2	2	3	2	2
AVERAGE	2.8	2.8	2.8	2.5	2.8	2.8	3.0	2.5	2.5	2.8	2.8	2.5

Title of the Course/	**DATA COMMUNICATION AND NETWORKING**		
Core	**III Year & Sixth Semester**	Credit: 4	Code: CS2601
Objective of the course	This course introduces the details about basic concepts of data communication and networking.		
Course outline	Unit 1: Introduction to Data Communication, Network, Protocols & standards and standards organizations - Line Configuration - Topology - Transmission mode - Classification of Network - OSI Model - Layers of OSI Model.		
	Unit-2: Parallel and Serial Transmission - DTE/DCE/such as EIA-449, EIA-530, EIA-202 and x.21 interface - Interface standards - Modems - Guided Media - Unguided Media - Performance - Types of Error - Error Detection - Error Corrections.		
	Unit 3: : Multiplexing - Types of Multiplexing - Multiplexing Application - Telephone system - Project 802 - Ethernet - Token Bus - Token Ring - FDDI - IEEE 802.6 - SMDS - Circuit Switching - Packet Switching - Message switching - Connection Oriented and Connectionless services.		
	Unit-4:History of Analog and Digital Network - Access to ISDN - ISDN Layers - Broadband ISDN - X.25 Layers - Packet Layer Protocol - ATM - ATM Topology - ATM Protocol.		
	Unit-5 : Repeaters - Bridges - Routers - Gateway - Routing algorithms - TCP/IP Network, Transport and Application Layers of TCP/IP - World Wide Web **REFRENCES** 1. Jean Walrand 1998,Communication Networks (A first Course),Second Edition, WCB/McGraw Hill. 2. Behrouz and Forouzan, 2006,Data Communication and Networking,3nd Edition ,TMH.		

COURSE OUTCOMES

CS2601.1: Able to understand the basics of data communication, networking, internet and their importance.

CS2601.2: To analyze the services and features of various protocol layers in data networks and differentiate wired and wireless computer networks

CS2601.3: Able to understand and analyze the TCP/IP and their protocols.

CS2601.4: To recognize the different internet devices and their functions and identify the basic security threats of a network.

MAPPING FUNCTION OF PO's, CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2601.1	2	3	3	2	3	2	3	3	2	3	2	2
CS2601.2	3	3	3	3	3	3	3	2	3	3	2	3
CS2601.3	3	3	3	3	3	2	3	3	3	2	3	3
CS2601.4	3	3	3	3	3	3	3	3	3	3	2	2
Average	2.75	3	3	2.75	3	2.5	3	2.75	2.75	2.75	2.25	2.5

Title of the Course/	WEB TECHNOLOGY		
Core	**III Year & Sixth Semester**	Credit: 4	CS2602
Objective of the course	This course introduces the concepts of ASP, VB Script , Java Script.		
Course outline	Unit 1: Introduction to` VBScript - Adding VBScript Code to an HTML Page - VB Script Basics - VBScript Data Types - VBScript Variables - VBScript Constants - VBScript Operators – mathematical- comparison-logical - Using Conditional Statements - Looping Through Code - VBScript Procedures – type casting variables - math functions –date functions – string functions –other functions - VBScript Coding Conventions - Dictionary Object in VBScript - Err Object		
	Unit-2: Introduction to Javascript – Advantages of Javascript – Javascript syntax - Data type –Variable - Array – Operator & Expression – Looping – control structures - Constructor Function – user defined function Dialog Box .		
	Unit 3: Javascript document object model – Introduction – Object in HTML – Event Handling – Window object – Document object – Browser object – Form object – Navigator object – Screen object – Build in object – User defined object – Cookies.		
	Unit-4: ASP.NET Language Structure – Page Structure – Page event , Properties & Compiler Directives . HTML server controls – Anchor, Tables, Forms, Files . Basic Web server Controls – Lable, Text box, Button, Image Links, Check & radio Button, Hyperlink, Data List Web Server Controls – Check box list. Radio button list, Drop down list, List box, Data grid, Repeater.		
	Unit-5: Request and Response Objects, Cookies, Working with Data – OLEDB connection class, command class, transaction class, data adaptor class, data set class. Advanced issues – email, Application issues, working with IIS and page Directives, error handling. Security – Authentication, IP Address, Secure by SSL & Client Certificates		

COURSE OUTCOMES

CS2602.1: To understand the web architecture and web services.

CS2602.2: To design interactive web pages using html and style sheets.

CS2602.3: To know the fundamentals of client side scripting such as vbscript and apply it for data validation.

CS2602.4: To provide solutions by identifying and formulating it related problems.

MAPPING FUNCTION OF PO's, CO's & PSO's
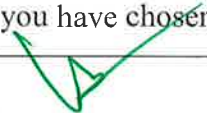
CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2602.1	2	3	3	2	3	2	3	3	2	3	2	2
CS2602.2	3	3	3	3	3	3	3	2	3	3	2	3
CS2602.3	3	3	3	3	3	2	3	3	3	2	3	3
CS2602.4	3	3	3	3	3	3	3	3	3	3	2	2
Average	2.75	3	3	2.75	3	2.5	3	2.75	2.75	2.75	2.25	2.5

Title of the Course/	**PRACTICAL – VI -WEB APPLICATIONS LAB**		
Core	**III Year & Sixth Semester**	Credit: 5	Code: CS2603
Objective of the course	1. This course gives training in web design and applications. 2. To apply CSS concept and design a static web page 3. To create internet application using java script and asp		
Course outline	<u>VB SCRIPT & JAVASCRIPT</u> 1. Write a program outputs the squares, roots, cubes and complements of integers between 1 and 100. 2. Create a calculator. 3. Write a script to Sort numbers and strings 4. Create a program to generate a hit counter 5. Create a program to verify whether email address provided by user is valid or invalid. 6. Write a program to scroll the text on status bar. 7. The form consists of two multiple choice list and one single choice list a. the first multiple choice list display the major dishes available. b. the second Multiple choice list display the stocks available. c. The single choice list display the miscellaneous (Milkshakes, soft drinks, softy available etc.) 8. Write a script to create a digital clock. 9. Create a web page using two image file which switch black and white one another as the mouse pointer moves over the image. Use the On Mouse over and On Mouse event, onDblclick handler 10. Build a WWW page with an image and 3 buttons., Pick three favorite graphics, Label the buttons and make each one swap in the graphic you have chosen		

11. Create a frameset that has two frames, side by side.

    1. Make the left-hand frame contain a form with 3 radio buttons

    2. The buttons should be for three search engines:

        a. Yahoo (http://www.yahoo.com)

        b. Altavista (http://www.altavista.com)

        c. Infoseek (http://www.infoseek.com)

    3. When the user clicks on of the option buttons, the frame on the right hand side should be loaded with the right search engine.

12. Write a program to implement Employee database with all validation.

ASP

1.Create a login form, to expire, if the user does not type the password within 100

  seconds

2.Create an employee database and manipulate the records using command object in ASP

3. Develop an application to illustrate the usage of Request and Response Objects in   ASP.

4. Write an ASP program using Request Object to give the exact list of headers sent by   the browser to the Web server.

5. Create an Active Server Page to display the records one by one from a student

Database. The student database should contain roll no, name, marks & total.

7. Design an ASP application that describes books in the Online Bookshop.(Use AD Rotator Component, Content Rotator Component, Content Linking Component)

8. Create a document and add a link to it. When the user moves the mouse over the link it should load the linked document on its own (User is not required to click on the link).

9. Create a document, which opens a new window without a toolbar, address bar, or a status bar that unloads itself after one minute.

10. Create a document that accepts the user's name in a text field form and displays thesame the next time when the user visits the site informing him that he has accessed the site for the second time, and so on.

COURSE OUTCOMES:

CS2603.1: Design a static webpage by applying HTML elements.

CS2603.2: Apply CSS concepts for designing HTML web pages.
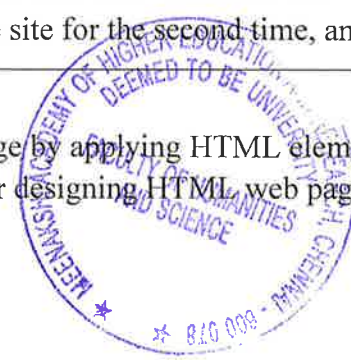
CS2603.3: Develop DHTML pages by using JavaScript, JQuery with DOM events.

CS2603.4: Implement a webpage with database connectivity using Java.

MAPPING FUNCTION OF PO's, CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2603.1	3	3	3	3	3	3	2	3	2	3	3	2
CS2603.2	3	3	3	3	3	3	3	3	3	2	3	3
CS2603.3	3	3	3	3	2	3	3	3	3	3	3	3
CS2603.4	2	2	2	2	2	3	3	3	3	3	2	2
Average	2.75	2.75	2.75	2.75	2.5	3	2.75	3	2.75	2.75	2.75	2.5

Title of the Course/ Paper	**DATA MINING**		
Elective	**III Year & Sixth Semester**	Credit: 5	Code: CS2902
Objective of the course	1. This course introduces the fundamental concepts of Data Mining. 2. Dealing with data mining query language and architecture. 3. Discussing classification and clustering techniques		
Course outline	Unit1: Introduction: Data mining – Functionalities – Classification – Introduction to Data Warehousing – Data Preprocessing : Preprocessing the Data – Data cleaning – Data Integration and Transformation – Data Reduction		
	Unit-2: Data Mining, Primitives, Languages and System Architecture: Data Mining – Primitives – Data Mining Query Language,. Architectures of Data mining Systems. Concept Description, Characterization and Comparison: Concept Description, Data Generalization and Summarization, Analytical Characterization, Mining Class Comparison – Statistical Measures.		
	Unit 3: Mining Association Rules: Basics Concepts – Single Dimensional Boolean Association Rules From Transaction Databases, Multilevel Association Rules from transaction databases – Multi dimension Association Rules from Relational Database and Data Warehouses.		
	Unit-4:Classification and Prediction: Introduction – Issues – Decision Tree Induction – Bayesian Classification – Classification of Back Propagation. Classification based on Concepts from Association Rule Mining – Other Methods. Prediction – Introduction – Classifier Accuracy.		
	Unit-5: Cluster Analysis: Introduction – Types of Data in Cluster Analysis, Petitioning Methods – Hierarchical Methods Density Based Methods – GRID Based Method – Model based Clustering Method. **REFRENCES:** 1. I.J.Han and M. Kamber,2001,Data Mining Concepts and Techniques,Harcourt India Pvt. Ltd - New Delhi. 2. I K.P. Soman , ShyamDiwakar, V.Ajay ,2006, Insight into Data Mining Theory and Practice, Prentice Hall of India Pvt. Ltd - New Delhi		

COURSE OUTCOMES:

CS2902.1: Able to learn the functionalities of data mining and its Preprocessing techniques.

CS2902.2: Understanding the data mining query language.

CS2902.3: Able to identify data mining algorithms to solve real world problem.

CS2902.4: Able to compare and evaluate different data mining techniques like Classification, Prediction, Clustering and association rule mining.

MAPPING FUNCTION OF PO's, CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2902.1	3	3	3	3	3	3	2	3	2	3	3	2
CS2902.2	3	3	3	3	3	3	3	3	3	2	3	3
CS2902.3	3	3	3	3	2	3	3	3	3	3	3	3
CS2902.4	2	2	2	2	2	3	3	3	3	3	2	2
Average	2.75	2.75	2.75	2.75	2.5	3	2.75	3	2.75	2.75	2.75	2.5

Title of the Course/ Paper	CLIENT / SERVER COMPUTING		
Elective	**III Year & Sixth Semester**	Credit: 5	Code: CS2903
Objective of the course	1. This Subject deals with the C/S Computing, GUI. 2. Gain Exposure on most common used servers. 3. Develop a client –server based application.		
Course outline	Unit 1: Introduction to Client/Server Computing – What is Client/Server Computing – Benefits of Client/Server Computing – Evolution of C/S Computing – Hardware Trends – Software Trends-Evolution of Operating Systems – N/w Trends – Business Considerations.		
	Unit-2: Overview of C/S Applications: Components of C/S Applications – Classes of C/S Applications – Categories of C/S Applications. Understanding C/S Computing : Dispelling the Myths – Obstacles – Upfront & Hidden – Open Systems & Standards – Standards – Setting Organizations – Factors of Success.		
	Unit 3: The Client Hardware & Software : Client Component – Client Operating Systems – What is GUI – Database Access – Client Software Products : GUI Environments – Converting 3270/5250 Screens – Database Tools – Client Requirements : GUI Design Standards – Open GUI Standards – Interface Independence – Testing Interfaces .		
	Unit-4:The Server : Categories of Servers – Features of Server Machines – Classes of Server Machines – Server Environment : N/W Management Environment – N/W Computing Environment – Extensions – Network Operating System – Loadable Module.		
	Unit-5 : Server Operating System : OS/2 2.0 – Windows New Technology – Unix Based OS – Server Requirements : Platform Independence – Transaction Processing – Connectivity – Intelligent Database – Stored Procedure – Triggers – Load Leveling – Optimizer – Testing and Diagnostic Tools – Backup & Recovery Mechanisms.		
	REFRENCES: 1. Patrick Smith &SteaveGuengerich, "Client/Server Computing". PHI 2. Dawna Travis Devire, "Client/Server Computing". TMH		

COURSE OUTCOMES:

CS2903.1: To design and build client server applications with network programming exposure.

CS2903.2: Able to understand the concept of three tier applications

CS2903.3: To design and Set up a client /server environment using LAN and WAN Scenarios.

CS2903.4: Understanding the concept of Improving the performance and reliability of Client Server based systems.

MAPPING FUNCTION OF PO's, CO's & PSO's

CO'S	PROGRAM OUTCOMES										PSO'S	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PSO1	PSO2
CS2903.1	3	3	2	2	3	2	3	3	2	3	3	2
CS2903.2	3	2	2	3	2	2	3	2	3	2	2	3
CS2903.3	3	3	3	3	3	3	3	3	3	3	3	3
CS2903.4	2	3	3	3	3	2	3	2	3	3	3	3
Average	2.75	2.75	2.5	2.75	2.75	2.25	3	2.5	2.75	2.75	2.75	2.75

MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH
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SYLLABUS

PART I-TAMIL

Common for UG students who study PART I - Tamil for four semesters/ two semesters (i.e. B.A.(English)/ B.Sc.(Mathematics),B.Sc(Computer Science), B.Sc (Visual Communication),B.C.A/B.Com.(General),B.Com (CS),B.Com (CA) & B.B.A)

முதற்பருவம் (First Semester)

1.செய்யுள்:

அ	மனோன்மணியம்	தமிழ்த் தெய்வ வணக்கம் 'நீராருங் கடலுடுத்த' என்று தொடங்கும் முதற்பாடல் 'கடல்குடித்த…' என்று தொடங்கும் ஆறு கண்ணிகள்.
ஆ.	இராமலிங்க அடிகளார்	ஆறாந்திருமுறையில் இடம் பெற்றுள்ள அருள் விளக்க மாலையில் 'கோடையிலே' , 'கதிக்கு வழி,'தனித்தனி' எனத் தொடங்கும் மூன்று பாடல்கள் மட்டும்.
இ.	கவிமணி தேசிய விநாயகம் பிள்ளை	மலரும் மாலையும் என்னும் நூலில் இடம் பெற்றுள்ள 'கோவில் வழிபாடு' வாழ்க்கைத் தத்துவங்கள் எனும்; தலைப்பிலுள்ள கவிதை முழுமையும்.
ஈ.	பாரதியார்	'கண்ணன் என் சேவகன்' என்ற தலைப்பில் அமைந்துள்ள கவிதை முழுமையும்.
உ.	பாரதிதாசன்	'அழகின் சிரிப்பு' நூலில் இடம் பெற்றுள்ள 'ஆல்' என்ற தலைப்பில் உள்ள பாடல்கள்.
ஊ.	ஈரோடு தமிழன்பன்	'அந்த நந்தனை எரித்த நெருப்பின் மிச்சம்' என்ற நூலில் இடம் பெற்றுள்ள 'வாக்குச் சீட்டுகளுக்கு ஓர் அர்த்தம் வரட்டும்' என்னும் கவிதை மட்டும்.
எ.	கவிஞர் வைரமுத்து	திருத்தி எழுதிய தீர்ப்புகள் என்னும் நூலில் இடம் பெற்றுள்ள 'நிலத்தை ஜெயித்த விதை கவிதை மட்டும்.
2.	இலக்கணம்	
	இலக்கணக்குறிப்பு	பாடத்திட்டத்தில் இடம் பெற்றுள்ள செய்யுட்களில் அமைந்துள்ள இலக்கணக் குறிப்புகளை எடுத்துக் காட்டுதல்.
3.	மொழித்திறன்	
	1. கலைச் சொல்லாக்கம் 2.நேர் காணல் 3. பொருந்திய சொல் தருதல் 4.மரபுத் தொடர்.	
4.	பாடந்தழுவிய இலக்கிய வரலாறு	
5.	பொதுக்கட்டுரை Note: இடஞ்சுட்டிப் பொருள் விளக்கம் செய்யுள் பகுதியில் இடம் பெற வேண்டும்.	

14

PRINCIPAL
FACULTY OF HUMANITIES & SCIENCE
MEENAKSHI ACADEMY OF HIGHER EDUCATION AND RESEARCH
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No: 12, Vembuliamman Koil Street,
West K.K. Nagar, Chennai-600 078

இரண்டாம் பருவம் (Second Semester)

1.செய்யுள்:

அ.	திருநாவுக்கரசர் தேவாரம்	நான்காம் திருமுறை- நமச்சிவாயத் திருப்பதிகம் 10 பாடல்கள்
ஆ.	குலசேகர ஆழ்வார்	பெருமாள் திருமொழி – 'ஆலைநீள் கரும்பன்னவன் எனத் தொடங்கும் தேவகி புலம்பல் (முழுமையும்)
இ.	நளவெண்பா	கலி நீங்கு காண்டம் தேர்ந்தெடுக்கப் பட்ட 40 பாடல்கள்
ஈ.	சீறாப்புராணம்	மானுக்குப் பிணை நின்றபடலம் தேர்ந்தெடுக்கப்பட்ட 65 பாடல்கள்
உ.	கண்ணதாசன்	ஏசு காவியம்-பாடுகளின் பாதை – தேர்ந்தெடுக்கப் பட்ட பாடல்கள் மட்டும்
2.	இலக்கணம் இலக்கணக் குறிப்பு –செய்யுட் பகுதியில் அமைதல் வேண்டும்.	
3.	உரைநடை டாக்டர் மு.வ.வின் 'நல்வாழ்வு' நூல் முழமையும் பாரி நிலையம் சென்னை -60 108	
4.	பாடந் தழுவிய இலக்கிய வரலாறு	
5.	மொழி பெயர்ப்பு பொது (ஆங்கிலத்திலிருந்து தமிழ்) இடஞ்சுட்டிப் பொருள் விளக்கம் செய்யுட் பகுதியில் இடம் பெற வேண்டும்.	

SYLLABUS

Part I Tamil

Common for UG/ students who study PART II - Tamil for four semesters

(i.e. B.A.(English)/ B.Sc.(Mathematics), B.Sc(Computer Science), B.Sc (Visual Communication))

1.செய்யுள்:

திருக்குறள்	- அன்புடைமை	- அதிகாரம்	8
	கல்வி	- அதிகாரம்	40
	கேள்வி	- அதிகாரம்	42
	அறிவுடைமை	- அதிகாரம்	43
	சிலப்பதிகாரம்	- வழக்குரை காதை	
	மணிமேகலை	- 17. உலக அறவி புக்க காதை	
	சீவக சிந்தாமணி	- விமலையார் இலம்பகம் (42 பாடல்கள்)	
	கம்பராமாயணம்	- குகப்படலம் (46 பாடல்கள்)	
	பெரிய புராணம்	- காரைக்கால் அம்மையார் புராணம்	

2. இலக்கணம்:

செய்யுள் பகுதியிலிருந்து அணி இலக்கணம் மட்டும்.

3. சிறுகதை:

அறிஞர் அண்ணாவின் சிறுகதைகள்

1. கொக்கரக்கோ
2. சரோஜா ஆறணா
3. பேய் ஓடிப் போச்சு
4. 1938-40 ஒரு வசீகர வரலாறு
5. சாது
6. செவ்வாழை
7. பொங்கல் பரிசு
8. வேலை போச்சு
9. விழுப்புரம் சந்திப்பு
10. காலிழந்தான்

4.பாடம் தழுவிய இலக்கிய வரலாறு:

நீதி இலக்கியங்கள், ஐம்பெருங்காப்பியங்கள், சோழர் கால இலக்கியங்கள்.

5. **பயன்பாட்டுத் தமிழ்:**

1. அகர வரிசைப் படுத்துதல்
2. ஒரு பொருள் குறித்த பல சொற்கள்
3. பல பொருள் குறித்த ஒரு சொல்
4. எழுத்துப் பிழை நீக்கம்
5. ஒற்றுப் பிழைகளை நீக்கி எழுதுதல்
6. தொடர் பிழை நீக்கம்
7. பிறமொழிச் சொற்களை நீக்கி எழுதுதல்.

1. **செய்யுள்:**
   புறநானூறு : 212, 213, 214, 215, 216

அ. 212 பாடியவர் -பிசிராந்தையார், கோப்பெருஞ்சோழனின் மாண்பைப் பாடியது.
திணை -இயன்மொழி "நுங்கோ யாரென வினவின் எங்கோக்...." (10 அடிகள்)

ஆ. 213 பாடியவர் - புல்லாற்றூர் எயிற்றயினார் கோப்பெருஞ்சோன் தன்
மக்கள் மேல் போருக்கு எழுந்த போது பாடியது. வஞ்சித் திணை, துணை
வஞ்சித்துறை "மண்டமர் அட்ட மதனுடைய நோன்றாள்"
(24 அடிகள்)

இ. 214 கோப்பெருஞ்சோழன் வடக்கிருந்த போது பாடியது. பொதுவியல் திணை,
பொருண்மொழிக்காஞ்சித்துறை "செய்குவம் கொல்லோ நல்வினை
எனவே" (13 அடிகள்)

ஈ. 215 கோப்பெருஞ்சோழன் பிசிராந்தையார் வருவார் எனப் பாடியது. பாடாண்
திணை, இயன்மொழித்துறை "கவைக் கதிர் வரகின் அவைப்புறு வாக்கல்...."
(9 அடிகள்)

உ. 216 கோப்பெருஞ்சோழன் பாடல், பாடாண்திணை இயன்மொழித் துறை.
"கேட்டல் மாத்திரை அல்லது யாவதும்..." 12 அடிகள்)

குறுந்தொகை : பாடல் எண், 2, 3, 16, 20, 31, 40, 49, 69, 124, 167

பா.எண் 2 -	குறிஞ்சித்திணை	-	தலைவன் கூற்று
	இறையனார்	-	"கொங்குதேர் வாழ்க்கை ...."5
பா.எண். 3 -	குறிஞ்சித்திணை	-	தலைவி கூற்று
	தேவகுலத்தார்	-	"நிலத்தினும் பெரிதே ..." 4
பா.எண்.16 -	பாலைத்திணை	-	தோழி கூற்று
	பாலை பாடிய	-	"உள்ளார் கொல்லோ தோழி 5
	பெருங்கடுங்கோ		
பா.எண். 20-	பாலைத்திணை	-	தலைவி கூற்று
	கோப்பெருஞ்சோழன்	-	"அருளும் அன்பும் நீக்கித் ..."4
பா.எண். 31-	மருதத்திணை	-	தலைவி கூற்று
	ஆதிமந்தியார்	-	"மள்ளார் குழீகிய விழவினாலும் 6
பா.எண். 40-	குறிஞ்சித் திணை	-	தலைவன் கூற்று
	செம்புலப்பெயல் நீரார்	-	"யாயும் ஞாயும்..." 5
பா.எண். 49-	நெய்தல் திணை	-	தலைவி கூற்று
	அம்மூவனார்	-	"அணிற் பல்லன்ன 5
பா.எண். 69-	குறிஞ்சித்திணை	-	தோழி கூற்று
	கடுந்தோட் கரவீரனார்	-	"கருங்கண் தாக்கலை 6

பா.எண். 69-	குறிஞ்சித்திணை	-	தோழி கூற்று
	கடுந்தோட் கரவீரனார்	-	"கருங்கண் தாக்கலை 6
பா.எண். 124-	பாலைத்திணை	-	தோழி கூற்று
	பாலை பாடிய		
	பெருங்கடுங்கோ	-	உமணர் சேர்ந்து 4
பா.எண். 167-	முல்லைத்திணை	-	செவிலித்தாய் கூற்று
	கூடலூர்கிழார்	-	"முளிதயிர் பிசைந்த ...6
கலித்தொகை:	நெய்தற்கலி 133	-	"மாமலர் முண்ட ....
	பாலைக்கலி 9	-	"எறித்தருகதிர்த் ....
	பட்டினப்பாலை	-	முழுவதும்

இலக்கணம்: திணை, துறை, விளக்கம்

நாடகம்: "பாண்டியன் பரிசு" – பாரதிதாசன்

இலக்கிய வரலாறு : பாடம் தழுவிய இலக்கிய வரலாறு

சங்க இலக்கியங்கள்: பாட்டும் தொகையும்

மொழிபெயர்ப்பு : அலுவலகக் கடிதம் (ஆங்கிலத்திலிந்து தமிழில் மொழிபெயர்த்தல்)
இடம் சுட்டிப் பொருள் விளக்கம் செய்யுட் பகுதியில் அமைதல் வேண்டும்.

SYLLABUS

PART II - ENGLISH

Common for UG students who study PART II - English for four semesters/ two semesters (i.e. B.A.(English)/ B.Sc.(Mathematics),B.Sc(Computer Science), B.Sc (Visual Communication),B.C.A/B.Com.(General),B.Com (CS),B.Com (CA) & B.B.A)

First Year - First Semester

Unit I   Prose :

Textures of English (Cambridge University Press India Pvt. Limited)

Headache	—	R.K. Narayan
A Little Bit of What You Fancy	—	Desmond Morris
My Early Days	—	Abdul Kalam
How to Escape from Intellectual Rubbish	—	Russell
Town by the Sea	—	Amitav Ghosh
Key To Courage	—	I.A. R Wylie

Unit II Poetry :

Verse (Macmillan Publishers India Limited)

Written in Early Spring	—	Wordsworth
When I have Fears	—	John Keats
Ulysses	—	Tennyson
Obituary	—	Ramanujan
The Unknown Citizen	—	Auden
For Elkana	—	Ezekiel

Unit III Short Stories

Vignettes A Collection of Short Stories Ed. Dr.P. N.Ramani
(New Century Book House(P) Limited)

Upper Division Clerk	—	Manohar Malgonkar
The Doll's House	—	Katherine Mansfield
Marriage is a Private Affair	—	Chinua Achebe
The Man Who Knew Too Much	—	Alexander Baron
The Ransom of Red Chief	—	O Henry
The Adventure of the German Student	—	Washington Irving

Unit IV

Grammar   Tense, Aspect, Auxiliaries (Primary and Modal), Concord,
Negatives, Interrogatives (Yes or No, Wh) Tag questions,
Completing the sentences , Common errors
Synonym, Antonym, Word class, Use in sentences of words (Text based)

Unit V   Functional English   Comprehension, Note Making,
A Handbook of English Grammar — Dr. H.M. Williams and
Dr. V. Saraswathi (Anu Chitra Publications)

PART II - ENGLISH
Second Semester

Unit I Prose :

<u>Textures of English (Cambridge University Press India Pvt. Limited)</u>

History of Chess	—	Barbara Mack
To Know When to Say, "It's None of Your Business'	—	Mc Cormck
The India of My Dreams	—	Indira Gandhi
The Second Crucifixion	—	Collins and Lapiere
How to Avoid Argument	—	Sam Horn
Six Thinking Hats	—	Edward Bono

Unit II Poetry :

<u>Verse (Macmillan Publishers India Limited)</u>

Leave this Chanting	—	Tagore
The Stone	—	Gibson
Mending Wall	—	Frost
The Ballad of Father Gilligan	—	W.B.Yeats
Hawk Roosting	—	Hughes
The Listeners	—	De La Mare

Unit III Biographical sketches

<u>Portraits in Prose —An Anthology of Biographical Sketches</u>
<u>Ed: S.Jagadisan (Orient Blackswan Private Limited)</u>

Socrates	—	Sir Richard Livingstone
Sir Issac Newton	—	Nathaniel Hawthorne
Leo Tolstoy	—	Ronald Seth
Alexander Fleming	—	Philip Cane
Mother Teresa	—	John Frazer
Martin Luther King	—	R.N.Roy

Unit IV Grammar

Grammar Voice, Articles, Prepositions, Reported Speech,
Conditional sentence,
Completing the sentences, Common Errors
Synonym, Antonym, Word class.
Use in sentences (Words as different word classes -Text based))

Unit V

<u>Functional English</u> Completing a dialogue , Expansion of hints
Use in sentences (Words as different word classes -Text based))

A Handbook of English Grammar Dr. H.M. Williams and
Dr. V. Saraswathi (Anu Chitra Publications)

Common for UG/ students who study PART II - English for four semesters (i.e. B.A.(English)/ B.Sc.(Mathematics), B.Sc(Computer Science), B.Sc (Visual Communication)

Second Year - Third Semester

Unit I – Prose
Classic Assets (Emerald Publishers)

My Visions for India	–	Abdul Kalam
On Saying Please	–	A. G. Gardiner
The Lady or the Tiger?	–	Frank Stockton
How to be a Doctor	–	Stephen Leacock
The Sporting Spirit	–	George Orwell
The Portrait of a Lady	–	Kushwant Singh

Unit II – Drama
Six One Act Plays Ed; Dr. Nafeesa Kaleem –
(Anu Chitra Publications)

The Dear Departed	–	Stanley Houghton
The Boy Comes Home	–	A. A. Milne
The Discovery	–	Herman Ould
The Shirt	–	Francis Dillon
The Pie and the Tart	–	Hugh Chesterton
Refund	–	Fritz Karinthy

Unit III – Fiction
Stevenson – Dr. Jekyll and Mr. Hyde (Retold by Kennet) – S. Chand & Company Ltd

Unit IV – Grammar
Grammar   Clauses, Types of sentences, Linkers, Adjectives and Adverbs, Degree of Comparison, Conjunctions and Sentence Linkers
Gerunds and infinitives,
 Beginning sentences with It
Completing the sentences
Synonym, Antonym, Word class
Use in sentences (Phrases - Text based)

Unit V
Functional English   Letter Writing(Informal), Report Writing, Diary writing

A Handbook of English Grammar – Dr. H.M. Williams and Dr. V. Saraswathi (Anu Chitra Publications)
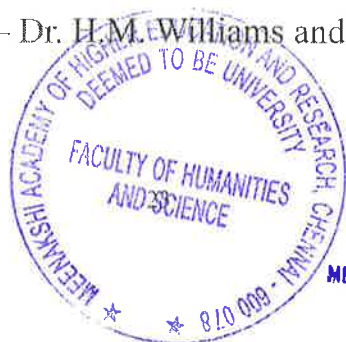
PART II – ENGLISH
SECOND YEAR - Fourth Semester
(Effective from the academic year 2009 -2010 **for the students admitted from 2008 -09**)

Unit I -- Prose
Classic Assets (Emerald Publishers)

Tree Speaks	–	C. Rajagopalchari
Nehru - Some Memories	–	Arnold Toynbee
Tolerance	–	E.M.Forster
The Lion and the Lamb	–	Leonard Clark
Professions for Women	–	Virginia Woolf
Little Things	–	Samuel Smiles

Unit II – Drama
Selected Scenes from Shakespeare's Plays – Book I
(Emerald Publishers)

Funeral Oration (Julius Caesar)
Trial for a Pound of flesh (The Merchant of Venice)
He Kills Sleep (Macbeth)
Play out a Play(Henry IV Part I)
Patterns of Love (As You Like It)

Unit III – Fiction
Arthur Conan Doyle – The Hound of the Baskervilles – Abridged by Aanand Kuma Raju
(Blackie Books)

Unit IV
Grammar - Phrasal Verbs-
Transformation of Sentences Negatives, voice, direct and
Indirect , Changing clauses into phrases and phrases into
Clauses, Common Errors Completing the sentences
Synonym, Antonym, Word class
Use in sentences (Idioms - Popular ones only)

Unit V -

Functional English   Letter Writing(Formal), CV, Paragraph Writing
Use in sentences (Idioms - Text based)
A Handbook of English Grammar – Dr. H.M. Williams and
Dr. V. Saraswathi (Anu Chitra Publications) Rs.52/-

SOFT SKILL I, II , III

Common for UG/ students who study

(i.e. B.A.(English)/ B.Sc.(Mathematics),B.Sc(Computer Science), B.Sc (Visual Communication), BCA, BBA, B.COM(GEN),(C.A),(C.S))

SOFT SKILLS –I

ESSENTIALS OF LANGUAGE AND COMMUNICATION

OBJECTIVES

We enable students to build a repertoire of functional vocabulary and to move from the lexical level to the syntactic level. we train students to summon words, phrases relevant to the immediate communication tasks. we enable students to comprehend the concept of communication. v teach students the four basic communication skillsListening, Speaking,

Reading and Writing.

UNIT 1:
Recap of language skills - vocabulary, phrase, clause, sentence.

UNIT 2:
Fluency building

UNIT 3:
Principles of Communication

UNIT 4:
Types of Communication

UNIT 5:
LSRW in Communication.

REFERENCE:

WEBSITES :

1. www.shg-india.net
2. www.tnruralbazaar.com

SOFT SKILLS – II

ESSENTIALS OF SPOKEN AND PRESENTATION SKILLS

OBJECTIVES:

We train Students to become aware of their thinking style and to enable them to convert thinking into performance. We prepare students to evolve metal models for intra-personal and inter-personal transactions. We make students reflect and improve their use of body language - Posture, Gesture, Facial expression, Tone.

UNIT I:

Thinking and Articulation - Cognitive, Affect, critical, creative aspects of articulation.

UNIT II:

Acquisition of Oral and Aural Skills.

UNIT III:

Communication Boosters - Body language.

UNIT IV:

Function of Cultural Codes in Presentation - Etiquette.

UNIT V:

Models of Presentation.

REFERENCES

RECOMMENDED TEXTS:

1. Powell1998. MacMillan Company

2. Cotton, et al. Market Leader. Longman.

3. Pease, Allan. 1998. Body Language: How to Read Others Thoughts by their Gestures. Sudha Publications. New Delhi.

4. Gardner, Howard. 1993. Multiple Intelligences: The Theory in Practice: A Reader. Basic Books. New York.

5. De Bono, Edward. 2000. Six Thinking Hats. 2nd Edition. Penguin Books.

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SOFT SKILL III
PERSONALITY ENRICHMENT

OBJECTIVES

To make students understand the concepts and components of personality, thereby to apply the acquired knowledge to themselves and to march towards excellence I their respective academic careers. 2. To enable students to keep themselves abreast of general knowledge and current information. 3. To bring out creativity and other latent talents with proper goal setting so that self-esteem gets enhanced. 4. To sharpen memory skills and other study skills which are vital for academic excellence. 5. To give training for positive thinking which will keep the students in a good stead at the time of crisis.

UNIT I : INTRODUCTION

Definition of Personality Components of Personality - structural and functional aspects. Determinants of Personality- biological, psychological and socio-cultural factors. Assessment of Personality - observation, interview and psychological tests. vMisconceptions and Classifications. Need for personality development.

UNIT II : SELF-AWARENESS AND SELF MOTIVATION

1. Self analysis through SWOT and Johari widow. 2. Elements of motivation. 3. Seven rules of motivation. 4. Techniques and strategies for self motivation. 5. Motivation checklist and Goal setting based on the principle of SMART. 6. Self motivation and life.

UNIT III : GENERAL KNOWLEDGE AND CURRENT AFFAIRS

1. Regional, National and International events. 2. Geographical, political and historical facts. 3. Information on sports and other recreational activities. 4. Basic knowledge with regard to health and health promotion.

UNIT IV : MEMORY, DECISION MAKING AND STUDY SKILLS

1. Definition and importance of memory. 2. Causes of forgetting. 3. How to forget (thought stopping), how to remember (techniques for improving memory) 4. The technique of passing exams. 5. The rational decision making process. 6. Improving creativity in decision making and components of creativity.

UNIT V : POWER OF POSITIVE THINKING

1. Thinking power- seven steps for dealing with doubt. 2. Traits of positive thinkers and high achievers, 3. Goals and techniques for positive thinking. 4. Enhancement of concentration through positive thinking. 5. Practicing a positive life style.

REFERENCES

1. Mile, D.J. (2004). Power of positive thinking. Delhi: Rohan Book Company. 2. Pravesh Kumar. (2005). All about self-motivation. New Delhi: Goodwill Publishing House. 3. Dudley, G.A. (2004). Double your learning power. Delhi: Konark Press. Thomas publishing Group Ltd. 4. Lorayne, H. (2004). How to develop a super power memory. Delhi: Konark Press. Thomas publishing Group Ltd. 5. Hurlock, E.B. (2006). Personality Development, 28th Reprint. New Delhi: Tata Mc Graw Hill.

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SYLLABUS

SOFT SKILL IV

Common for UG/ students who study (i.e. B.A.(English)/ B.Sc.(Mathematics), BBA, B.COM(GEN),(C.A),(C.S))

SOFT SKILL – IV

COMPUTING SKILLS

OBJECTIVE:

The major objective in introducing the Computer Skills course is to impart training for students in Microsoft Office which has different components like MS Word, MS Excel, MS Access, Power point etc., at two levels based on their knowledge and exposure. It provides essential skills for the user to get adapted to any work environment, as most of the systems in any6 work place have MS Office installed for their day to day activities. The course is highly practice oriented rather than regular class room teaching. Pre-requisite : NIL.

UNIT I:

Introduction to Computers - Classification of Computers; Role of Computers in society; Inside the Computers - Hardware (processing, memory, i/o, storage), Software (systems, application), CPU, OS, (DOS, Windows, Unix, Linux), Storage Devices; Programming - Overview, need for languages, skills; Networking Basics; Virus; Hacking.

UNIT II:

Word Processing - Open, Save and close word document; Editing text - tools, formatting, bullets; Spell Checker; Navigating in word - keyword, Mouse; document formatting - paragraph alignment, indentation, headers and footers, numbering; printing - preview, options.

UNIT III:

File Management - Understanding the importance of file management; backing of files, navigating thru My Computer and Windows Explorer; Files and Folders - editing, retrieving, deleting, renaming, subfolders - manipulate windows - maximize, minimize; Power point basics - terminology, templates, viewing.

UNIT IV:

Spreadsheets - MS Excel - opening, entering text and data, formatting, navigating; Formulas - entering, handling and copying; Charts - creating, formatting and printing, header and footer, centering data, printing.

UNIT V:

Networks - Internet Explorer - components; www - working, browsing, searching, saving - Bookmark - favorite, create, delete - Printing a web page; email - creating, receiving, reading and sending messages. Note: Unit II to Unit V needs exposure thru practicals.

REFERENCES:

1. Introduction to Computers - Peter Norton, Tata McGrawHill. 2. Microsoft 2003 - Jennifer Ackerman Kettel, Guy HatDavis, Curt Simmons, Tata McGraw-Hill. EXAMINATION: 1. Internal assessment could be based on Theory and/or practicals. 2. End semester is based on practicals.

SYLLABUS

III SEMESTER

ENVIRONMENTAL STUDIES

Common for UG/ students who study

(i.e. B.A.(English)/ B.Sc.(Mathematics),B.Sc(Computer Science),B.Sc(Visual Communication) BCA, BBA, B.COM(GEN),(C.A),(C.S))

Objective: This course is designed

1. To enable students understand interrelationships of living organisms and their environments.
2. To enhance the knowledge and attitudes towards environment.
3. To understand the growing concern for conservation of biodiversity, prudential use of natural resources, effects of population and pollution on environment.
4. To create an awareness on the laws and ethics in environmental issues.

Unit 1 – Introduction & Natural Resources   (6 Hours)

The multi-disciplinary nature of environmental studies – Definition, Scope and importance, Need for public awareness. Natural Resources: Renewable and non – renewable resource Used and over - exploitation of forest, water and food resources

Unit 2 – Ecosystems   (4 Hours)

Concept of an ecosystem – structure and function of an ecosystem – producers, consumers and decomposers – Energy flow in the ecosystem and ecological pyramids

Unit 3 – Biodiversity and its conservation   (6 Hours)

Introduction – definition: genetic, species and ecosystem diversity – Value of biodiversity – consumptive use, productive use, social, ethical, aesthetic and optional Values – India as a mega – diversity nation – Hot spot of bio-diversity – Threats to bio-diversity, habitat loss, poaching of wildlife, man wildlife conflicts.

Unit 4 – Environmental Pollution   (6 Hours)

Definition – Causes, effects and control measures of – Air pollution, water pollution, soil pollution – solid waste management – causes, effects and control measures of urban and industrial wastes – Role of an individual in prevention of pollution.

Unit 5 – Social Issues and the Environment   (8 Hours)

From unsustainable to sustainable development – urban problems related to energy – water conservation, rain water harvesting, water shed management – Disaster management floods, earthquake, cyclone and landslides.

Environment ethics – issues and possible solutions – climate change, global warming, nuclear accidents and holocaust.

29

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SYLLABUS

VALUE EDUCATION - IV

Common for UG/ students who study

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UNIT-I Introduction

Value education – Education and institution culture-cultural values. Fivefold moral culture & nonviolence personality development: submission purpose and philosophy of life (perfection).

UNIT-II Structure in life:

Physical structure of human body-Five factors to balance in life-Four structure in life-Introspection-Thought process.

UNIT-III Desire and Anger:

Moralization of desire-Neutralizations of Anger.

UNIT-IV Human resource development:

Eradication of worries-greatness of blessings/friendship-peace-family-peace of mind.

UNIT-V Laws of nature:

Unified force-cause and effect system-purity of thought and deed-genetic centre.

I SEMESTER

ALLIED MATHEMATICS-I

(For B.Sc., Computer Science, BCA)

UNIT-I

Theory of equations -Relation between roots and coefficients – Transformation of equations-Increasing and decreasing the roots of an equation-Reciprocal equation –Horner's method-Newton's method of finding roots.

UNIT-II

Matrices: Characteristics roots and characteristic vectors- Properties (Statements only) Cayley Hamilton theorem (Statements only) verification-To find the inverse using the above theorem –Diagonalization of a matrix and using it to find the powers of a matrix.

UNIT-III

Trigonometry- Expansions of Expansions of $\cos n\phi$, $\sin\phi$, $\tan\phi$, in powers of ϕ- hyperbolic functions- Inverse hyperbolic function- Real and Imaginary parts of $\sin(\alpha+I\beta)$, $\tan v(\alpha+i\beta)$, $\tan^{-1}(\alpha+i\beta)$

UNIT-IV

Multiple integrals- Application of double integral- Integral in evaluating area between curves- Evaluation of triple integrals – Jacobian of two and three variables- Beta and Gamma functions-Relation- Evaluation of double and triple integrals using Beta and Gamma functions.

UNIT-V

Fourier Series- Definition- Finding Fourier coefficients for a given periodic function with period 2π - Odd and Even function- Half Range series.

Books for Reference:

1. S. Narayanan and T.K. Manickavachagam Pillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.

2. P. Kandasamy and K.Thilagavathi , Allied Mathematics Volume I and II-2004, S.Chand and Co., New Delhi.

3. Ancillary Mathematics Volume I and II by P. Balasubramanian & K.G.Subramanian.

II SEMESTER

ALLIED- MATHEMATICS-II

(For B.Sc., Computer Science and BCA)

UNIT-I

Differential equation of the form $(aD^2+bD+C)y = e^{ax} \phi(x)$ where a, b, c are constants, $\phi(x) =$ sin m x (or) Cos mx (or) x^m. Solution of homogeneous linear differential equations of the form $(ax^2D^2+bxD+C) y = X$, where x is a function of x – variation of parameters.

UNIT II

Formation of Partial differential equations by eliminating arbitrary constants and arbitrary function – Solutions of standard types of first order equations – $f(p,q) = O$; $p(x,p,q) = 0$, $f(y,p,q) = 0$, $f(z,p,q) = 0$, $z = px+qy+f(p,q)$ – Charpit's method (Problem Only) Lagrange method of solving linear partial differential equation $Pp+Qq+R$.

UNIT III

Vector Calculus – Scalar and Vector point function, Differentiation of Vectors, Differential operators, Directional Derivative, gradient, Divergence and curl.

UNIT IV

Integration of Vectors : Line, Surface and Volume Integrals. Theorems of Gauss, Green, Stokes theorems (Statement Only) Verification Simple Problems.

UNIT V

Laplace transformation : Definition – Laplace Transform of e^{at}, Cos at, Sin at, Cos h at, Sin h at t^n, n-a Positive integer – $e^{at} f(t)$, tn f(t), f'(t), f''(t) – Inverse Laplace Transform – Solving differential equation of second order with constant coefficients using Laplace Transform – Solving simultaneous equations using Laplace Transform.

Books for Reference :

1.   S. Narayanan and T.K. Manickavasgam Pillai – Ancillary Mathematics, S. Viswanathan Printers, 1986, Chennai.

2.   P. Kandasamy and K. Thilagavathi, Allied Mathematics Volume I and Volume II – 2004, S. Chand and Co., New Delhi.

3.   Ancillary mathematics Volume 1 and 2 by P. Balasubramanian & K. G. Subramanian.