

VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

(Re – accredited with 'A' Grade by NAAC)

VIRUDHUNAGAR

17.04.2015

MINUTES OF THE SIXTH ACADEMIC COUNCIL MEETING

The Sixth Academic Council Meeting of Virudhunagar Hindu Nadars' Senthikumara Nadar College (Autonomous) Virudhunagar was held on 17th April, 2015 at 11 a.m. in V.P.S.A.Paramasiva Nadar – Thillai Sivakami Ammal Conference Hall.

The Chairperson and Principal welcomed the gathering

The Chairperson also introduced the University Nominees Dr.D.Sasireka, Dr.N.Markkandeyan and Dr.R.Poovazhaki, the Governing Body Nominees Mr.Ambal R.Muthumani, Mr.O.M.S.P.C.Senthil Subramanian and Mr.M.A.P.R.Rengasamy, and Dr.M.Mariappan, Chairperson, Board of Studies of B.A. Economics, Dr.G.Hezekiah Raja, Chairperson, Board of Studies of M.Com.(C.A.) and Dr.A.A.Magesan, Principal Nominee who are inducted as new members to the Academic Council.

The Principal presented before the Council the progress report on Autonomy.

Three subjects were presented for resolution

Dr. R. Selvam, Dean Curriculum-Arts moved the first subject:

Subject I:

Approval for the nomination of new members to various Boards of studies under the categories subject experts, alumni and representatives from the corporate / industrial sectors.

Resolution

The subject was considered and resolved to approve the Subject experts, alumni and members of the Corporate / Industrial sectors nominated for various Boards of Studies as given in Annexure I.

Subject 2:

Approval for the Title of the Subjects for all the semesters and the detailed syllabi and Subject Codes for the first year subjects passed in the various Boards of Studies for all the Undergraduate, Postgraduate, M.Phil. and Certificate courses.

The Principal invited the Chairpersons of the Boards of Studies to move the subject for approval.

Dr. S. Jayaram, Chairperson, Board of Studies of Part I Tamil and B.A. Tamil moved the subject of approval by the Academic Council for the changes made in the syllabus of UITAC61, the paper titles, subject codes and detailed syllabi for the first year subjects passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (1).

Dr. K. Sridhar, Chairperson, Boards of Studies of M.A. Tamil and M.Phil. Tamil moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabi for the first year subjects and also for the self learning courses passed in the Boards of Studies meeting held on 28.03.2015 as given in Annexure II (2).

Dr.R.Selvam, Chairperson, Boards of Studies of Part – II English, B.A. English, M.A. English, M.Phil. English and Certificate Course in Communicative and Functional English moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabi for the first year passed in the Boards of Studies meetings held on 28.03.2015 as given in Annexure II (3).

Dr.M.Mariappan, Chairperson, Board of Studies of B.A. Economics moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabi for the first year and for the self learning course *Economic Development of India* passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (4)

Dr. R.Vairamuthuvel, Chairperson, Board of Studies of B.Com., B.Com with CA, M.Com. and M.Phil. Commerce moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabi for the first year passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (5).

Dr.S.Sekar Subramanian, Chairperson, Board of Studies of B.B.A. moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabus for the first year, the changes made in the Allied Subjects *Business Statistics (UIMAA3B)* and *Business Mathematics (UIMAA4B)* and the change of subject code for *Field Study Report* passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (6).

Thiru S. Muthuraj, Chairperson, Boards of Studies of B.Sc. Maths, B.Sc. Maths with CA, M.Sc. Maths, and M.Phil. Maths moved the subject of approval by the Academic Council for the revised syllabi for M.Phil. subjects *Functional Analysis (M2MAE14)* and *Stochastic Processes (M2MAC12)* passed in the Board of Studies meeting held on 25.07.2014 and also the paper titles, subject codes and detailed syllabi for the first year subjects and self learning courses passed in the Boards of Studies meetings held on 28.03.2015 as given in Annexure II (7).

Dr. S. Rajasingh, Chairperson, Board of Studies of B.Sc. Physics, M.Sc. Physics, M.Phil. Physics moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabi for the first year subjects and also for the self learning courses *Renewable Energy Sources* and *Characterization Tools for Materials Science* to be introduced respectively for B.Sc. Physics and M.Sc. Physics and also the changes made in the syllabus of *Biophysics (UIPHC63)* passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (8)

Dr. R. Boominathan, Chairperson, Board of Studies of B.Sc. Chemistry, M.Sc. Chemistry and M.Phil. Chemistry moved the subject of approval by the Academic Council for the

paper titles, subject codes and detailed syllabi for the first year passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (9).

Dr. A. Rajendran, Chairperson, Board of Studies of B.Sc. Botany, M.Sc. Botany, and M.Phil. Botany moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabi for the first year and the syllabi for the self learning courses *Food science and Nutrition* and *Forestry* to be introduced respectively for B.Sc. Botany and M.Sc. Botany passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (10).

Mr. V. Shanmugavelu, Chairperson, Board of Studies of B.Sc. Zoology, M.Sc. Zoology, M.Phil. Zoology and Certificate / Diploma / Advanced Diploma in Advanced Sericulture moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabi for the first year UG, PG and Add on Courses and the syllabus for the self learning course *Human Anatomy and Physiology* to be introduced for B.Sc. Zoology passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (11)

Dr. T. Kathirvalavakumar, Chairperson, Board of Studies of B.Sc. Computer Science, M.Sc. Computer Science and M.Phil. Computer Science moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabi for the first year and the syllabi for the self learning courses *Micro Controllers and Embedded System Development in C* and *Introduction to Python Programming* to be introduced for B.Sc. Computer Science passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (12).

Dr. T. Durai Anand, Chairperson, Board of Studies of B.Sc. Microbiology, M.Sc. Microbiology, and M.Phil. Microbiology moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabi for the first year and the syllabi for the self learning courses *Food Quality Analysis* and *Microbiology of Water* to be introduced respectively for B.Sc. Microbiology and M.Sc.

Microbiology passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (13).

Mr. D. Rajkumar, Chairperson, Board of Studies of BCA, MCA and PGDCA moved the subject of approval by the Academic Council for the syllabi for additional NME subjects *Enterprise Resource Planning (UICAN52)* and *Cryptography (UICAN62)* passed in the Board of Studies meeting held on 25.07.2014 and the title of the subjects for all the semesters and the first year syllabi for B.C.A., M.C.A., M.C.A. Lateral Entry and PGDCA and the syllabi for the self learning courses *Unix and Shell Programming, System Software* to be introduced for B.C.A. and *Software Testing, XML* for M.C.A. passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (14).

Mr. Z. Ramya Sushil, Chairperson, Board of Studies of B.Sc. IT and M.Sc. CS&IT moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabi for the first year passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (15).

Mr. R. Ayyamperumal, Chairperson, Board of Studies of MBA moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabi for the first year passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (16).

Dr. S. Sekar Subramanian, Chairperson, Board of Studies of M.Phil. Management Studies moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabus for the first year passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (17).

Dr. G. Hezekiah Raja, Chairperson, Board of Studies of B.Com.- E-Commerce and M.Com. CA moved the subject of approval by the Academic Council for the paper titles, subject codes and detailed syllabus for the first year M.Com. Computer Applications

passed in the Board of Studies meeting held on 28.03.2015 as given in Annexure II (18).

Resolution

The subject was considered and resolved to approve the Paper Titles, Subject Codes for all semesters and the detailed syllabi for the first year subjects and for self learning courses and also the changes made in the existing syllabi passed in the various Boards of Studies. As suggested by the Governing Body nominees *Food safety and Standards Authority of India 2011* is added in the syllabus of **Food Microbiology, Food Safety and Quality Management**, an elective paper in M.Sc. Microbiology

Dr. T. Murugesan moved the next subject.

Subject 3:

Approval for the syllabi of Part – V subjects.

Resolution

The subject was considered and resolved to approve the syllabi for NCC / NSS / YRC / RRC / Physical Education and also the revised evaluation pattern for the internal and external examinations passed in the Board of Studies meeting held on 11.04.2015 as given in Annexure III.

Mr. Ambal R.Muthumani, Mr.O.M.S.P.C. Senthil Subramanian and Mr.M.A.P.R.Rengasamy, the Governing Body nominees to the Academic Council suggested that traditional food safety may be included as a part in the syllabus of Microbiology. Further, they advocated that Yoga and Meditation may be introduced as a mandatory paper for all the students.

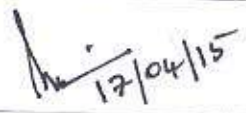

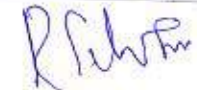


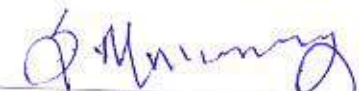
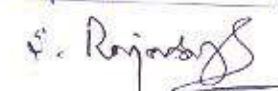
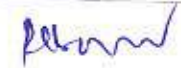
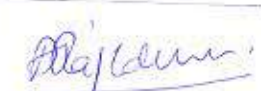

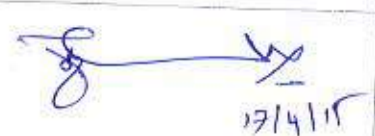


All resolutions were unanimously passed.





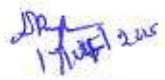
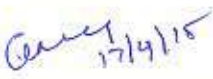









Out of 38 members, 33 turned out for the meeting and 5 members got permission to absent.






Mr. R. Palaniappan, the Member Secretary proposed vote of thanks and the meeting came to an end.


19/04/15

Members Present:

S.No.	Name and Designation	Signature
1.	Dr. S. Jayaram, M.A., M.Phil., Ph.D., P.G. Dip. in M.S.S Head, Department of Tamil.	 12/04/15
2.	Dr. K. Sridhar, M.A., M.Phil., Ph.D., P.G. D.J.M.C. Head I/c, Department of Tamil (P.G).	
3.	Dr. R. Selvam, M.A., M.Phil., Ph.D. Head, Department of English.	
4.	Dr. M. Mariappan, M.A., M.Phil., P.G. D.C.A., Ph.D. Head, Department of Economics.	
5.	Dr. G. Ravi, M.A., M.Phil., M.L.I.S., Ph.D. Head, Department of History.	
6.	Mr. S. Muthuraj, M.Sc., M.Phil. Head, Department of Mathematics.	
7.	Dr. S. Raja Singh, M.Sc., M.Phil., Ph.D. Head, Department of Physics.	
8.	Dr. R. Boominathan, M.Sc., M.Phil., Ph.D. Head, Department of Chemistry.	
9.	Dr. A. Rajendran, M.Sc., M.Phil., Ph.D. Head, Department of Botany.	
10.	Mr. V. Shanmugavelu, M.Sc., M.Phil. Head, Department of Zoology.	 17.4.15
11.	Dr. T. Kathirvalavakumar, M.Sc., PGDCA., M.Phil., Ph.D. Head, Department of Computer Science & Dean for Science	 17/4/15
12.	Dr. R. Vairamuthuvel, M.Com., M.Phil., M.B.A., PGDCA., Ph.D. Head, Department of Commerce.	 17.4.15
13.	Dr. G. Hezekiah Raja, M.Com., M.Phil., PGDCA., Ph.D. Head I/c, Department of Commerce (SF).	

14.	Dr.S.Sekar Subramanian, M.Com., M.Phil., MBA., Ph.D. Head, Department of Business Administration.	
15.	Mr.R.Ayyamperumal, MBA., M.Phil. Head I/c, Department of Management Studies.	
16.	Mr. Z. Ramya Sushil, M.Sc., M.B.A., M.Phil., M.Tech. Head I/c, Department of Information Technology.	
17.	Dr. T. Durai Anand, M.Sc., M.Phil., Ph.D. Head I/c, Department of Microbiology.	
18.	Mr. D. Raj Kumar, M.C.A., M.Phil. Head I/c, Department of Computer Applications.	
19.	Dr. T. Murugesan, MPES., M.Phil., PGDY., PGDSM., Ph.D. Chairperson Physical Education	
20.	Lt.N.Alagumanikumar, M.Sc., M.Phil. Chairperson NME - NCC	
21.	Mrs. T. Sasikala, M.A.(Hindi) Chairperson Part - I Alternative Language Hindi Board	
22.	Dr. N. Prithvikumaran, M.Sc., M.Phil., Ph.D., PBDCSA. Principal Nominee & Dean for Research	
23.	Mr. R. Ramesh Babu, M.A., M.Phil. Principal Nominee	
24.	Dr. A. A. Magesan, M.Com., M.Phil., M.C.A., PGDCA., Ph.D. Principal Nominee	
25.	Mr. Ambal R. Muthumani, B.Sc. Governing Body Nominee (Industry)	
26.	Mr. K.C.Gurusamy, B.Sc. Governing Body Nominee (Industry)	
27.	Mr. O.M.S.P.C. Senthil Subramanian, B.E. Governing Body Nominee (Engineering)	
28.	Mr. M.A.P.R. Rengasamy Governing Body Nominee (Commerce)	

29.	Director Self-financing Courses (Ex-officio) Governing Body Nominee (Education)	
30.	Mr. R. Palaniappan, M.C.A., M.Phil. Member Secretary Controller of Examinations	
31.	Dr. A. Sarathi, M.Sc., M.Phil., Ph.D. Special Invitee Dean - Internal Exams & Joint Controller of Examinations	
32.	Dr. P. Sami, M.Sc., M.Phil., Ph.D. Special Invitee Dean - Student Services	
33.	Dr. P. Sundara Pandian, M.Com., M.A., M.B.A., M.A.M.Phil. PGDPM&IR, PGDCA, DLLAL, Ph.D. Principal & Chair Person.	



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Virudhunagar – 626 001.

Course Name : B.A.,
Discipline : Tamil Literature

பாடத்திட்ட நோக்கம்

- தமிழ் இலக்கிய வரலாறு, இலக்கண வரலாறு, செம்மொழி வரலாறு, தமிழகப் பண்பாட்டு வரலாறு ஆகியவற்றைச் சமூகப் பின்புலத்துடன் கற்பித்தல்.
- எழுத்து, சொல், பொருள், யாப்பு, அணி ஆகிய ஐந்திலக்கணங்களைக் கற்பித்து மொழி ஆளுமையில் தேர்ச்சியடையச் செய்தல்.
- சங்ககாலம் முதல் இக்காலம் வரையிலான பல்வேறு காலங்களில் தோன்றிய இலக்கிய வகைமைகளைச் சமூகப் பின்புலத்துடன் கூடிய நோக்கில் கற்பித்தல்.
- இலக்கிய, இலக்கணங்களைப் புதிய நோக்கில் திறனாய்வு செய்தல்.
- மொழி ஆளுமையில் தேர்ச்சி பெறச் செய்தல்.
- மரபுக்கவிதை, புதுக்கவிதை, ஹைக்கூ, சிறுகதைப்படைப்புக்களைப் படைக்கும் ஆற்றலை வளர்த்தல். போட்டித் தேர்வுகளுக்கு மாணவ, மாணவியரை ஆயத்தப்படுத்துதல்.

2. பாடச்சேர்க்கைத் தகுதி

பி.ஏ., தமிழ் இலக்கியப் பட்ட வகுப்பில் சேர விண்ணப்பிப்போர் பன்னிரெண்டாம் வகுப்பில் தமிழை மொழிப்பாடமாகப் படித்துத் தேர்ச்சி பெற்றிருத்தல் வேண்டும்.
+2 பாடத்திட்டத்தில் சிறப்புத் தமிழ் படித்தோருக்கு முன்னுரிமை வழங்குதல் வேண்டும்.

3. பாடத்திட்டத்தின் கால அளவு

பி.ஏ., தமிழ் இலக்கியப் பட்டவகுப்பு மூன்றாண்டுகள் பயிலும் பாடமாகும். ஒவ்வோர் ஆண்டும் இரண்டு பருவங்கள் வீதம் ஆறு பருவங்கள் நடைபெறும்.

பாடத்திட்டம்

பருவம்	பகுதி	பாடம்	பயிற்றுக் காலம்	அகமதிப்பெண்	புற மதிப்பெண்	மொத்த மதிப்பெண்	மதிப்பீடுகள்	Subject code	Status
I	Part I	தமிழ்	6	25	75	100	3	U2PT1	Revised
	Part II	ஆங்கிலம்	6	25	75	100	3	U2PE1	New
	Core 1	தற்கால இலக்கியம்	5	25	75	100	4	U2TAC11	Revised
	Core 2	இலக்கணம் - நன்னூல் - எழுத்ததிகாரம்	5	25	75	100	4	U1TAC12	No change
	Allied I	தமிழக வரலாறும் பண்பாடும்	6	25	75	100	5	UITAA1	No change
	Part IV	மதிப்புக் கல்வி (Value Education)	2	25	75	100	2	UIVE11	No change

II	Part I	தமிழ்	6	25	75	100	3	UIPT2	No change
	Part II	ஆங்கிலம்	6	25	75	100	3	UIPE2	No change
	Core 3	நீதி இலக்கியம்	5	25	75	100	4	U2TAC21	Revised
	Core 4	இலக்கணம் - நன்னூல் - சொல்லதிகாரம்	5	25	75	100	4	UITAC22	No change



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Allied 2	தமிழும் உலகச் செம்மொழிகளும்	6	25	75	100	5	U2TAA2	Revised
Part IV	சுற்றுச்சூழல் (Environmental Studies)	2	25	75	100	2	U1ES21	No change

தமிழ்த்துறை

இளநிலை பட்ட வகுப்புகளுக்குரிய பொது விருப்பப்பாடத்

தெரிவு முறைப் பாட அமைப்புகள்(CBCS)

பகுதி -1 தமிழ் - பாடத்திட்டம்

முதலாமாண்டு - முதற்பருவம்

தாள் -1 இக்கால இலக்கியம்

Subject code :U2PT1

தகுதிப்புள்ளிகள் - 3

காலம் (வாரம்) - 6

மதிப்பெண் -75

- நோக்கங்கள்**
- இக்கால இலக்கிய வகைகளைத் தெரிவித்தல், இக்காலக் கவிதை, சிறுகதை, புதினம் வழிப் புலனாகும் கருத்துக்களைப்பெறச் செய்தல்
 - இலக்கியப் பாடுபொருளில் சமுதாய வாழ்வு நிலைகளை அறிந்து கொள்ள வாய்ப்பு அளித்தல்.

- பயன்**
- சமூக உணர்வுட்டும் படைப்புக்களை அழகியல் நுகர்ச்சி வாயிலாக மாணவர்கள் கற்றுக் கொள்ளுதல்.
 - புனைவிலக்கியம் படைக்கும் ஆற்றல் பெறுதல்.

கூறு-1 கவிதைகள்

1. பாரதியார் - புதுமைப்பெண்
2. பாரதிதாசன் - தமிழ் வளர்ச்சி
3. கவிமணி - உமர் கய்யாம் பாடல்கள்
4. கண்ணதாசன் - யாத்திரை
5. ந. பிச்சமூர்த்தி - மழைக்கூத்து
6. சி. மணி - ஈகை
7. எஸ். வைத்தீஸ்வரன் - கிணற்றில் விழுந்த நிலவு
8. சிற்பி - ஒரு கிராமத்து நதி



PRINCIPAL

VIRUDHUNAGAR HINDU NADARS'
SENTHIKUMARA NADAR COLLEGE
AUTONOMOUS
VIRUDHUNAGAR.



Course Name : M.A
Discipline : Tamil
(For Those who Join in 2015 and After)

OBJECTIVES:

1. தொன்மைக் காலம் முதல் அண்மைக் காலம் வரையிலான தமிழ் இலக்கிய, இலக்கணங்களின் சிறப்பியல்புகளை அறியச் செய்தல்.
2. தமிழ்மொழி வரலாறு, தமிழக வரலாறு, இன்றைய பண்பாட்டின் பரிணாம வளர்ச்சி, மொழி சார்ந்த பண்பாடு மற்றும் நாகரிக வளர்ச்சி போன்றவற்றை அறியுமாறு செய்தல்.
3. செம்மொழியென்ற தகுதி பெற்றுள்ள தமிழ் மொழியின் செவ்விலக்கியங்களையும் நெடுங்காலமாக நிலை பெற்றுள்ள பழந்தமிழ் இலக்கியங்களின் தகுதிப்பாட்டையறியும் ஆற்றலையும் வளர்த்தல்.
4. வளர்ந்து வரும் மக்கள் தகவல் தொடர்பியல் துறையில் பயிற்சி பெற வழி வகை செய்தல்.
5. மாணவர்களின் படைப்பாக்கத் திறனை வளர்த்தல்.
6. அரசு பணிக்காக நடத்தப் பெறும் போட்டித் தேர்வுகள் மற்றும் நேர்காணலை எதிர் கொள்ளும் திறனை உருவாக்குதல்.

Eligibility for admission :

Applicants seeking admission to the M.A. Degree Course in Tamil should have a Bachelor's degree in Literature (B.Lit.) or any Bachelor's Degree with Part - I as Tamil of the Madurai Kamaraj University, or any other degree accepted by the Syndicate of Madurai Kamaraj University as equivalent thereto.

Duration of the Course :

The duration of the course is two academic years. Each academic year consists of two semesters.

Course Scheme:

Semester	Part	Subject	Hour	credit	Int+Ext=Tot	Sub. Code	Status
I	Core 1	இலக்கணமும் மொழியியலும் (தொல்)- எழுத்து	6	5	25+75 =100	PITAC11	No change
	Core 2	இக்கால இலக்கியம்	6	4	25+75 =100	P2TAC12	Revised
	Core 3	சிற்பிலக்கியம்	6	4	25+75 =100	P2TAC13	Revised
	Core 4	தமிழர் சமூகமும் பண்பாடும்	6	4	25+75 =100	P2TAC14	Revised
	Elective-	மக்கள் தகவல் தொடர்பியல்	6	5	25+75 =100	P2TAE1	Revised



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

[Re-accredited with 'A' Grade by NAAC]

Virudhunagar - 626 001

Semester	Part	Subject	Hour	credit	Int+Ext=Tot	Sub. Code	Status
II	Core 5	இலக்கணமும் மொழியியலும் (தொல்) - சொல்	6	5	25+75 =100	P1TAC21	No change
	Core 6	உரையாசிரியர்களும் உரைமரபுகளும்	6	4	25+75 =100	P2TAC22	Revised
	Core 7	அற இலக்கியம்	5	4	25+75 =100		NO change
	Core 8	இலக்கியத் திறனாய்வும் அணுகுமுறையும்	5	4	25+75 =100	P2TAC24	Revised
	Core 9	சமய இலக்கியம்	4	4	25+75 =100	P2TAC25	Revised
	NME	பேச்சுக் கலை	4	4	25+75 =100	P2TAN2	Revised

Semester	Part	Subject	Hour	credit
III	Core 10	இலக்கணம் தொல் - பொருள் I	6	4
	Core 11	காப்பிய இலக்கியம்	6	5
	Core 12	ஆய்வு நெறிமுறைகள்	6	4
	Core 13	தமிழ் இலக்கிய வரலாறு	6	4
	Elective- 2	நாட்டுப்புறவியல்	6	5

Semester	Part	Subject	Hour	credit
IV	Core 14	இலக்கணம் தொல் - பொருள் II	6	4
	Core 15	பண்டை இலக்கியம்	6	4
	Core 16	இந்திய இலக்கியம்	6	4
	Core 17	இலக்கியங்களும் இயக்கங்களும்	6	4
	Elective-	ஆய்வேடு - வாய்மொழித் தேர்வு	6	5


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VIRUDHUNAGAR HINDU NADARS'
SENTHIKUMARA NADAR COLLEGE
AUTONOMOUS
VIRUDHUNAGAR.



Course Name : M.Phil

Discipline : Tamil

SEMESTER	PART	CODE	SUBJECT	HOURS	INT+EXT=TOTAL	Status
I	தாள்: 1	M1TAC11	ஆய்வு நெறிமுறைகள்	5	40+60=100	No change
	தாள்: 2	M2TAC12	தமிழ் ஆராய்ச்சியின் வரலாறும் வளர்ச்சியும்	5	40+60=100	Revised
	விருப்பப் பாடம்	M1TAE11	ஆராய்ச்சி அணுகுமுறைகள்	5	40+60=100	No change
	நூலகம்			15		No change
II	ஆய்வேடு	M1TA2PV	ஆய்வேடு & வாய்மொழித்தேர்வு	-	50+150=200	No change

தாள்: 1 ஆய்வு நெறிமுறைகள்

Contact Hours per week: 5

Contact Hours per semester: 75

Subject Code :

Credits : 5

நோக்கங்கள் :

1. ஆய்வு நெறிமுறைகளின் கட்டமைப்பினைத் தெரிந்து கொள்ளுதல். முதன்மை, துணைமை ஆதாரங்களைத் தெரிவு செய்தல்.
2. ஆய்விற்கானத் தரவுகளைத் திட்டமிடுதல். அவற்றின் உத்திகளைத் தெரிதல்.
3. ஆய்வேட்டின் வடிவமைப்பினைச் செம்மையாக அமைப்பதற்கான அணுகுமுறையைத் தெரிந்து கொள்ளல்.
4. ஆய்விற்கான அணுகுமுறையைத் தெரிவு செய்து கொள்ளல் மற்றும் அதன் பயன்பாடுகள் பற்றித் தெரிந்து கொள்ளுதல்
5. தமிழ் இலக்கியங்களில் உள்ள ஆய்வுக் களங்களைத் தெரிந்து கொள்ளல்

கூறு : 1 ஆய்வும் ஆய்வுத்தன்மைகளும்

15 Hours

ஆய்வு - வரையறை - விளக்கம் - ஆய்வு வகைகள் - ஆய்வு நாகரிகம்- ஆய்வு மொழிநடை - ஆய்வுப் பயன் .ஆய்வாளர், ஆய்வுக் கல்வி, ஆய்வாளரின் பண்பு - சிந்தனைத் தடைகள் - ஆய்வறம் -முதலியன

கூறு : 2 ஆய்வுத் திட்டமும் படி நிலைகளும்

15 Hours

ஆய்வுத் திட்டத்தின் இன்றியமையாமை - தலைப்புத் தெரிவு - சிக்கல் - கருதுகோள் - தரவுத் தொகுப்பு - முன்னைய ஆய்வுகளை அறிதல் - முதன்மை, துணைமை, சார்புத் தரவுகள் - நூலகப் பயன்பாடு - முதலியன

கூறு : 3 இலக்கிய ஆராய்ச்சியின் அணுகுமுறைகள்

15 Hours

மரபு வழி ஆய்வு முறைகள் - வரலாற்று முறை ஆய்வு, ஒப்பீட்டாய்வு, பகுப்பாய்வு, விளக்கமுறை ஆய்வு, அமைப்புமுறை ஆய்வு, சமூகவியல் மற்றும் உளவியல் ஆய்வு முறைகள் - நாட்டுப்புறவியல் ஆய்வு முறைகள் - பிற

PRINCIPAL

VIRUDHUNAGAR HINDU NADARS

SENTHIKUMARA NADAR COLLEGE

M.Phil. English

AUTONOMOUS

VIRUDHUNAGAR



Course Name: B. A.

Discipline : English

CHOICE BASED CREDIT SYSTEM**Rules and regulations, Course Scheme and Scheme of Examinations**

(For those who join in June 2015 and after)

1. COURSE OBJECTIVES:

The objectives of the B. A. Degree Course in English are

- To develop a strong foundation in literature, literary theories and criticism
- To acquire knowledge about various literary genres
- To enjoy and appreciate the literary works of great writers with critical insight

2. Eligibility for admission:

A pass in the Higher Secondary Course or its equivalent as per Madurai Kamaraj University rules.

3. Duration of the Course:

The course shall extend over a period of three years comprising six semesters with two semesters in one academic year. There shall not be less than 90 working days for each semester.

4. Course Scheme

Semester	Part	Subject	Hours	Credit	Int.+Ext.= Total	Subject Code	Status
I	Part I	Tamil	6	3	25+75=100	U2PT1	Revised
	Part II	English	6	3	25+75=100	U2PE1	New
	Part -III						
	Core I	History of English Literature (Pre – Chaucer to Pope)	5	4	25+75=100	U2ENC11	New
	Core 2	English Literature –I (Age of Chaucer to Milton)	5	4	25+75=100	U2ENC12	New
	Allied I	Social History of England Paper – I	6	5	25+75=100	U2ENA1	New
	Part IV	Value Education	2	2	25+75=100	U1VE11	No change
Semester	Part	Subject	Hours	Credit	Int.+Ext.= Total	Subject Code	Status
II	Part I	Tamil	6	3	25+75=100	U2PT2	Revised
	Part II	English	6	3	25+75=100	U2PE2	New
	Part III						
	Core 3	Literary Forms	5	4	25+75=100	U2ENC21	New
	Core 4	English Literature – II (Age of Dryden and Pope)	5	4	25+75=100	U2ENC22	New
	Allied 2	Social History of England Paper II	6	5	25+75=100	U2ENA2	New
	Part IV	Environmental Studies	2	2	25+75=100	U1ES21	No change



Semester	Part	Subject	Hours	Credit	Subject code
III	Part I	Tamil	6	3	
	Part II	English	6	3	
	Core 5	History of English Literature (Johnson to the Present Age)	5	4	
	Core 6	English Literature - III (Age of Johnson to Wordsworth)	5	4	
	Allied 3	Literary Criticism - I (Plato to Dr. Johnson)	6	5	
	SBE- I	Modern English Grammar - I	2	2	

Semester	Part	Subject	Hours	Credit	Subject Code
IV	Part I	Tamil	6	3	
	Part II	English	6	3	
	Core 7	English Literature – IV (Age of Tennyson)	4	4	
	Core 8	English Literature – V (20 th Century Literature)	4	4	
	Allied 4	Literary Criticism II (Wordsworth to F.R.Leavis)	6	5	
	SBE-2	Modern English Grammar - II	2	2	
	SBE-3	Phonetics	2	2	
Semester	Part	Subject	Hours	Credit	
V	Core 9	Shakespeare	5	5	
	Core 10	American Literature	5	5	
	Core 11	Indian Writing in English.	5	5	
	Core 12	New Literatures in English	5	5	
	Elective 1	History of English Language	6	5	
	SBE - 4	Employability Skills	2	2	
	NME - 1	English for Employment	2	2	



Semester	Part	Subject	Hours	Credit
VI	Core 13	Indian Diaspora Literature	6	4
	Core 14	Women's Writing in English	6	4
	Elective 2	Translation: Theory and Practice	6	5
	Elective 3	Journalism	6	5
	SBE -5	Computer Skills	2	5
	SBE -6	English for Competitive Examinations	2	2
	NME - 2	English for Professionals	2	2

Year	Part	Subject	Hours	Credit
I & II	Part V	NSS /NCC/YRC/ Sports/Consumer Club	-	1

PRINCIPAL

VIRUDHUNAGAR HINDU NADARS
SENTHIKUMARA NADAR COLLEGE
AUTONOMOUS
VIRUDHUNAGAR.



CHOICE BASED CREDIT SYSTEM

Course Name: M.A.

Discipline : English Literature

Rules and regulations, Course Scheme and Scheme of Examinations

(For those who join in June 2015 and after)

1. Course Objectives:

The objectives of the M. A. Degree Course in English Literature are to help the students

- i. Acquire advanced knowledge in the main areas of English Literature and Language.
- ii. Develop mastery over English language and Literature.
- iii. Gain advance literary sensibility and critical judgment.
- iv. Develop linguistic abilities – compositional and communicative skills.
- v. Trained in independent use of tools of learning i.e. study and reference skill.

2. Eligibility for admission:

A student who has passed B.A. Degree Examination with English as major subject or any UG degree with English as Part II subject at least for two years of any recognized University shall be admitted to M.A. English Literature programme.

3. Duration of the Course:

M.A. Programme will be of two years duration. Each academic year consists of two Semesters. The duration of a Semester is 90 working days.

4. Course Scheme

Semester	Part	Subject	Hours	Credit	Int+Ext=Tot	Sub. Code	Status
I	Core 1	Modern Literature – I	6	5	25+75=100	P2ENC11	No change
	Core 2	Modern Literature – II	6	4	25+75=100	P2ENC12	New
	Core 3	Modern Literature – III	6	4	25+75=100	P2ENC13	New
	Core 4	Modern Literature – IV	6	4	25+75=100	P2ENC14	New
	Elective - 1	Skill Development: Theory and Practice	6	5	25+75=100	P2ENE1	No change

Semester	Part	Subject	Hours	Credit	Int+Ext=Tot	Sub. Code	Status
II	Core 5	Modern Literature – V	6	5	25+75=100	P2ENC21	New
	Core 6	Shakespeare	5	4	25+75=100	P2ENC22	New
	Core 7	American Literature	5	4	25+75=100	P2ENC23	New
	Core 8	Indian Writing in English	5	4	25+75=100	P2ENC24	New
	Core 9	Literary Criticism (Sidney to T. S. Eliot)	5	4	25+75=100	P2ENC25	New
	NME	Communication Skills in English	4	4	25+75=100	P2ENN2	New



Semester	Part	Subject	Hours	Credit	Int+Ext=Tot	Sub. Code
III	Core 10	Indian Literatures in English Translation	6	5	25+75=100	
	Core 11	Contemporary Literatures in English	6	4	25+75=100	
	Core 12	Women's Writing in English	6	4	25+75=100	
	Core 13	Literature Study for NET/SET/JRF	6	4	25+75=100	
	Elective - 2	Linguistics	6	5	25+75=100	

Semester	Part	Subject	Hours	Credit	Int+Ext=Tot	Sub. Code
IV	Core 14	Contemporary Literary Criticism	6	4	25+75=100	
	Core 15	Teaching of English Language and Literature	6	4	25+75=100	
	Core 16	Research Methodology and Project	6	4	25+75=100	
	Core 17	Comparative Literature	6	4	25+75=100	
	Elective - 3	Research Scope in English	6	5	25+75=100	

M.A. English Semester I

Core Subject - Paper I

MODERN LITERATURE –I

Contact hours: 90

Credits: 5

Subject Code: P2ENC11

Objectives:

1. To introduce the students to select authors of the period of Chaucer to Milton
2. To make students familiar with selected pieces of these authors
3. To inculcate a sense of appreciation and enjoyment of English poetry, prose and drama.

UNIT I : Poetry

(15hrs)

1. Geoffrey Chaucer - The Prologue to the Canterbury Tales
 - i. Introduction (L 1-42)
 - ii Squire (L79-117)
 - iii Nun (L 118-164)
 - iv. Merchant (L270 – 284)
 - v. Clerk (L.479-528)
2. Edmund Spenser - Prothalamion

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 VIRUDHUNAGAR HINDU NADARS'
 SENTHIKUMARA NADAR COLLEGE
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 VIRUDHUNAGAR.



Course Name: M. Phil. English

Discipline : English Literature

Rules and regulations, Course Scheme and Scheme of Examinations

(For those who join in June 2015 and after)

1. Course Objectives:

The objectives of the M. Phil. Degree Course in English are

- i. to transform post graduate students into research scholars.
- ii. to acquaint them with the research process.
- iii. to enable student-scholars to become acquainted with the ancient and the latest literary criticism.

2. Eligibility for admission:

M.Phil English is open to anyone who possesses a Master Degree in English with the minimum of 55% of marks or equivalent grade from a recognized University.


3. Duration of the Course:

It is a one year programme involving regular coursework in the I Semester and a Dissertation in the II Semester.

4. Course Scheme

Semester	Part	Subject	Hour	Int+Ext=Tot	Sub. Code	Status
I	Core I	Research Methodology	5	40+60=100	MIENC11	No change
	Core II	Modern Criticism and Theories	5	40+60=100	M2ENC12	Revised
	Elective	Short Stories in English	5	40+60=100	M2ENE1	New
		Library	15			

Semester	Part	Subject	Hour	Int+Ext = Tot	Sub. Code
II	Project	Dissertation	30	50+150=200	M1EN2PV


PRINCIPAL
VIRUDHUNAGAR HINDU NADARS
SENTHIKUMARA NADAR COLLEGE
AUTONOMOUS
VIRUDHUNAGAR.



Course Name: **Bachelor of Arts**
 Discipline: **Economics**
 (For Those who Join in 2015 and After)

Department of Economics

I BA Economics

Semester	Part	Subject	Hours	Credit	Int+Ext=Tot	Subject Code	Status
I	I	Tamil	6	3	25+75=100	U2PT1	Revised
	II	English	6	3	25+75=100	U2PE1	New
	Core 1	Micro Economics I	5	4	25+75=100	U2ECC11	Revised
	Core 2	Statistics I	5	4	25+75=100	U2ECC12	Revised
	Allied 1	Agricultural Economics	6	5	25+75=100	U2ECA1	Revised
	VE	Value Education	2	2	25+75=100	U1VE11	No change

Semester	Part	Subject	Hours	Credit	Int+Ext=Tot	Subject Code	Status
II	I	Tamil	6	3	25+75=100	U2PT2	Revised
	II	English	6	3	25+75=100	U2PE2	New
	Core 3	Micro Economics II	5	4	25+75=100	U2ECC21	Revised
	Core 4	Statistics II	5	4	25+75=100	U2ECC22	Revised
	Allied 2	Demography	6	5	25+75=100	U2ECA2	Revised
	EVS	Environmental Studies	2	2	25+75=100	U1ES21	No change

II BA Economics

Semester	Part	Subject	Subject Code
III	I	Tamil	
	II	English	
	Core 5	Macro Economics I	
	Core 6	Mathematical Methods I	
	Allied 3	Banking	
	SBE-1	Foreign Trade	

Semester	Part	Subject	Subject Code
IV	I	Tamil	
	II	English	
	Core 7	Macro Economics II	
	Core 8	Mathematical Methods II	
	Allied 4	Entrepreneurship Development	
	SBE-2	Economics of Tourism	



SBE-3	Advertisement
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III BA Economics

Semester	Part	Subject	Subject Code
V	Core 9	Monetary Economics	
	Core 10	International Economics	
	Core 11	Fiscal Economics	
	Core 12	Indian Economy	
	Elective 1	Fundamentals of Research	
	SBE-4	Employability Skills	
	NME-1	Elementary Economics	

Semester	Part	Subject	Subject Code
VI	Core 13	Planning and Growth	
	Core 14	Computer Science	
	Elective 2	Labour Economics	
	Elective 3	Economics of Marketing	
	SBE -5	Personality Development	
	SBE-6	Tax Management	
	NME-2	Population Studies	

CORE PAPER - I MICRO ECONOMICS – I

Contact Hours per week: 05

Subject code: U2ECC11

Contact Hours per Semester: 75

Credits : 4

Objectives:

To enable the students to understand the;

- Basic economic concepts and theories;
- Practicing of economic theories in day to day life and
- Equip themselves to prepare for competitive examinations.

Unit I: Introduction

15 Hours

Definition of Economics: Wealth, Welfare, Scarcity and Growth – Difference between Micro and Macro Economics – Positive and Normative Science - Deductive and Inductive Analysis – Static and Dynamic Models.

Basic concepts (Meaning only): Free goods and Economic goods – Economic and non-economic activities – Wants – Utility – Price – Value – Wealth – Income – Market – Equilibrium: Stable, Unstable and Neutral equilibrium.

Unit II: Demand and Supply Analysis

15 Hours

Meaning of Demand – Demand Schedule - Demand Curve – Reasons for the downward slope of the Demand Curve – Determinants of Demand – Contraction and



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Course Name: **Bachelor of Commerce**

Discipline: **Commerce**

(FOR THOSE WHO JOIN IN 2015 AND AFTER)

COURSE OBJECTIVE:

To provide basic knowledge on various Commerce subjects and to provide adequate skills on Book Keeping and Accounting.

To enable the student to acquire required skills to hold responsible position in any organisation with paperless office and also to pursue Higher Education.

DURATION OF THE COURSE: Three Years

COURSE SCHME:

Semester	Part	Subject	Hours	Credit	Int + Ext = Total	Subject Code	Status
First	I	Alternative subject - காப்பீடு - கோட்பாடுகளும் நடைமுறைகளும்	5	3	25+75 = 100	U2PT1M	Revised
	II	English – I	6	3	25+75 = 100	U2PE1	Revised
	III	Allied I – Managerial Economics	6	5	25+75 = 100	U2ECA1X	Revised
	III	Financial Accounting – I	6	4	25+75 = 100	U2CMC11	Revised
	III	Business Organization	5	4	25+75 = 100	U2CMC12	Revised
	IV	Value Education	2	2	25+75 = 100	U1VE11	No change

Semester	Part	Subject	Hours	Credit	Int + Ext = Total	Subject Code	Status
Second	I	Alternative subject – அலுவலக முறைகள்	5	3	25+75 = 100	U2PT2M	Revised
	II	English – II	6	3	25+75 = 100	U2PE2	Revised
	III	Allied II – Monetary Economics	6	5	25+75 = 100	U2ECA2X	Revised
	III	Financial Accounting – II	6	4	25+75 = 100	U2CMC21	Revised
	III	Principles of Marketing	5	4	25+75 = 100	U1CMC22	No change
	IV	Environmental Studies	2	2	25+75 = 100	U1ES21	No change

காப்பீடு - கோட்பாடுகளும் நடைமுறைகளும்

Course Objective:

The objective of this course is to familiarize the students with Principles of Insurance.

Hours: 5 hrs / week (75 hrs)

Subject Code: U2PT1M

Credit: 3

அலகு - 1

15 Hours

காப்பீடு - இலக்கணம் - இடப்பாடுகள் - இன்னல்கள் - இடையூறு - காப்பீடும்
பாட்டுறுதியும் - காப்பீட்டின் முக்கியத்துவம் காப்பீட்டின் கூறுகள் காப்பீட்டு ஒப்பந்தம் -
காப்பீட்டு +/ஒப்பந்தத்தின் வகைகள் - காப்பீட்டின் அடிப்படை கொள்கைகள் -

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Course Name: **Master of Commerce**

Discipline: **Commerce**

(FOR THOSE WHO JOIN IN 2015 AND AFTER)

COURSE OBJECTIVE:

To provide advanced knowledge on important commerce subjects so as to enable the student to pursue research or to take up jobs in the area of Accounting and Finance.

DURATION OF THE COURSE: Two Years

COURSE SCHME:

Semester	Subject	Hours	Credit	Int + Ext = Total	Subject Code	Status
First	Business Statistics	6	5	25+75 = 100	P2CMC11	Revised
	Modern Banking	6	4	25+75 = 100	P2CMC12	Revised
	Marketing Research	6	4	25+75 = 100	P2CMC13	Revised
	Business Management	6	4	25+75 = 100	P2CMC14	Revised
	Elective – I – Advanced Cost Accounting	6	5	25+75 = 100	P2CMA1	Revised

Semester	Subject	Hours	Credit	Int + Ext = Total	Subject Code	Status
Second	Operations Research	6	5	25+75 = 100	P2CMC21	Revised
	Human Resource Management	5	4	25+75 = 100	P1CMC22	No change
	Management Information System	5	4	25+75 = 100	P2CMC23	Revised
	Advanced Financial Accounting	5	4	25+75 = 100	P1CMC24	No change
	Investment Management	5	4	25+75 = 100	P1CMC25	No change
	NME – I – Marketing Management	4	4	25+75 = 100	P1CMN21	No change

Semester – I

BUSINESS STATISTICS

Hours: 6h/w 90 hrs

Subject code:P2CMC11

Credits: 5

Objectives

To provide working knowledge on statistical methods to develop skills in using quantitative tools to solve the business problems.

Unit I

18 Hours

Correlation Analysis: Significance – Correlation Vs Causation – Types of Correlation – Karl Pearson's coefficient – Interpreting coefficient of Correlation – Probable Error of coefficient of Correlation – Coefficient of Determination – Properties of the coefficient of Correlation – Rank Correlation Coefficient

Unit II

18 Hours

Regression Analysis: Meaning and uses – Correlation Vs Regression – regression equations – Properties of Regression Coefficient – Standard Error of Estimate

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Course Name: Bachelor of Commerce**Discipline: Computer Application****(FOR THOSE WHO JOIN IN 2015 AND AFTER)****COURSE OBJECTIVE:**

To provide basic knowledge on both Commerce and Computer subjects and to provide adequate skills on Accounting through manual and computer models

To enable the student to acquire required skills to hold responsible position in any institution and also to pursue Higher Education

DURATION OF THE COURSE: Three Years**COURSE SCHME:**

Sem	Part	Subject	Hours	Credit	Int + Ext = Total	Subject Code	Status
First	I	Alternative subject - காப்பீடு -கோட்பாடுகளும் நடைமுறைகளும்	5	3	25+75 = 100	U2PT1M	Revised
	II	English – I	6	3	25+75 = 100	U2PE1	Revised
	III	Allied I – Fundamentals of Computers	6	5	25+75 = 100	U2CCA11	Revised
	III	Financial Accounting – I	6	4	25+75 = 100	U2CCC11	Revised
	III	DTP – Lab (Page Maker & Photoshop)	5	4	40+60 = 100	U1CCC1P	No Change
	IV	Value Education	2	2	25+75 = 100	U1VE11	No change

Sem	Part	Subject	Hours	Credit	Int + Ext = Total	Subject code	Status
Second	I	Alternative subject – அலுவலக முறைகள்	5	3	25+75 = 100	UIPT2M	No change
	II	English – II	6	3	25+75 = 100	U2PE1	Revised
	III	Allied II – C Programming	6	5	25+75 = 100	U2CCA21	Revised
	III	Financial Accounting – II	6	4	25+75 = 100	U2CCC21	Revised
	III	C Programming – Lab	5	4	40+60 = 100	U2CCC2P	Revised
	IV	Environmental Studies	2	2	25+75 = 100	U1ES21	No change

Semester I

காப்பீடு - கோட்பாடுகளும் நடைமுறைகளும்

Hours: 5 hrs / week (75 hrs)**Subject Code:U2PT1M****Credit: 3**

அலகு - 1

15 Hours

காப்பீடு - இலக்கணம் - இடர்பாடுகள் - இன்னல்கள் - இடையூறு - காப்பீடும் ஈட்டுறுதியும் - காப்பீட்டின் முக்கியத்துவம் காப்பீட்டின் கூறுகள் காப்பீட்டு ஒப்பந்தம் - காப்பீட்டு ஒப்பந்தத்தின் வகைகள் - காப்பீட்டின் அடிப்படை கொள்கைகள் - இரட்டைக் காப்பீடு - மறுகாப்பீடு - காப்பீட்டின் பணிகளும் இன்றியமையாமையும் - காப்பீடு ஒழுங்குமுறை வளர்ச்சி ஆணையத்தின் பணிகள்.

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Course Name: **M.Com (Computer Applications)**
Discipline: **Commerce (SF)**
(FOR THOSE WHO JOIN IN 2015 AND AFTER)

M.Com (Computer Applications)

Course Objectives

1. To impart knowledge in advanced concepts and applications in various fields of Commerce.
2. To teach the recent developments in the various areas of Commerce.
3. To orient the students in the applied aspects of different advanced business practices.
4. To provide the students the avenues of studies in parallel professional Courses.
5. To equip the students to occupy the important positions in business, industries an related organizations.
6. To inspire the students to apply the knowledge gained for the development of society in general.

Eligibility for Admission

Candidates seeking admission to the first year of the Master of Commerce degree course shall possess

- (a) B. Com / B. Com (CA) or
- (b) Any other degree with at least one paper in Accountancy.

Duration of the Course

The course shall extend over a period of two academic years consisting of four semesters. Each academic year will be divided into two semesters.

**M.Com Computer Applications (Semester)
Under Choice Based Credit Systems**

Semester	Name of the Subject	Hrs.	Credits	Int. + Ext.=Total	Subject Code	Status
I	Advanced Business Statistics	6	5	25+75=100	P2CCC11	Inter Changed
	ELECTIVE:Modern Banking	6	4	25+75=100	P2CCE1	New
	Advanced Cost Accounting	6	5	25+75=100	P2CCC12	Interchange
	E-Commerce	6	4	25+75=100	P2CCC13	New
	Lab: Multimedia Lab	6	3	40+60=100	P2CCC1P	New
II	Operations Research	6	5	25+75=100	P2CCC21	New
	Advanced Financial accounting	5	5	25+75=100	P2CCC22	No change
	ELECTIVE:Security Analysis And Portfolio Management	5	5	25+75=100	P2CCE2	New
	TALLY – 9.0	5	4	25+75=100	P2CCC24	New
	Lab: Tally Lab	5	3	40+60=100	P2CCC2P	Revised
	NME:Retail Marketing	4	4	25+75=100	P2CCC2N	New

ADVANCED BUSINESS STATISTICS

Contact hours per week: 6

Contact hours per semester: 90

Subject Code: P2CCC11

Objective:

To make the students to learn the application of statistical tools and techniques for decision making.

Unit I

18 Hours

Correlation: Karl Pearson's co-efficient of correlation – Rank co-efficient of correlations – Method of Least Squares.



Course Name : Bachelor of Business Administration

CHOICE BASED CREDIT SYSTEM

(For those who join in June 2015 and after)

Course Objectives:

The objective of the BBA degree program is to prepare the higher secondary students of above average attainments for a course that will equip them with specific knowledge and skills for junior and middle positions of responsibilities in industrial and commercial organizations, after an initial spell of practical experience in their career. It is therefore, advisable to organize the instruction on the lines of professional courses. Participative methods of instruction should be adopted. Class work may be supplemented with field study report for enhancing their research interests.

2) Eligibility for admission:

Candidates seeking admission to the BBA degree course must have passed the Higher Secondary Examination of the Government of Tamilnadu or any other examination recognized Syndicate of the Madurai Kamaraj University as its equivalent.

3) Duration of the course:

The duration of the course shall be three academic years comprising six semesters with two semesters in each academic year.

Course Scheme:

I – BBA SYLLABUS

I SEMESTER

Semester	Part	Subject	Hours	Credits	Int.+Ext.=Total	Subject Code	Status
I	Part 1	வணிகக்கடிதங்கள்	6	3	25+75=100	U2PT1B	Revised
	Part II	ENGLISH	6	3	25+75=100	U2PE1	Revised
	Core 1	PRINCIPLES OF MANAGEMENT	5	4	25+75=100	U2BAC11	Revised
	Core 2	FINANCIAL ACCOUNTING	5	4	25+75=100	U1BAC12	No change
	Allied 1	MANAGERIAL ECONOMICS	6	5	25+75=100	U2ECA1X	Revised
	VE	VALUE EDUCATION	2	2	25+75=100	U1VE11	No change

II SEMESTER

Semester	Part	Subject	Hours	Credits	Int.+Ext.=Total	Subject Code	Status
II	Part I	நிறுவ அமைப்பு மற்றும் அலுவலக மேலாண்மை	6	3	25+75=100	U2PT2B	Revised
	Part II	ENGLISH	6	3	25+75=100	U2PE2	Revised
	Core 3	BUSINESS ENVIRONMENT	5	4	25+75=100	U2BAC21	Revised
	Core 4	COST ACCOUNTING	5	4	25+75=100	U1BAC22	No change
	Allied 2	ECONOMIC DEVELOPMENT OF INDIA	6	5	25+75=100	U2ECA2X	New
	EVS	ENVIRONMENTAL STUDIES	2	2	25+75=100	U1ES21	No change



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

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III SEMESTER

Semester	Part	Subject	Hours	Credits	Int+Ext =Total	Subject Code	Status
III	Core 5	BUSINESS LAW-I	5	4	25+75+100	U1BAC31	No change
	Core 6	BANKING LAW AND PRACTICE	5	4	25+75+100	U1BAC32	No change
	Core 7	COMPUTER APPLICATIONS IN BUSINESS	5	4	25+75+100	U2BAC33/ U1BAC33	Title changed
	Core 8	ORGANIZATIONAL BEHAVIOR	5	4	25+75+100	U1BAC34	No change
	Allied 3	BUSINESS STATISTICS	6	5	25+75+100	U2MAA3B	Revised
	SBE 1	MS-OFFICE – PRACTICALS	2	2	40+60+100	U1BAS3P1	No change
	SBE 2	BODY LANGUAGE	2	2	25+75+100	U1BAS31	No change

IV SEMESTER

Semester	Part	Subject	Hours	Credits	Int+Ext =Total	Subject Code	Status
IV	Core 9	BUSINESS LAW-II	6	4	25+75+100	U1BAC41	No change
	Core 10	MARKETING MANAGEMENT	5	4	25+75+100	U1BAC42	No change
	Core 11	INTERNET AND WEB DESIGNING	5	4	25+75+100	U2BAC43/ U1BAC43	Title Changed
	Elective 1	ENTREPRENEURSHIP	6	5	25+75+100	U1BAE41	No change
	Allied 4	BUSINESS MATHEMATICS	6	5	25+75+100	U2MAA4B	Revised
	SBE 3	WEB DESIGNING LAB	2	2	40+60+100	U1BAS4P1	No change

V SEMESTER

Semester	Part	Subject	Hours	Credits	Int+Ext = Total	Subject Code
V	Core 12	OPERATIONS MANAGEMENT	5	4	25+75=100	U1BAC51
	Core 13	RETAIL MANAGEMENT	5	4	25+75=100	U1BAC52
	Core 14	MANAGEMENT ACCOUNTING	5	4	25+75=100	U1BAC53
	Core 15	RESEARCH METHODOLOGY	5	4	25+75=100	U1BAC54
	Elective 2	SALES MANAGEMENT	6	5	25+75=100	U1BAE51
	SBE-4	EMPLOYABILITY SKILLS	2	2	25+75=100	U1PS51
	NME 1	BUSINESS ADMINISTRATION	2	2	25+75=100	U1BAN51

VI SEMESTER

Semester	Part	Subject	Hours	Credits	Int+Ext = Total	Subject Code
VI	Core 16	FINANCIAL MANAGEMENT	6	4	25+75 = 100	U1BAC61
	Core 17	SERVICES MARKETING	6	4	25+75 = 100	U1BAC62
	Core 18	HUMAN RESOURCE MANAGEMENT	6	4	25+75 = 100	U1BAC63
	Elective 3	FIELD STUDY REPORT	6	5	25+75 = 100	U1BA6PV
	SBE 5	ELEMENTS OF TALLY	2	2	25+75 = 100	U2BAS61/ U1BAS61
	SBE 6	TALLY PRACTICAL	2	2	40+60 = 100	U1BAS6P
	NME-2	ENTREPRENEURSHIP	2	2	25+75=100	U1BAN61



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

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Course: Master of Business Administration (MBA)

(For Those who Join in 2015 and After)

Objectives

1. To provide the society with a steady stream of competent young persons with necessary knowledge, skills, values and attitudes to occupy positions of management and administration in business, industry, government and public systems .
2. To impart the students with relevant and latest knowledge from the field of management theory and practice.
3. To provide opportunities to the students to develop a strong foundation in functional skills.

Course Structure

SEMESTER I

Sl. No	Course Title	Hours	Credits	Marks			Subject Code	Status
				I	E	Total		
1	Principles of Management	5	4	25	75	100	P2MSC11/P1MSC14	Interchanged
2	Organizations Behaviour	5	4	25	75	100	P2MSC12/P1MSC13	Interchanged
3	Economics for Managers	6	4	25	75	100	P2MSC13/P1MSC15	Interchanged
4	Accounting for Managers	6	4	25	75	100	P2MSC14/P1MSC12	Interchanged
5	Business Statistics	6	4	25	75	100	P2MSC15/P1MSC11	Interchanged
6	Workshop on Life Skills	2	1	100	-	100	P2MSC1W	Revised
Total		30	21	225	375	600		

SEMESTER II

Sl. No	Course Title	Hours	Credits	Marks			Subject Code	Status
				I	E	Total		
1	Marketing Management	5	4	25	75	100	P2MSC21/P1MSC22	Interchange
2	Financial Management	5	4	25	75	100	P2MSC22/P1MSC25	Interchange
3	Human Resources Management	5	4	25	75	100	P2MSC23/P1MSC24	Interchange
4	Operations Management	5	4	25	75	100	P2MSC24/P1MSC23	Interchange
5	Management Information System	4	4	25	75	100	P2MSC25/P1MSC21	Interchange
6	Workshop on Managerial Skills	2	1	100	-	100	P2MSC2W	Revised
7	Non Major Elective - ENTREPRENEURSHIP	4	4	25	75	100	P2MSN2	Revised
Total			25	250	450	700		

[Signature]
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Course Name : M.Phil**Discipline : MBA****(FOR THOSE WHO JOIN IN 2015 AND AFTER)****Course Objective:**

To impart adequate knowledge to the students in varied facets of research in business management and to equip them with teaching in the management subjects.

Eligibility for Admission:

Candidates with 55% marks in master's degree in Business Management / Administration / bank Management / Corporate Secretary ship / International Business & E-Commerce / Co. operative Management / PGDBM / PGDM Programmes (Minimum 2 year's duration) recognized by AICTE / MHRD / UGC and declared equivalent to MBA by AICTE / AIU.

Duration of the course:

One year duration with two semesters.

Course Scheme:

Semester	Part	Subject	Hour	Marks Int+Ext	Total Marks	Code	Status
I	Core 1	Research Methodology	6	40+60	100	M1MSC11	No change
	Core 2	Functional Management Decisions	6	40+60	100	M1MSC12	No change
	Elective	Emerging Issues in Management	6	40+60	100	M2MSE11	Revised
	Library		12	-	-	---	

Semester	Subject	Hour	Viva+ Dissertation	Total Marks	Code	Status
II	Dissertation & Viva Voce	30	50+150	200	M1MS2PV	No change

Emerging Issues in Management**Subject Code:M2MSE11****90 Hrs****Unit-I****20hrs**

Best Practices in Marketing- Global Marketing- Emerging trends in Brand Management- Customer Relationship Management- Changing trends in services sector- Any other related topics.

Best Practices in Financial Management- Strategic cost Management- Revitalizing capital Markets- Corporate Governance in India- Research on Financial Information system- Any other related topics.

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Placed in the Academic Council Meeting held on 17.04.2015

Annexure II (16)

VIRUDHUNAGAR HINDU NADARS
M.Phil. Management
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Course Name: Bachelor of Science

Discipline: Mathematics

COURSE SCHEME:

Semester	Part	Subject	Hour	Credit	Int+Ext=Total	Subject Code	Status
I	Part I	Tamil/Hindi	6	3	25+75=100	U2PT1	Received
	Part II	English	6	3	25+75=100	U2PE1	New
	Core 1	Algebra	4	4	25+75=100	U2MAC11	New
	Core2	Differential Calculus	4	4	25+75=100	U2MAC12	Revised
	SBE 1	Sequences and Series	2	2	25+75=100	U2MAS1	New
	Allied 1	Physics / Chemistry	4	4	25+75=100	U1PHA1X1 / U2CHA1X1	Revised
	Allied 1 Lab	Lab: Physics/ Chemistry	2	-			
	VE	Value Education	2	2	25+75=100	U1VE11	No Change
Semester	Part	Subject	Hour	Credit	Int+Ext=Total	Subject Code	
II	Part I	Tamil/Hindi	6	3	25+75=100	U2PT2	Revised
	Part II	English	6	3	25+75=100	U2PE2	New
	Core 3	Integral Calculus	5	4	25+75=100	U2MAC21	Revised
	Core4	Analytical Geometry 3D and Vector Calculus	5	4	25+75=100	U2MAC22	Revised
	Allied 2	Physics / Chemistry	4	4	25+75=100	U1PHA2X2/ U2CHA2X2	Revised
	Allied 2 Lab	Lab: Physics/ Chemistry	2	2	40+60=100	U1PHA2PX/ U2CHA2PX	Revised
	EVS	Environmental Studies	2	2	25+75=100	U1ES21	No Change

Semester	Part	Subject	Hour	Credit	Int+Ext=Total	Subject Code
III	Part I	Tamil/Hindi	6	3	25+75=100	
	Part II	English	6	3	25+75=100	
	Core 5	Differential Equations	4	4	25+75=100	
	Allied 3	Physics/ Chemistry	4	4	25+75=100	
	Allied 3 Lab	Lab: Physics/ Chemistry	2	-		
	Allied 4	Numerical Methods	4+2 (Practicals)	4	25+75=100	
	SBE- 2	Discrete Mathematics	2	2	25+75=100	



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE

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Virudhunagar – 626 001.

Semester	Part	Subject	Hour	Credit	Int+Ext =Tot	Subject Code
IV	Part I	Tamil/Hindi	6	3	25+75=100	
	Part II	English	6	3	25+75=100	
	Core 6	Modern Algebra	4	4	25+75=100	
	Allied 5	Physics/ Chemistry	4	4	25+75=100	
	Allied 5 Lab	Lab: Physics/ Chemistry	2	2	40+60=100	
	Allied 6	Linear Programming	4	4	25+75=100	
	Allied 6 Practical	Linear Programming and Numerical Methods- Practical	2	1	40+60=100	
	SBE - 3	Transformation Techniques	2	2	25+75=100	

Year	Part	Subject	Hour	Credit	Int.marks = Total	Code
I & II	Part V	NSS/ NCC/ Physical education RRC / YRC	120	1	100	

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code
V	Core 7	Linear Algebra	5	4	25+75=100	
	Core 8	Real analysis	5	4	25+75=100	
	Core 9	Graph Theory	5	4	25+75=100	
	Allied 7	Probability and Statistics	6	5	25+75=100	
	Elective 1	Mechanics	5	5	25+75=100	
	SBE - 4	Employability Skills	2	2	25+75=100	
	NME - 1	Fundamentals Arithmetic	of	2	2	25+75=100

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code	
VI	Core 10	Complex analysis	6	5	25+75=100		
	Core 11	Number Theory	6	5	25+75=100		
	Core 12	Operations Research	6	5	25+75=100		
	Allied 8	Advanced Statistics	6	5	25+75=100		
	SBE - 5	Applications Differential Equations	of	2	2	25+75=100	
	SBE - 6	Random Process	2	2	25+75=100		
	NME - 2	Statistics and Operations Research	2	2	25+75=100		

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Course Name: Master of Science
Discipline: Mathematics
 (For those who join in 2015 and after)

COURSE SCHEME:

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code	Status
I	Core 1	Group Theory	6	5	25+75 = 100	P2MAC11	New
	Core 2	Real Analysis	6	4	25+75 = 100	P2MAC12	Revised
	Core 3	Differential Equations	6	4	25+75 = 100	P2MAC13	Revised
	Core 4	Statistics	6	4	25+75 = 100	P2MAC14	Revised
	Elective 1	a) Discrete Mathematics b) Fuzzy sets and Logics c) Java and Web Designing	6	5	25+75 = 100	P2MAE11 / P2MAE12 / P2MAE13	New New New

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code	Status
II	Core 5	Rings and Vector spaces	6	5	25+75 = 100	P2MAC21	New
	Core 6	Integration and Transformations	5	4	25+75 = 100	P2MAC22	Revised
	Core 7	Topology	5	4	25+75 = 100	P2MAC23	Interchanged
	Core 8	Graph Theory	5	4	25+75 = 100	P2MAC24	Interchanged
	Core 9	Number Theory and Cryptography	5	4	25+75 = 100	P2MAC25	Revised
	NME	Industrial Statistics	4	4	25+75 = 100	P2MAN2	Revised

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code
III	Core 10	Field Theory	6	5	25+75 = 100	
	Core 11	Complex Analysis	6	4	25+75 = 100	
	Core 12	Fuzzy Topology	6	4	25+75 = 100	
	Core 13	Measure and Integration	6	4	25+75 = 100	
	Elective 2	a) Application of Graph Theory b) Differential Geometry c) Numerical Analysis	6	5	25+75 = 100	



Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code
IV	Core 14	Optimization Techniques	6	4	25+75 = 100	
	Core 15	Functional Analysis	6	4	25+75 = 100	
	Core 16	Advanced Statistics	6	4	25+75 = 100	
	Core 17	Combinatorics	6	4	25+75 = 100	
	Elective 3	a) Classical Mechanics b) Advanced Topology c) Stochastic Processes	6	5	25+75 = 100	

SEMESTER - I

Core 1 - Group Theory

Contact Hours per Semester: 90

Subject code: P2MAC11

Contact Hours per week: 6 hrs

Credit: 5

Objectives:

- To enable the students to understand a concepts of group theory .
- To learn the existence of subgroups of prescribed order in arbitrary finite groups.
- To construct new groups from some groups already on hand.

Unit I: QUOTIENT GROUPS AND HOMOMORPHISMS AND PERMUTATIONS:

Introduction - Quotient groups – Homomorphism – Examples – Isomorphism - Fundamental theorem of Homomorphism - Natural Homomorphism - First theorem of Isomorphism - Freshman's theorem - Correspondence theorem - Worked out Exercise 1-5 - Permutation Groups – Examples – Results - All worked out exercises (Excluding worked out exercise 6 and 7).

Chapter 3: Section 1,2 and 3

(18 hours)

Unit II: QUOTIENT GROUPS AND HOMOMORPHISMS AND PERMUTATIONS:

Automorphisms of groups and structure of cyclic groups – Conjugate Elements.

Chapter 3: Section 4(Pages from 104 to 109 and problems on page no. 109 should be excluded), Section 5 full (Pages from 111 to 116; and problems on page no. 116 should be excluded).

(18 hours)

Unit III: Structure Theory of groups:

Sylow's Theorem: Introduction – Cauchy's Theorem for finite abelian groups – Sylow's first theorem, Cauchy's theorem for finite groups – Examples – Sylow's second theorem – Sylow's third theorem – Worked out Exercise.

Chapter 4: Section 2 (Pages from 128 to 134 and pages from 140–142; Exclude "Appendix to section 4.2 on page no. 134; Exclude problems from exercise on page no. 142).

17/04/15

PRINCIPAL



Degree: M. Phil

Discipline: Mathematics

(For those who join in 2015 and after)

STRUCTURE, SCHEME AND SYLLABUS

Semester	Part	Subject	Hours	Marks		Subject Code	Status	
				Int	Ext = Tot			
I	Core 1	Research Methodology	5	40	60 = 100	M2MAC11	No change	
	Core 2	Advanced Algebra	5	40	60 = 100	M2MAC12	Interchanged	
	Elective	1. Research Topics in Graph Theory 2. Distributions and Fourier Transforms 3. Approximation Theory 4. Abstract Measure and Integration 5. Functional Analysis 6. Stochastic Processes 7. Advanced Complex Analysis	5	40	60 = 100	M2MAE11	New	
						/	M2MAE12	New
						/	M2MAE13	New
/						M2MAE14	New	
Library		15	---	---	M2MAE15	New		
					/	M2MAE16	Interchanged	
					/	M2MAE17	New	

Semester	Subject	Hours	Viva + Dissertation = Total	Subject Code
II	Dissertation and Viva Voce	30	50+150 = 200	M1MA2PV

Core 1

RESEARCH METHODOLOGY

Contact Hours per Semester: 75 hrs

Contact Hours per week: 5 hrs

Subject code: M2MAC11

Objectives

To introduce research concepts in Mathematics, Graph Theory and Topology

Unit I: Research in Mathematics: Research in Mathematics – Proof Techniques – Proof by induction – Proof by contradiction – Proof by construction – Mathematical Journals – AMS Subject Classification Impact factor – Search engines – Thesis and dissertation. **15 Hours**

Unit II: Bounds on Domination: (Omit theorems, lemmas and propositions that are stated without proof) Bounds in terms of order – Bounds in terms of order, degree and packing – Bounds in terms of order and size – Bounds in terms of degree diameter and girth. (Omit Theorem 2.6). **15 Hours**

Unit III: Triangulated graphs: Introduction – perfect graphs – triangulated graphs – interval graphs – bipartite graph of a graph – circular arc graphs. **15 Hours**

Unit IV: Topology: Tychonoff theorem – Stone-Cech Compactification **15 Hours**

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Virudhunagar – 626 001.

Course Name : **Bachelor of Science**

Discipline : **Physics**

(For Those who Join in 2015 and AFTER)

COURSE OBJECTIVES:

- Nowadays most of the students prefer to join Professional Colleges after completing their higher secondary School studies. Only limited students wish to join Science Colleges.
- The curriculum of B.Sc Physics programme is now carefully designed to create interest in Physics and in order to prepare the students to meet the challenges of Society locally or globally.
- After the successful completion of this course, a B.Sc. degree holder would be able to face various competitive examinations and take up any job requiring the graduateship.
- Also, the degree holder will become equipped to undergo various post graduate courses in Physics and related subjects and to give full assistance to researchers in various research and development laboratories.

Sem	Subject	Hrs	Credit	Int.+Ext. =Total	Subject Code	Status
I	Tamil I	6	3	25+75=100	U2PT1	Revised
	English I	6	3	25+75=100	U2PE1	New
	Core 1 Mechanics & Relativity	4	4	25+75=100	U2PHC1	Revised
	Core (Major) Lab	2	-	-		
	Allied Maths Paper 1	6	3	25+75=100	U2MAA1 X1	Revised
	SBS1 Properties of Matter	2	2	25+75=100	U2PHS11	Revised
	SBS2 Thermal Physics I	2	2	25+75=100	U2PHS12	Revised
	Value Education	2	2	25+75=100	U1VE11	No change
II	Tamil II	6	3	25+75=100	U2PT2	Revised
	English II	6	3	25+75=100	U2PE2	New
	Core 2 Electrostatics & Current Electricity	4	4	25+75=100	U2PHC2	Revised
	Core (Major) Lab 1	2	2	40+60=100	U2PHC2P	Revised
	Allied Maths Paper 2	6	5	25+75=100	U2MAA2 X2	Revised
	SBS3 Sound	2	2	25+75=100	U2PHS21	Revised
	SBS4 Thermal Physics II	2	2	25+75=100	U2PHS22	Revised
	Environmental Studies	2	2	25+75=100	U1ES21	
III	Tamil III	6	3	25+75=100		
	English III	6	3	25+75=100		
	Core 3 Electromagnetism	4	4	25+75=100		
	Core (Major) Lab	2	-	-		
	Allied Maths Paper 3	6	3	25+75=100		
	Allied Chemistry Paper 1	4	4	25+75=100		
	Allied Chemistry Lab	2	-	-		



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IV	Tamil IV	6	3	25+75=100	
	English IV	6	3	25+75=100	
	Core 4 Analog Electronics	4	4	25+75=100	
	Core (Major) Lab	2	2	40+60=100	
	Allied Maths Paper 5	3	3	25+75=100	
	Allied Maths Paper 6	3	2	25+75=100	
	Allied Chemistry Paper 2	4	4	25+75=100	
	Allied Chemistry Lab	2	2	40+60=100	
I,II,III,IV	PART V – NCC/NSS/SPORTS/RRC/YRC	120	1	100 (Only Internal)	
V	Core 5 Applied Mechanics	4	4	25+75=100	
	Core 6 Digital Electronics	4	4	25+75=100	
	Core 7 Optics & Spectroscopy	4	4	25+75=100	
	Core (Major) General Physics Lab	3	-	-	
	Core (Major) Electronics Lab	3	-	-	
	Core (Major) Project & Area Study	2	-	-	
	Allied Chemistry Paper 3	4	4	25+75=100	
	Allied Chemistry Lab	2	-	-	
	Skill Based Paper 5 (Common)	2	2	25+75=100	
	Non Major Elective - Basic Physics I	2	2	25+75=100	
VI	Core 8 Atomic & Nuclear Physics	4	4	25+75=100	
	Core 9 Material Science	4	4	25+75=100	
	Core 10 Microcontroller	4	4	25+75=100	
	Core (Major) General Physics Lab	3	5	40+60=100	
	Core (Major) Electronics Lab	3	5	40+60=100	
	Core (Major) Project & Area Study	2	5	40+60=100	
	Allied Chemistry Paper 4	4	4	25+75=100	
	Allied Chemistry Lab	2	2	40+60=100	
	SBS6 Programming in C	2	2	25+75=100	
Non Major Elective - Basic Physics II	2	2	25+75=100		

SE : I B.Sc. PHYSICS

SEMESTER : I

Contact hours per Week – 4 hours

Contact hours per Semester – 60 hours

Objectives :

- To study different types of impact and projectile motion.

MECHANICS AND RELATIVITY

CORE PAPER 1

Hours : 4

Credit : 4

Subject Code: U2PHC1

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Virudhunagar – 626 001.

Course Name : Master of Science

Discipline : Physics

(For Those who join in 2015 and After)

COURSE OBJECTIVES:

- To develop a general competence in core Physics. This is a pre-requisite for contributing flexibly in today's cross-disciplinary research arenas.
- To nurture the creative imagination of young minds and to reinforce the spirit of rational enquiry in a co-operative ambience.
- To cultivate specific strengths in the flourishing and future oriented areas of Nano Physics and Molecular Spectroscopy respectively.
- To enable students to develop insights into the techniques used in current projects.
- To give students the experience of teamwork, to develop presentational skills and to train students to work to deadlines.
- To develop the professional skills necessary for students to play a meaningful role in industrial or academic life and satisfy the need, nationally for well qualified post-graduates who will be able to respond to the challenges that arise from future developments.
- This course will put students in a strong position when applying for a PhD and other higher studies.

Sem	Subject	Hrs	Credit	Int+Ext =Total	Subject Code	Status
I	Core 1 Mathematical Physics I	6	5	25+75=100	P2MAC11	Revised
	Core 2 Electronics	6	4	25+75=100	P2MAC12	Revised
	Core 3 Classical Mechanics	6	4	25+75=100	P2MAC13	Revised
	Major Elective - Numerical Methods & Programming in C++	6	4	25+75=100	P2MAE1	Revised
	Core Lab I General Physics	6	5	40+60=100	P1PHC1P/ P1PHC1P1	
II	Core 4 Mathematical Physics II	6	5	25+75=100	P2PHC21	Revised
	Core 5 Electromagnetic Theory	6	4	25+75=100	P2PHC22	Revised
	Core 6 Thermodynamics & Statistical Mechanics	6	4	25+75=100	P2PHC23	New
	NME – Non Conventional Energy Sources	4	4	25+75=100	P2PHN2	New
	Major Elective Lab – Computational Physics	2	2	40+60=100	P2PHE2P	Revised
	Core Lab 2 Electronics	6	5	40+60=100	P1PHC2P/ P1PHC2P1	
III	Core 7 Solid State Physics I	6	4	25+75=100		
	Core 8 Quantum Mechanics - I	6	4	25+75=100		
	Core 9 Nuclear and Particle Physics	6	4	25+75=100		
	Major Elective Fiber Optic Communication and Laser	6	5	25+75=100		



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	Core Lab3 Digital Electronics & General Physics	6	5	40+60=100		
IV	Core10 Solid State Physics II	6	4	25+75=100		
	Core11 Quantum Mechanics II	6	4	25+75=100		
	Core12 Molecular Spectroscopy	6	4	25+75=100		
	Major Elective - Nanophysics	6	5	25+75=100		
	Core Lab 4 Project	6	5	40+60=100		

COURSE : I M.Sc. PHYSICS

MATHEMATICAL PHYSICS I

Hours : 6

SEMESTER : I

CORE PAPER 1

Credit : 5

Contact hours per Week – 6 hours

Contact hours per Semester –90 hours

Subject Code: P2MAC11

Objectives

- To study the Gauss divergence theorem, Stoke's theorems and application of vectors in hydrodynamics and heat flow in solids.
- To understand the algebra of matrices and eigenvalue problems.
- To learn the Fourier series and transforms and its applications to physical problems.
- To impart the knowledge of power series technique to solve Bessel's and Legendre's differential equations and their orthogonal properties.

UNIT - I:

18 Hours

Vectors : The gradient - The divergence and Gauss's theorem - (No proof, applications only) - curl of a vector field and stoke's theorem (No proof, applications only) - Successive applications of the operator - Orthogonal curvilinear coordinates - Application to hydrodynamics(equation of continuity, Euler's equation of motion) – equation of heat flow in solids.

UNIT - II:

18 Hours

Matrices: The algebra of matrices - Special matrices II – Partitioning of matrices - System of linear equations (Particular cases and General) - The eigenvalue problems (I & II).

UNIT - III:

18 Hours

Fourier Series, Fourier Integrals & Fourier Transforms: Taylor's Series - Fourier Series and Integrals - representation of more complicated periodic phenomena - Fourier

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Virudhunagar – 626 001.

Course Name: M.Phil.

Discipline: Physics

(For Those who join in 2015 and After)

Sem	Part	Subject	Hrs	Int.+Ext. =Total	Subject Code	Status
I	Core 1	Research Methodology and Characterization techniques	5	40+60=100	M2PHC11	Revised
	Core 2	Advanced Topics in Condensed Matter Physics	5	40+60=100	M2PHC12	Revised
	Elective	Elective – I Thin Films	5	40+60=100	M1PHE11	
		Elective – II Bio-Physics		40+60=100	M1PHE12	
		Elective – III Optoelectronics		40+60=100	M1PHE13	
Library hour		15				

Sem	Part	Subject	Hrs	Int.+Ext. =Total	Subject Code
II	Project	Dissertation & Viva Voce	30	50+150=200	M1PH2PV

COURSE : M.Phil PHYSICS

SEMESTER : I

RESEARCH METHODOLOGY AND
CHARACTERIZATION TECHNIQUES
CORE 1

Hours : 5

Subject Code: M2PHC11

Objective

- To understand the objectives & methods of Research and way of selecting a research problem
- To know the art of research report writing
- To understand the X - ray diffraction principle and applications
- To learn SEM and SPM microscopic principles and related techniques

Unit I :

15 Hours

Research – Meaning – Objectives – Motivation in Research – Types of Research – Research approaches – Significance – Research methods versus methodology – Research and scientific method – Importance of knowing how Research is done – Research process - Criteria of good Research - Research Problem – Selecting a Problem – Necessity of defining Problem – Technique involved in defining a Problem – Meaning of Research design – Need for Research design – Features of a good design – Important concepts relating to Research design

Unit II :

15 Hours

Measurement in Research – Measurement scales – Sources of error in Measurement – Tests of sound measurement - Meaning of Interpretation – Why Interpretation? – Technique of Interpretation – Precaution in Interpretation – Significance of Report writing – Different steps in Writing Report – Layout of the Research report –

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Placed in the Academic Council Meeting held on 17.04.2015

Annexure II (8)

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Virudhunagar – 626 001.

Course Name: Bachelor of Science**Discipline : Chemistry****(For those who join in 2015 and after)****COURSE OBJECTIVE:**

1. To provide a basic knowledge of various chemical phenomena including the recent developments in Chemistry.
2. To instill in the students the confidence to do independent laboratory work.
3. To ensure a fair knowledge of applications in Chemistry.
4. To enable the students to get employment in the emerging fields.

ELIGIBILITY FOR ADMISSION:

A pass in the Higher Secondary Course with Chemistry, Physics, Mathematics / Biology as subjects.

DURATION OF THE COURSE: Three years**Medium of Instruction and Examination:**

The medium of instruction as well as the examination is English.

COURSE SCHEME:

Sem	Subject	Hrs	Cr	Int+Ext=Total	Code	Status
I	Tamil I	6	3	25+75 = 100	U2PT1	Revised
	English I	6	3	25+75 = 100	U2PE1	New
	Core subject I – Introduction to Chemistry	4	4	25+75 = 100	U2CHC1	Revised
	Core lab I – Volumetric	2	-	---		---
	Allied (Ancillary Maths / Oils and Fats I)	6 / 4	5/4	25+75 = 100	U2MAA1X1/ U2CHA11	Revised
	Allied lab I – Oil analysis	2	-	---		---
	Skill Based Subject I – Principles of chemical analysis	2	2	25+75 = 100	U2CHS11	New
	Skill Based Subject II – Chemical bonding -I	2	2	25+75 = 100	U2CHS12	New
II	Value Education	2	2	25+75 = 100	U1VE11	No Change
	Tamil II	6	3	25+75 = 100	U2PT2	Revised
	English II	6	3	25+75 = 100	U2PE2	New
	Core subject II – General chemistry	4	4	25+75 = 100	U2CHC2	Revised
	Core lab I – Volumetric	2	4	40+60 = 100	U2CHC2P	Revised
	Allied I (Ancillary Maths / Oils and Fats II)	6 / 4	4/3	25+75 = 100	U2MAA2X2/ U2CHA21	Revised Revised
	Allied lab I – Oil analysis	2	2	40 + 60 = 100	U2CHA2P	Revised
	Skill Based Subject III Introduction to computers	2	2	25+75 = 100	U2CHS21	New
	Skill Based Subject IV – Chemical bonding -II	2	2	25+75 = 100	U2CHS22	Revised
	Environmental Studies	2	2	25+75 = 100	U1ES21	No change

PRINCIPAL

**Course Name: Master of Science****Discipline : Chemistry**

(For those who join in 2015 and after)

Course Objective:

1. To provide adequate knowledge of various chemical phenomena including the recent developments in Chemistry.
2. To instill the confidence in students to do independent research work.
3. To ensure an excellent knowledge of applications in Chemistry.
4. To enable the students to get employed in the emerging fields of environmental chemistry, food preservation techniques and also in other thrust fields of chemistry.

Eligibility for admission:

The candidates should have a Bachelor Degree in Chemistry from Madurai Kamaraj University or from any other University recognized by the syndicate of Madurai Kamaraj University.

Duration of the course: Two years**Medium of Instruction and Examination:**

The medium of instruction as well as the examination will be English.

Semester	Part	Subject	Hr	Cr	Int+Ext =Total	Subject Code	Status
I	III	Core Subject I – Organic chemistry I	5	5	25+75=100	P2CHC11	Revised
	III	Core Subject II – Inorganic chemistry I	5	4	25+75=100	P2CHC12	Revised
	III	Core Subject III – Physical chemistry I	5	4	25+75=100	P2CHC13	Revised
	III	Core lab I – Organic chemistry practical	3	-	-----		---
	III	Core lab II – Inorganic Chemistry practical I	4	-	-----		----
	III	Core lab III – Physical chemistry practical I	4	-	-----		---
	III	Major Elective I – Nano science and Nanotechnology/ Computers in Chemistry	4	4	25+75=100	P2CHE11/ P2CHE12	New New
II	III	Core Subject IV – Organic chemistry II	5	4	25+75=100	P2CHC21	Revised
	III	Core Subject V – Inorganic chemistry II	5	5	25+75=100	P2CHC22	Revised
	III	Core Subject VI – Physical chemistry II	5	4	25+75=100	P2CHC23	Revised
	III	Core lab I – Organic chemistry practical I	3	3	40+60=100	P2CHC2P 1	Revised
	III	Core lab II – Inorganic chemistry practical I	4	4	40+60=100	P2CHC2P 2	Revised

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III	Core lab III – Physical chemistry practical I	4	4	40+60=100	P2CHC2P3	Revised
III	Non-Major Elective – Industrial chemistry/ Forensic Science and Crime Investigation.	4	4	25+75=100	P1CHN21 / P1CHN22	No change No change

Semester-I- Part –III- Core Subject I- Organic Chemistry I**Hours per week: 5****Credits: 5****Subject Code: P2CHC11****Objectives:**

- To study the mechanism of organic reaction.
- To provide the knowledge about the stereochemistry and geometry of the molecule.
- To give basics knowledge on the aromatic character of organic molecules.

UNIT I: Electron displacement and structure – reactivity correlation 15 Hours

Inductive and field effects– bond distances – bond energies – delocalized bonds – cross conjugation– rules of resonance – resonance energy – resonance effect – steric inhibition of resonance – Hyperconjugation – hydrogen bonding – effect of structure on the dissociation constants of acids and bases – HASB concepts. Quantitative treatment of the effect of structure on reactivity– The Hammett relationship – significance of reaction and substituent constants – application of the Hammett equation in reaction mechanism – limitations and deviations.

Unit II: Introduction to reaction mechanism 15 Hours

Reaction intermediates – free radicals, carbenes, nitrenes, carbanions, carbocations – formation and stability of reaction intermediates – methods of determination of reaction mechanism – kinetic and thermodynamic control of chemical reactions. Kinetic and non-kinetic methods for determining organic reaction mechanism – principle of microscopic reversibility – energy profile diagram – Hammond postulate.

Unit III: Stereochemistry 15 Hours

Concept of chirality, necessary and sufficient conditions for chirality – relationship between substrate symmetry and chirality. Projection formulae – Wedge, Fischer, Sawhorse and Newmann. Optical isomerism due to centre of chirality. Molecules with one stereogenic centre (chiral centre) and molecules with more than one chiral centre. Erythro and threo nomenclature. Configuration– determination of configuration. Cahn, Ingold and Prelog system (R-S) of designation of configuration.

Prochirality and prostereoisomerism, enantiotopic and diastereotopic ligands and faces and their nomenclature– pro-R and pro-S and Re and Si faces, Stereospecific and stereoselective reactions. Asymmetric synthesis; Cram and Prelog rules. Optical isomerism due to axial chirality – biphenyls, allenes and spiranes. Molecules with planar chirality – paracyclophanes, trans cyclooctene, ansa compounds.

E-Z nomenclature– determination of configuration of geometrical isomers using physical and chemical methods– stereoisomerism in monocyclic compounds (upto six membered ring).

Unit IV: Aromatic character 15 Hours

Aromatic character in benzene, six membered rings, five, seven and eight membered rings– other systems with aromatic sextets – Huckel's rule – Craig's rule – concept of homoaromaticity and antiaromaticity – systems with 2,4,8 and 10 electrons – systems with

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**Course Name: M.Phil.****Discipline : Chemistry****(For Those who Join in 2015 and After)****Course Objectives:**

1. To provide an in-depth knowledge of various chemical phenomena including the advanced developments in Chemistry.
2. To instill in the students the confidence to do independent research work.
3. To ensure the mastery over the applications of Chemistry.
4. To get prepared for the various competitive examinations such as CSIR, GATE, NET etc.,

Eligibility for admission:

The candidates should have a Master Degree in Chemistry from Madurai Kamaraj University or from any other University recognized by the syndicate of Madurai Kamaraj University.

Duration of the course: One year**Medium of Instruction and Examination:**

The medium of instruction as well as the examination will be English.

Course scheme:

Semester	Part	Subject	Hour	Int+Ext=Tot	Code
I	Core 1	Research Methodology	5	40 + 60 = 100	M2CHC11
	Core 2	Course Work	5	40 + 60 = 100	M2CHC12
	Elective	Advanced Organic chemistry	5	40 + 60 = 100	M1CHE11
		Advanced Inorganic Chemistry			M1CHE12
		Advanced Physical Chemistry			M1CHE13
	Library		15		---
Semester	Subject	Hour	Dissertation + Viva-voce =		Code
II	Dissertation and Viva-voce	30	50 + 150 = 200		M1CH2PV

SYLLABUS FOR EACH PAPER:**Semester I – Research Methodology****Hours per week: 5 Subject Code: M2CHC11****Unit I: Literature Search**

Searching the chemical literature, primary sources – journals and patents, secondary sources – Beilstein, reviews, periodicals – serials – monograph and textbooks – dictionaries, encyclopedia, catalogues and index of tabulated data, location of data, location of published and comprehensive account of research with special reference to physical, organic and inorganic chemistry – use of ChemFinder and SciFinder in literature search. Inductive and deductive reasoning – role of experimentation – interpretation of results – formation – testing and rejection of hypothesis – logic of scientific discovery-Significance of H-index and impact factor.

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Course Name: Bachelor of Science

Discipline: Botany

(For those who join in 2015 and after)

COURSE OBJECTIVES

The objective is to recognize that curriculum, course content and assessment of scholastic achievement play complementary roles in shaping education. The restructured Curriculum for Undergraduate Programme of Botany envisages Undergraduate Education as a combination of general and specialized education, simultaneously introducing the concepts of breadth and depth in learning .It also stresses learning to learn rather than learning of specific lessons. The attempt is to prepare the students for lifelong learning by drawing attention to the vast world of knowledge of plants and introducing him/her to the methodology of systematic academic enquiry. With this in mind, we aim to provide a firm foundation in every aspect of Botany and to explain a broad spectrum of modern trends in Botany and to develop experimental, observational, computational skills also which lead him as an ambassador of sustainable development of our country.

1. Know the importance and scope of the discipline, inculcate interest in and love of nature with its myriad living forms
2. Impart knowledge of Science as the basic objective of Education
3. Develop a scientific attitude to make students open minded, critical and curious
4. Develop an ability to work on their own and to make them fit for the society
5. Expose themselves to the diversity amongst life forms
6. To develop skill in practical work, experiments, equipments and laboratory use along with collection and interpretation of biological materials and data
7. Make aware of natural resources and environment and the importance of conserving it.

Eligibility for admission

Higher secondary students with Biology as Background

Duration of the course : Three years

Course Scheme

Sem	Subject	Hour	Credit	Int+Ext =Total	Subject Code	Status
I	Tamil /Hindi	6	3	25+75 =100	U2PT1	Revised
	English	6	3	25+75=100	U2PE1	New
	Cell biology & Plant Anatomy	4	4	25+75=100	U2BYC1	Revised
	Lab:Cell biology & Plant Anatomy	2	1	40+60 =100	U1BYC1P	No Change
	SBE 1:Horticulture	2	2	25+75=100	U2BYS11	Revised
	SBE 2:Embryology of Angiosperms	2	2	25+75=100	U2BYS12	Revised
	Anc.: General Chemistry I	4	4	25+75=100	U1CHA1Y	No Change
	Anc.:Lab: Volumetric Analysis	2	-	---	-	-



	Value Education	2	2	25+75=100	UIVE11	No change
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Sem	Subject	Hour	Credit	Int+Ext =Tot	Subject Code	Status
II	Tamil /Hindi	6	3	25+75=100	U2PT2	Revised
	English	6	3	25+75=100	U2PE2	No change
	Algae & Bryophytes	4	4	25+75=100	U1BYC2	No change
	Lab:Algae & Bryophytes	2	1	40+60=100	U1BYC2P1	No change
	SBE 3: Plant Ecology & Phytogeography	2	2	25+75=100	U2BYS21	Revised
	SBE 4:Medicinal Botany	2	2	25+75=100	U2YS22	Revised
	Anc.: General Chemistry II	4	4	25+75=100	U2HA2Y	Revised
	Anc.: Lab: Volumetric Analysis	2	2	40+60=100	U2CHA2YP	Revised
	Environmental Studies	2	2	25+75=100	U1ES21	No Change

CORE I – CELL BIOLOGY AND PLANT ANATOMY

Hours: 4 hrs / week (60 hrs)

Subject Code: U2BYC1

Credit: 4

Course Objectives

To study about the various cell organelles and their functions.

To know about the internal structure and organization of the various parts of the plants – stem, root and leaves

Unit – I

12-Hrs

Ultra-structure of a plant cell, Structure and composition of cell wall and plasma membrane, cell organelles structure, brief account on endoplasmic reticulum, Golgi complex, chloroplast, mitochondria, nucleus, lysosome and ribosomes.

Unit II

12-Hrs

Nucleic acids – Structure of DNA and RNA (Watson and crick model). Chromosomes – Structure and functions of chromosomes, Special type of Chromosomes - Polytene and B chromosomes. Cell division – amitosis, mitosis and meiosis and their significance.

Unit III

12-Hrs

Meristems: Classification- distribution, structure and function. Tunica – Corpus theory, quiescent centre. Simple permanent tissues: Parenchyma, Collenchyma, Sclerenchyma. (fibres and sclereids).

Unit IV

12-Hrs

Complex tissues : Xylem – tracheids, vessels, Xylem fibres and xylem parenchyma. Phloem : Sieve elements, companion cell, phloem fibre and phloem parenchyma. Structure of Dicot and Monocot leaf. Primary Structure of monocot stem, Nodal anatomy – Uni, tri and multilacunar



Course Name: Master of Science

Discipline: Botany

(For those who join in 2015 and after)

COURSE OBJECTIVES

- To Produce the Knowledge Enriched competent students to focus in research and young scientists
- To Encourage the development of manipulative, procedural, cognitive, affective and communication skills through practical activities that foster investigation, imagination, and creativity
- To Provide opportunities for observing and evaluating phenomena and processes and for drawing valid deductions and conclusions
- To enable students to acquire a body of scientific knowledge appropriate to their age, and an understanding of the relevance and applications of science in their personal and social lives
- To Foster an appreciation of and respect for life and the environment, while at the same time developing awareness of the potential use and misuse and limitations of science, and of healthy and safety issues relating to science
- To Provide a balanced understanding of the physical, biological and chemical dimensions of science, thus facilitating the further study of science in the senior cycle.
- To Develop a sense of enjoyment in the learning of science.

Eligibility for admission : B.Sc with Botany

Duration of the Course : Two Years

Course Scheme

Sem	Part	Subject	Hour	Credit	Int+Ext =Total	Subject Code	Status
I	Core-1	Gymnosperms and Taxonomy of Angiosperms	6	4	25+75=100	P2BYC11	Revised
	Core 2	Cell Biology and Internal Morphology	6	4	25+75=100	P2BYC12	Revised
	Core 3	Instrumentation and Biotechniques	5	4	25+75=100	P2BYC13	Revised
	Core 4	Lab I: Gymnosperms and Taxonomy of Angiosperms	4	3	40+60=100	P2BYC1P1	Revised
	Core 5	Lab II: Cell Biology and Internal Morphology, Instrumentation and Biotechniques	4	2	40+60=100	P2BYC1P2	Revised
	Elective I	Pharmacognosy	5	5	25+75=100	P2BYE1	Revised



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Sem	Part	Subject	Hour	Credit	Int+Ext =Tot	Subject Code	Status
II	Core -6	Algae, Lichens, Bryophytes and Pteridophytes	6	4	25+75= 100	P2BYC21	Revised
	Core 7	Genetics and Molecular Biology	6	4	25+75=100	P2BYC22	Revised
	Core 8	Environmental Biology	6	4	25+75=100	P1BYC23	No change
	Core 9	Lab III: Algae, Lichens, Bryophytes and Pteridophytes	4	3	40+60=100	P1BYC2P1	No change
	Core 10	Lab IV :Genetics, Molecular Biology and Environmental Biology	4	3	40+60=100	P1BYC2P2	No change
	NME	Mushroom cultivation	4	4	25+75=100	P2BYN2	Revised

Core I – Gymnosperms and Taxonomy of Angiosperms

Hours/Week : 6 (90 Hrs)

Subject Code:P2BYC11

Credit: 4

Course Objective:

1. To understand the principles and methodology of plant taxonomy.
2. To develop skills for identifying plants using morphological traits and dichotomous keys in the laboratory and field.
3. To develop the ability to recognize major plant families and representative species by sight.
4. To demonstrate the bases for assessing taxonomic relationships among flowering plants.
5. To develop a skills to identify the local flora.
6. To identify key structures in the gametophytic and sporophytic generations of selected gymnosperms
7. Discuss the evolutionary adaptations in gymnosperms.

Unit – I

18-Hrs

Classification of Gymnosperms by Chamberlin, Economic importance of Gymnosperms, Methods of fossilization, Techniques to Study the fossils. General Characters of the following orders: – Pteridospermales, Pentoxylales, and Cordaitales..

Unit II

18-Hrs

General characters, distribution, Gametophyte and life cycles of the following orders : Cycadales, Coniferales, Gnetales and Ginkgoales

Unit – III

18-Hrs

Classification : Linnaeus system, Bentham and Hookers system, Hutchinson system. Plant nomenclature – Principles and Rules of ICBN, Effective & Valid Publication, Type Concept. Modern trends in Plant taxonomy : Chemotaxonomy and Numerical taxonomy.

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Course Name : Bachelor of Science

Discipline : Zoology

(FOR THOSE WHO JOIN IN 2015 AND AFTER)

COURSE SCHEME:

Sem	Part	Subject	Hours	Credit	Int+Ext=Total	Subject code	Status
I	Part – I	Tamil /Hindi	6	3	25+75=100	U2PT1	Revised
	Part – II	English	6	3	25+75=100	U2PE1	New
	Core 1	Invertebrata	4	4	25+75=100	U2ZYC1	Revised
	Core Lab	Invertebrata Practical	2	-			---
	Allied I – 1	General Chemistry I	4	4	25+75=100	U2CHA1Y	Revised
	Allied I – 1 Lab	Chemistry Practical	2	-			---
	SBE – 1	Computer Applications and Information Technology	2	2	25+75=100	U2ZYS11	Revised
	SBE – 2	Applied Zoology-I	2	2	25+75=100	U2ZYS12	Revised
	VE	Value Education	2	2	25+75=100	U1VE11	No change
II	Part – I	Tamil/Hindi	6	3	25+75=100	U2PT2	Revised
	Part – II	English	6	3	25+75=100	U2PE2	New
	Core 2	Chordata	4	4	25+75=100	U2ZYC2	Revised
	Core Lab	Invertebrata&Chordata Practical	2	2	40+60=100	U2ZYC2P	Revised
	Allied I – 2	General Chemistry II	4	4	25+75=100	U2CHA2Y	Revised
	Allied I – 2 Lab	Chemistry Practical	2	2	40+60=100	U2CHA2YP	Revised
	SBE – 3	Biostatistics	2	2	25+75=100	U2ZYS21	Revised
	SBE – 4	Applied Zoology-II	2	2	25+75=100	U2ZYS22	Revised
	EVS	Environmental Studies	2	2	25+75=100	U1ES21	No change

SEMESTER: I
INVERTEBRATA

CORE: 1

Contact hours per Week – 4 hours

Contact hours per Semester – 60 hours

CREDITS: 4
Subject Code: U2ZYC1

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Objectives

- To understand the systemic and functional morphology of various groups of invertebrates.
- To study their economic importance, affinities and adaptations.



Course Name : Master of Science

Discipline : Zoology

(For those who join 2015 and after)

COURSE OBJECTIVES

- To impart education to graduates in Zoology so as to equip them to interpret the ecosphere around them and to solve the problems in conservation biology.
- To combine theoretical knowledge and practical skills to equip the student to take up active research in the area of modern biology.
- To produce trained manpower with strong knowledge base in various disciplines of Zoology.
- To encourage the students to become entrepreneurs in the applied areas of Zoology
- To improve the skills of students in the advanced molecular techniques.

ELIGIBILITY FOR ADMISSION

B.Sc. Graduates of any University with Zoology /Life Sciences / Biological Sciences/Animal Sciences etc as principal subject.

DURATION OF THE COURSE

The Course for the Degree of Master of Science shall consist of two academic years divided into four semesters.

Each semester consists of 90 working days.

COURSE SCHEME:

Semester	Part	Subject	Hours	Credit	Int+Ext=Total	Subject code	Status
I	Core 1	Cell and Molecular Biology	6	4	25+75=100	P2ZYC11	Revised
	Core 2	Biochemistry	6	4	25+75=100	P2ZYC12	Revised
	Core 3	Biophysics	6	4	25+75=100	P2ZYC13	Revised
	Elective -1	Techniques in Biology	6	4	25+75=100	P2ZYE1	Revised
	Core 4	Lab: Cell and Molecular Biology	3	3	40+60=100	P2ZYC1P1	Revised
	Core 5	Lab : Biochemistry	3	3	40+60=100	P2ZYC1P2	Revised
II	Core 6	Molecular Genetics	6	4	25+75=100	P2ZYC21	Revised
	Core 7	Ecology	6	4	25+75=100	P2ZYC22	Revised
	Core 8	Biostatistics and Bioinformatics	6	4	25+75=100	P2ZYC23	Revised
	NME	Economic Zoology	6	4	25+75=100	P2ZYN2	Revised
	Core 9	Lab : Molecular Genetics	3	3	40+60=100	P2ZYC2P1	Revised
	Core 10	Lab : Ecology	3	3	40+60=100	P2ZYC2P2	Revised

Semester	Part	Subject	Hours	Credit	Int+Ext=Total	Subject code
III	Core 11	Immunology	6	4	25+75=100	
	Core 12	Microbiology	6	4	25+75=100	
	Core 13	Evolution	6	4	25+75=100	
	Elective - 2	Sericulture	6	5	25+75=100	



	Core 14	Lab: Immunology	3	3	40+60=100	
	Core 15	Lab: Microbiology	3	3	40+60=100	
IV	Core 16	Developmental Biology	6	4	25+75=100	
	Core 17	Animal Physiology	6	4	25+75=100	
	Core 18	Biotechnology	6	4	25+75=100	
	Elective – 3	Aquaculture	6	5	25+75=100	
	Core 19	Lab: Developmental Biology	3	3	40+60=100	
	Core 20	Lab: Animal Physiology	3	3	40+60=100	

SEMESTER: I

CELL AND MOLECULAR BIOLOGY

CORE: 1

Contact hours per Semester – 90 hours

Contact hours per Week – 6 hours

Credits: 4

Subject Code: P2ZYC11

Objectives

- To learn the structure and functions of various cellular components.
- To understand the integrated activity of the whole cell as in mitosis, meiosis and protein synthesis.
- To understand the molecular biology of cancer cells

Unit – I

(18 hours)

Biomembranes – Molecular organization – models of membrane – transport across membrane – cell-cell adhesion – cell signaling: Cell surface receptors, second messenger system and signaling from plasma membrane to nucleus – cytoskeleton – intermediate filaments – microtubules in cilia, flagella and centrioles.

Unit II

(18 hours)

Biogenesis, Ultrastructure and functions of Endoplasmic reticulum, Golgi complex, Lysosomes, Peroxisomes, Mitochondria and Chloroplast

Unit III

(18 hours)

Nucleus: Ultra structure of interphase Nucleus – Nuclear envelope – Nuclear pores - Fine structure of eukaryotic chromosome, chromosomal proteins and nucleosome concept – unusual chromosomes – Euchromatin and Heterochromatin

Unit IV

(18 hours)

Cell cycle: G₀, G₁, S and G₂ Phases – M Phase – Molecular organization and functional role of mitotic apparatus – Cytokinesis – Meiosis – Regulation of the cell cycle

Unit V

(18 hours)

Cancer cell: Growth properties of normal and cancer cells – Oncogenes – tumour suppressor genes – Environmental carcinogens – Tumour viruses – Apoptosis: definition, mechanism and significance.

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Virudhunagar – 626 001.

Course Name: M.Phil**Discipline: ZOOLOGY****(For those who join 2015 and after)****Course Structure**

Semester	Part	Subject	Hours	Int+Ext=Total	Code	Satus
I	Core – 1	Research Methodology	6	40+60=100	M1ZYC11	No change
	Core – 2	Modern Biotechnology	6	40+60=100	M1ZYC12	No change
	Elective – 1	Bionanotechnology – In depth study	6	40+60=100	M2ZYE11	New
	Elective – 2	Aquaculture – In depth study			M2ZYE12	Revised
	Elective – 3	Aquatic Toxicology and Entomology- In Depth study			M2ZYE13	New
	Library	-	12	-		
II	Project Work	Dissertation and Viva voce	-	50+150=200	M1ZY2PV	No change

RESEARCH METHODOLOGY**CORE: 1***Contact hours per Week – 6 hours**Contact hours per Semester – 90 hours***Subject Code: M1ZYC11****Objectives**

- To acquire the knowledge of basic principles and applications of tools and techniques of biology
- To get a basic knowledge of statistical methods and computations in biology
- To learn the techniques of writing and profiling a research paper

Unit – I**18 Hours****pH, Colorimetry and Centrifugation***pH: Definition, range – equilibrium constant – pH indicators – pH papers**pH meter: Description – measurement of pH**Buffers: biological buffers – preparation – applications**Laws pertaining to Colorimetry: Lambert's and Beer's law – absorption range – selection of wavelength and filters**Principle and application of Visible, UV, IR and Atomic Spectroscopy (AAS), Nuclear Magnetic Resonance (NMR)*

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Placed in the Academic Council Meeting held on 17.04.2015

Annexure II (11)
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Virudhunagar – 626 001.

Course Name : Bachelor of Science
 Discipline : Computer Science
 (Those who join in 2015 and after)

COURSE OBJECTIVES:

The syllabus for B.Sc. Computer Science degree under semester system has been designed on the basis of Choice Based Credit System, (CBCS) which would focus on job oriented programmes and Value Added Education.

To promote the students to understand the basic knowledge in the field of Computer Science, to train them in writing Programs in different Computer Languages and prepare the students to fulfill the need of the IT industry and to promote the aspiring students for higher education.

ELIGIBILITY FOR ADMISSION:

Candidate should have passed the Higher Secondary Examination conducted by the Board of Higher Secondary Education, Govt. of Tamil Nadu or any other Examinations accepted by the syndicate as equivalent there to with Mathematics / Computer Science as one of the Subjects.

DURATION OF THE COURSE: Three Years

COURSE SCHEME:

Semester	Part	Subject	Hour	Credit	Marks Int+Ext=Total	Subject Code	Status
I	Part I	Tamil / Hindi	6	3	25+75=100	U2PT1	Revised
	Part II	English	6	3	25+75=100	U2PE1	New
	Part III Core 1	Programming in C	4	4	25+75=100	U1CSC11	No change
	Part III Allied 1	Mathematical Foundation I	4	4	25+75=100	U2MAA1C	Revised
	Part III Core 2- Lab	Programming in C - Lab	6	4	40+60=100	U2CSC1P	Revised
	SBE-1	Digital Principles and Applications	2	2	25+75=100	U1CSS11	No change
	VE	Value Education	2	2	25+75=100	U1VE11	No change

Semester	Part	Subject	Hour	Credit	Marks Int+Ext=Total	Subject Code	Status
II	Part I	Tamil / Hindi	6	3	25+75=100	U2PT2	Revised
	Part II	English	6	3	25+75=100	U2PE2	New
	Part III Core 3	Object Oriented Programming in C++	4	4	25+75=100	U1CSC21	No change
	Part III Allied 2	Mathematical Foundation II	4	4	25+75=100	U2MAA2C	Revised
	Part III Core 4- Lab	Programming in C++ - Lab	6	4	40+60=100	U2CSC2P	Revised
	SBE-2	Computer Organization	2	2	25+75=100	U1CSS21	No change
	EVS	Environmental Studies	2	2	25+75=100	U1ES21	No change

Semester	Part	Subject	Hour	Credit	Marks Int+Ext=Tot	Subject Code
	Part I	Tamil / Hindi	6	3	25+75=100	
	Part II	English	6	3	25+75=100	



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III	Part III Core 5	Data Structures	4	4	25+75=100	
	Part III Core 6	Operating Systems	4	4	25+75=100	
	Part III Allied 3	Numerical Methods	4	4	25+75=100	
	Core 9- Lab	Data Structure - Lab	6	4	40+60=100	

Semester	Part	Subject	Hour	Credit	Marks Int+Ext=Tot	Sub. Code
IV	Part I	Tamil / Hindi	6	3	25+75=100	
	Part II	English	6	3	25+75=100	
	Part III Core 7	Java Programming	4	4	25+75=100	
	Part III Core 8	Data Base Management Systems	4	4	25+75=100	
	Part III Allied 4	Resource Management Techniques	4	4	25+75=100	
	Part III Core 9- Lab	JAVA Programming – Lab	6	4	40+60=100	

Semester	Part	Subject	Hour	Credit	Internal	Sub. Code
I,II,III,IV	Part V	NSS/NCC/ Sports/RRC/YRC	-	1	100	

Semester	Part	Subject	Hour	Credit	Marks Int+Ext=Tot	Sub. Code
V	Part III Core 10	Advanced JAVA Programming	4	4	25+75=100	
	Part III Elective 1	Computer Algorithm / Digital Image Processing /Modern Communication System	4	4	25+75=100	
	Part III Elective 2	Software Engineering/ Embedded System / Data Mining	4	4	25+75=100	
	Part III Core 11 - Lab	Web Designing – Lab	6	3	40+60=100	
	Part III Core 12 - Lab	Advanced JAVA - Lab	6	4	40+60=100	

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	SBE-3	Web Programming	2	2	25+75=100	
	SBE-4	Employability Skills	2	2	25+75=100	
	NME-1	Office Automation - Lab	2	2	25+75=100	

Semester	Part	Subject	Hour	Credit	Marks Int+Ext=Tot	Sub. Code
VI	Part III Core 13	Computer Graphics	4	4	25+75=100	
	Part III Core 14	Computer Networks	4	4	25+75=100	
	Part III Core 15	Visual Programming and Dot Net	4	4	25+75=100	
	Part III Elective 3/ Project	Software Development - Project	6	5	100 (only Internal)	
	Part III Core 16- Lab	Computer Animation - Lab	6	3	40+60=100	
	SBE-5	System Software	2	2	25+75=100	
	SBE-6	TCP/IP	2	2	25+75=100	
	NME-2	Basic Web Designing - Lab	2	2	25+75=100	

**SEMESTER I
CORE I - PROGRAMMING IN C**Contact Hours per week : 4
Contact Hours per semester : 60**Subject Code:UICSCI1****Objective:**

Train the students in developing programming skill in C using decision function, iterative loop, recursive loop, array, structure, pointers and files.

UNIT I

(12 Hours)

Overview of C: History of C - Importance of C - Basic Structure of C - Programming style - Constants, variables and Data types - Declaration of variables, storage class - Defining symbolic constants - declaring a variable as constant, volatile - overflow and underflow of data. Operators and expressions arithmetic, relational, logical, assignment operators - increment and decrement operators, conditional operators, bitwise operators, special operators - arithmetic expression - evaluation of expressions - precedence of arithmetic operators - type conversions in expression - operator precedence and associativity - mathematical functions - managing I/O operations: reading and writing a character - formatted I/O.

UNIT II

(12 Hours)

Decision making and branching: if statement, if...else statement - nesting of if...else statement - else if Ladder - Switch statement - the ?:operator - goto statement - The While statement - do statement - The for statement - Jumps in loops


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Virudhunagar – 626 001.

Course Name : M.Sc

Discipline : Computer Science

Rules and Regulations, Course Scheme and Scheme of Examinations
(For those who Joined From June 2015 onwards)

COURSE OBJECTIVES:

The syllabus for M.Sc. Computer Science degree under semester system has been designed on the basis of Choice Based Credit System, (CBCS) which would focus on job oriented programmes and Value Added Education.

To provide the Students with all necessary advanced programming skills, subjects of recent interest or development and advanced technologies and to prepare them to face all the needs of the Computer Industry and in particular to promote them to the latest research pursuits.

ELIGIBILITY FOR ADMISSION:

The candidate should have passed the undergraduate degree examination in Computer Science / Information Technology / Computer Applications / B.Sc (Computer Technology) / B.Com (Computer Applications) / B.Sc (Software).

DURATION OF THE COURSE:

Two Years

COURSE SCHEME:

Semester	Part	Subject	Hour	Credit	Marks Int+Ext=Tot	Sub. Code	Status
I	Core 1	Advanced C Programming	5	5	25+75 = 100	P1CSC11	No change
	Core 2	Data Structures and Algorithms	5	4	25+75 = 100	P3CSC12	Revised
	Core 3	Theory of Computation	5	4	25+75= 100	P2CSC13	New
	Core 4-Lab	Data Structures Using C Pointer Lab	5	3	40+60= 100	P1CSC1P1	No change
	Core 5-Lab	Programming in DOT NET Lab	5	3	40+60= 100	P2CSC1P2	Revised
	Elective 1	DOT NET Programming	5	5	25+75= 100	P2CSE1	Revised

Semester	Part	Subject	Hour	Cred it	Marks Int+Ext=Tot	Sub. Code	Status
II	Core 6	J2EE Programming	5	4	25+75=100	P2CSC21	Revised
	Core 7	Computer Architecture and Parallel Processing	5	4	25+75=100	P2CSC22	Revised
	Core 8	Relational Database Management Systems	5	5	25+75=100	P2CSC23	Interchange
	Core 9-Lab	RDBMS Lab	6	3	40+60=100	P2CSC2P1	Revised
	Core 10-Lab	J2EE Programming Lab	5	3	40+60=100	P2CSC2P1	Revised
	NME	Data Management Techniques	4	4	25+75=100	P2CSN2	New

Semester	Part	Subject	Hour	Credit	Marks Int+Ext	Sub. Code
III	Core 11	Data Communication and Networks	5	4	25+75=100	
	Core 12	Advanced Software Engineering	5	5	25+75=100	
	Core 13	Principles of Compiler Design	5	5	25+75=100	
	Core 14-Lab	Software Development Lab	5	3	40+60=100	
	Core 15-Lab	Open Source Programming	5	3	40+60=100	
	Elective 2	Wireless Communication/ Operating System Design	5	5	25+75=100	

Semester	Part	Subject	Hour	Credit	Marks Int+Ext=Tot	Sub. Code
	Elective 3	Project & viva-voce	20	10	80+120=100	



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IV	Core 16	Soft Computing	5	4	25+75=100	
	Core 17	Data Mining and Warehousing	5	4	25+75=100	

SYLLABUS FOR EACH PAPER

CORE 1 - ADVANCED C PROGRAMMING

Contact Hours per week :

Subject Code : PICSC11

Contact Hours per semester :

Objective

To train the students to get more knowledge about pointers concept and also learn TSR concepts with their creation and working

UNIT I

(12 Hours)

Introduction to pointers: The & and * operators – Pointers Expression – char, int and float pointers – passing addresses to functions – functions returning pointers. **Pointers and array:** What are arrays? – passing array elements to a function – pointers and arrays – passing an array to a function – more than one dimension – pointers and two dimensional arrays – pointer to an array – passing two dimensional array to a function – three dimensional array – passing 3D array to a function – returning array from function – returning 3D array from a function – dynamic memory allocation – array of pointers.

UNIT II

(12 Hours)

Pointers and Strings: What are strings? – Standard library String functions – pointers and strings – const qualifier – returning const values – two dimensional array of characters – array of pointers to string – limitations of array of pointers to string. **Pointers and Structures:** An array of structure – more about Structures – Structure pointers – offsets of Structure elements – linked list – Stacks and Queues – Doubly linked list.

UNIT III

(12 Hours)

Pointers and Data Structure: Merging of linked list – linked list and polynomials – sorting a linked list – circular linked list – Trees – binary tree – traversal of a binary tree – deletion from a binary tree – threaded binary tree – Graphs.

UNIT IV

(12 Hours)

Operations on Bits: Bitwise operators – one's complement operator – right shift operator – left shift operator – bitwise AND – bitwise OR – bitwise XOR operator – showbit() function. **Advanced Concepts in C:** Types of pointers – which pointers to use? Pointers and typecasting – physical address to segment: offset – the dancing dolls – capslocked – how much memory do you have? ROM-BIOS philosophy – CPU registers – interrupts and Interrupt vector table – invoking ROM-BIOS functions – int86() function – finding memory size – using the declarations in dos.h – positioning cursor on the screen – interrupts to Access ROM-BIOS/DOS services- few more examples – writing directly to VDU memory.

UNIT V

(12 Hours)

Elementary TSR: How a TSR works? – Pointers to function – The first TSR – interrupt function modifier – variables in TSRs – Time Bound TSRs – Tinkering with the keyboard – functioning of the keyboard – how the pointer works – your printer is virused – printer jam! – TSR clock. **Some more TSRs:** What is a stack? – the interrupt modifier revisited – TSR to write protect the Hard disk – Interrupt OX21 – A gateway to the DOS kingdom – delete which doesn't work – increase your monitor life – DOS key imitated.

Text Books:

1. Understanding Pointers in C – Yashavant P.Kanetkar BPB publications.
2. Let us C - Yashavant P.Kanetkar (sixth revised and updated Edition)
3. Writing TSRs Through C - Yashavant P.Kanetkar, 1995, BPB Publications

UNIT I	:	TB 1 - Chapter 1, 2
UNIT II	:	TB 1 - Chapter 3, 4
UNIT III	:	TB 1 - Chapter 5
UNIT IV	:	TB 2- Chapter 14, TB 3 - Chapter 1


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Virudhunagar – 626 001.

Course Name: **M.Phil**

Discipline : **Computer Science (Semester)**

COURSE OBJECTIVES:

To motivate the PG students of Computer Science, Computer Applications and Information Technology in initiating research work and to expose them the current areas of research and make them reveal the technology and trends.

ELIGIBILITY FOR ADMISSION:

Candidates who have passed PG degree in the area of Computer Science, Computer Applications and Information Technology from the Madurai Kamaraj University or equivalent examination of other university accepted by the syndicate as equivalent shall be permitted to join the M.Phil degree programme in Computer Science

DURATION OF THE COURSE:

One Year

Medium of Course: English

COURSE SCHEME:

Semester	Part	Subject	Hour	Marks Int+Ext	Total Marks	Code	Status
I	Core 1	Research Methodology	6	40+60	100	M2CSC11	No change
	Core 2	Data Mining	6	40+60	100	M1CSC12	No change
	Elective	Artificial Neural Networks / Digital Image Processing	6	40+60	100	M2CSE11 / M2CSE12	No change
	Library		12	-	-	---	---

Semester	Subject	Hour	Marks Dissertation + Viva	Total Marks	Code
II	Dissertation & Viva Voce	30	150+50	200	M1CS2PV

SYLLABUS FOR EACH PAPER:

PAPER I: RESEARCH METHODOLOGY

Subject Code: M2CSC11

UNIT-I

Research methods:

Introduction : Meaning of Research - Objectives of Research - Motivation in Research - Types of Research - Research Approaches - Significance of Research - Research Methods versus Methodology - Research and Scientific Method - Importance of Knowing How Research is Done - Research Process - Criteria of Good Research.

Defining the Research Problem : What is a Research Problem? - Selecting the Problem - Necessity of Defining the Problem - Technique Involved in Defining a Problem.

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Virudhunagar – 626 001.

Course Name: **Bachelor of Science**

Discipline: **Information Technology.**

Rules and Regulations, Course scheme and Scheme of Examinations

(For those who join in 2015 and After)

COURSE OBJECTIVE:

The course is broadly based, covering the areas of IT and Software development, providing a good foundation for a rapidly changing IT industry. In addition to the core area of study, the students are given sufficient exposure to all necessary skill enhancement tools and techniques in the field of IT. With the above intention the students are provided with sufficient laboratory sessions comprising of qualitative experiments in computer programming.

ELIGIBILITY FOR ADMISSION

Candidate should have passed the Higher Secondary Examination conducted by the Board of Higher Secondary Education, Govt. of Tamilnadu or any other Examinations accepted by the syndicate as equivalent there to with Mathematics/Computer Science as one of the Subjects.

Medium of Instruction : English

- A candidate shall be eligible for the award of the degree on completion of the prescribed course of study and passing all the prescribed external examinations.
- Attendance, Progress and conduct certification from the head of the department shall be required for taking the external examinations.
- The passing minimum is 40% and a candidate will be declared to have passed.
 - In I Class if he / she has obtained 60% and above in the III Part.
 - In II Class if he / she has obtained 50% and above in the III Part.
 - In III Class if he / she has obtained 40% and above in the III Part.

Ranking will be made for the candidates who have successfully completed the course without any arrears in each semester with the candidates scored the maximum total in III part be put in the I Rank and the minimum total in III Part be put in the last rank.

DURATION OF THE COURSE:

Three Years.

COURSE SCHEME:

Semester	Part	Subject	Hour	Credit	Int+Ext=Total	Sub. Code	Status
I	Part I	Tamil	6	3	25+75=100	U2PT1	Revised
	Part II	English	6	3	25+75=100	U2PE1	New
	Core 1	Introduction to IT and Digital Principles	4	4	25+75=100	U3NTC11	Revised
	Allied 1	Mathematical Foundations	4	4	25+75=100	U3MAA1N	Revised
	Core -2	Lab:Web Designing	3	3	40+60=100	U2NTC1P1	Revised
	Core -3	Lab:Office Automation	3	3	40+60=100	U3NTC1P2	Revised
	SBE -1	Introduction to HTML.	2	2	25+75=100	U2NTS1	New
VE	Value Education	2	2	25+75=100	U1VE11	No change	

Semester	Part	Subject	Hour	Credit	Int+Ext=Total	Sub. Code	Status
II	Part I	Tamil	6	3	25+75=100	U2PT2	Revised
	Part II	English	6	3	25+75=100	U2PE2	New
	Core 4	Programming in C	4	4	25+75=100	U1NTC21	No change
	Allied 2	Basic Accounting	4	4	25+75=100	U1CEA2N	No change
	Core -5 - Lab	Programming in C Lab	5	3	40+60=100	U2NTC2P1	Revised
	Allied 3 Lab	Tally	3	3	40+60=100	U1NTC2P2	No change
	EVS	Environmental Studies	2	2	25+75=100	U1ES21	No change

Semester	Part	Subject	Hour	Credit	Int+Ext=Total	Sub. Code
III	Part I	Tamil	6	3	25+75=100	
	Part II	English	6	3	25+75=100	
	Core 6	Data Structures	4	4	25+75=100	
	Core 7	Object Oriented Programming With C++	4	4	25+75=100	
	Core 8	Computer Animation Lab	5	3	25+75=100	
	Core -9 - Lab	Programming in C++	5	3	40+60=100	



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Semester	Part	Subject	Hour	Credit	Int+Ext=Total	Sub. Code
IV	Part I	Tamil	6	3	25+75=100	
	Part II	English	6	3	25+75=100	
	Core 10	Java Programming	4	4	25+75=100	
	Core 11	Operating Systems	5	4	25+75=100	
	Allied 4	Resource Management Techniques	4	4	25+75=100	
	Core -12 Lab	Programming in Java	5	3	40+60=100	

Semester	Part	Subject	Hour	Credit	Int+Ext=Total	Sub. Code
V	Core 13	Dot Net Programming	4	4	25+75=100	
	Elective 1	Computer Networks	5	5	25+75=100	
	Elective 2	Software Engineering	5	5	25+75=100	
	Core 14 -Lab	Programming in Dot Net Lab	5	3	40+60=100	
	Core 15 -Lab	Web Programming	5	3	40+60=100	
	SBE -2	Web Technology	2	2	25+75=100	
	SBE -3	Employability Skills	2	2	25+75=100	
	NME-1	Fundamentals of Database systems	2	2	25+75=100	

Semester	Part	Subject	Hour	Credit	Int+Ext=Total	Sub. Code
VI	Core 16.	Relational Data Base Management systems	5	4	25+75=100	
	Core 17	Mobile Communication	5	5	25+75=100	
	Elective 3 Project & Viva-voce	Project Viva-voce	7	5	25+75=100	
	Core 18	Computer Graphics	5	4	60+40=100	
	SBE -4	Cryptography	2	2	25+75=100	
	SBE - 5 LAB	Data Base Management Lab	2	2	25+75=100	
	SBE -6	Cloud Computing	2	2	25+75=100	
	NME-2	Multimedia	2	2	25+75=100	

Semester	Part	Subject	Hour	Credit
I,II,III,IV	Part V	NSS/NCC/ Sports	-	1

SYLLABUS FOR EACH PAPER:

CORE 1 – Introduction to IT and Digital Principles

Contact Hours per week: 4 hrs

Contact hours per semester: 52 hrs

Sub. Code:U3NTC11

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UNIT I:

(10 - Hours)

Exploring computers and their uses: The computer defined - Computers for individual users - Computers for organizations. **Looking inside the computer system:** Parts of a computer system - The information processing cycle - Essential computer hardware - Processing devices - Memory devices - Input and Output devices - Storage devices - Software brings the machine to life. **Using the keyboard and Mouse:** The Keyboard - How the computer access input from the keyboard - The mouse - Variants of the mouse. **Input data in other ways:** Devices for the hand - Optical Input devices, **Video and Sound:** Monitors. **Printing:** Commonly used printers.



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Virudhunagar – 626 001.

Course Name: Master of Science

Discipline: Computer science & Information Technology.

Rules and Regulations, Course scheme and Scheme of Examinations

(For those who joined from June 2015 Onwards)

COURSE OBJECTIVE:

The M.Sc (Computer Science & Information Technology) course is designed for enriching students, those with the interest in pursuing inter – disciplinary study in the field of Information Technology as a Post Graduate course. The course provides the students with all necessary theoretical and practical knowledge in complete programming to equip them to meet the IT industrial requirements. The subject of study and the quantum of Hands – on training provide expose them to latest techniques, applications and developments in IT.

Eligibility for Admission:

The Candidate should have passed from any discipline in an institution affiliated to Madurai Kamaraj University or any other university for a period of not less than three academic year.

Duration of the course:

Two Years

Course Scheme:

Semester	Part	Subject	Hour	Credit	Int+Ext =Tot	Sub. Code	Status
I	Core 1	Programming in C	5	5	25+75=100	P1NTC11	No change
	Core 2	Data Structures	5	4	25+75=100	P2NTC12	No change
	Core 3	Digital Principles and Computer Organization.	5	5	25+75=100	P2NTC13	No change
	Core 4 – Lab	Programming in C Lab	5	3	40+60=100	P1NTC1P1	No change
	Core 5 – Lab	Client Server Programming Lab	5	3	40+60=100	P2NTC1P2	No change
	Elective -1	Relational Data Base Management Systems / Principles of IT	5	4	25+75=100	P2NTE11/ P1NTE12	No change
Semester	Part	Subject	Hour	Credit	Int+Ext =Tot	Sub. Code	Status
II	Core 6	Java Programming	5	5	25+75=100	P2NTC21	No change
	Core 7	Web Programming	5	4	25+75=100	P3NTC22	No change
	Core 8	Data Communication and Networks	5	5	25+75=100	P1NTC23	No change
	Core 9- Lab	Programming in Java Lab	6	3	40+60=100	P2NTC2P1	No change
	Core 10 - Lab	Web Designing Lab	5	3	40+60=100	P2NTC2P2	No change
	NME	IT and Data Computations	4	4	25+75=100	P2NTN2	

Semester	Part	Subject	Hour	Credit	Marks Int+Ext =Tot	Sub. Code
III	Core 11	Android Programming	5	4	25+75=100	
	Core 12	Operating Systems	5	4	25+75=100	
	Core 13	Dot Net Programming	5	5	25+75=100	
	Core 14 – Lab	Programming Android Applications	5	3	40+60=100	
	Core 15- Lab	Programming in Dot Net	5	3	40+60=100	
	Elective -2	Software Engineering / Object Oriented Analysis and Design	5	5	25+75=100	
Semester	Part	Subject	Hour	Credit	Marks Int+Ext =Tot	Sub. Code
IV	Elective -3	Project & Viva-voce	20	10	80+120=200	
	Core 16	Data Mining	5	4	25+75=100	
	Core 17	Internet Working with TCP/IP	5	4	25+75=100	

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Course Name : Bachelor of Science

Discipline : Computer Applications

Course Objective:

To prepare the students to manage the software components in a computer independently and to be a programmer. To motivate the students to take up higher studies in Computer Applications and other streams.

1) Eligibility for admission :

Candidates should have passed the Higher Secondary Examination conducted by the Board of Higher Secondary Education, Government of TamilNadu or any other Examinations accepted by the syndicate as equivalent thereto with Mathematics / Computer Science as one of the subjects.

2) Duration of the Course :

The students shall undergo the prescribed course of study for a period of three academic years. (Six Semesters)

3) Course Scheme :

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code	Status
I	Part I	Tamil	6	3	25+75=100	U2PT1	Revised
	Part II	English	6	3	25+75=100	U2PE1	New
	Core 1	Programming in C	5	4	25+75=100	U2CAC1	Revised
	Allied 1	Discrete Mathematics	4	4	25+75=100	U2MAA1	Revised
	Core 2 – Lab	C Programming Lab	5	3	40+60=100	U2CAC1P	Revised
	SBE – 1 Lab	Office Automation Lab	2	2	40+60=100	U2CAS1P	Revised
	VE	Value Education	2	2	25+75=100	U1VE11	No change

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code	Status
II	Part I	Tamil	6	3	25+75=100	U2PT2	Revised
	Part II	English	6	3	25+75=100	U2PE2	Revised
	Core 3	Object Oriented Programming with C++	4	4	25+75=100	U2CAC2	Revised
	Allied 2	Operations Research	4	4	25+75=100	U1MAA2	No change
	Core 4 – Lab	Object Oriented Programming with C++ Lab	6	3	40+60=100	U2CAC2P	Revised
	SBE – 2	Digital Principles and Computer Organization	2	2	25+75=100	U2CAS2	New
	EVS	Environmental Studies	2	2	25+75=100	U1ES21	No change

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363



Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code
III	Core 5	Java Programming	5	4	25+75=100	
	Core 6	Data Structure	4	4	25+75=100	
	Core 7	Computer Graphics	4	4	25+75=100	
	Allied 3	Computer Based Financial Accounting	5	4	25+75=100	
	Core 8 – Lab	Java Programming Lab	5	3	40+60=100	
	Core 9 – Lab	Data Structure Lab	5	3	40+60=100	
	SBE – 3	Tally Lab	2	2	40+60=100	

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code
IV	Core 10	Operating System	4	4	25+75=100	
	Core 11	Data Communications and Computer Networks	4	4	25+75=100	
	Core 12	Advanced Java Programming	4	4	25+75=100	
	Allied 4	Principles of Costing	5	4	25+75=100	
	Core 13 – Lab	Visual Programming Lab	6	3	40+60=100	
	Core 14 – Lab	Advanced Java Programming Lab	5	3	40+60=100	
	SBE - 4	Biometrics	2	2	25+75=100	

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code
V	Core 15	Database Management system	4	4	25+75=100	
	Elective 1	Web Technology/ Data Mining/ TCP/IP	5	5	25+75=100	
	Elective 2	Mobile Computing/ Computer Algorithms/ Cloud Computing	5	5	25+75=100	
	Core 16 – Lab	Database Management System Lab	6	3	40+60=100	
	Core 17 – Lab	Web Designing Lab	6	3	40+60=100	
	SBE – 5	Employability Skills	2	2	25+75=100	
	NME - 1	Fundamentals of Information Technology	2	2	25+75=100	



Semester	Part	Subject	Hour	Credit	Int+Ext Total	Subject code
VI	Core 18	Software Engineering	4	4	25+75=100	
	Core 19	Dot Net Programming	4	4	25+75=100	
	Core 20	Cryptography	4	3	25+75=100	
	Elective / Project and Viva-voce	Project and Viva-voce	5	5	40+60=100	
	Core 21 – Lab	Dot Net Programming Lab	5	3	40+60=100	
	SBE 6	Mobile Application Development	2	2	25+75=100	
	NME - 2	Introduction to Multimedia	2	2	25+75=100	
	Core 22 - Lab	Multimedia Lab	4	2	40+60=100	

Year	Part	Subject	Credit	Subject Code
I & II	Part V	NSS / NCC / RRC / YRC / Physical Education - Sports	1	U2NS1/U1NC1 / U1RR1 / U1YR1 / U2PS1

Core 1 - Programming in C**Contact Hours per week: 5 Hrs****Contact Hours per Semester: 60 Hrs****Credits:4****Subject Code: U2CAC1****Objectives:**

- To know the concepts of "C" Programming
- To understand how to use programming in day to day Applications.
- To learn good programming practices.

Unit I**12 Hrs**

Overview of C: History of C - Importance of C - Basic Structure of C - Programming style. Constants, variables and Data types: Introduction – Character set – C Tokens – Keywords and Identifiers – Constants – Variables – Data types - Declaration of variables, storage class Assigning values to variables – Defining Symbolic Constants – Declaring a Variables as Constant, Volatile – overflow and underflow of data.


Operators and expressions : arithmetic, relational, logical, assignment operators – increment and decrement operators, conditional operators, bitwise operators, special operators – arithmetic expression – Evaluation of expressions – precedence of arithmetic operators – type conversions in expression – operator precedence and associativity - Mathematical functions.

Unit II**12 Hrs**

Managing I/O operations: Reading and Writing a character – formatted input, output. Decision Making and branching: if statement, if ... else statement – nesting of if ...else statement – else if ladder – switch statement – the ? : operator – goto statement. Control Statements: The while statement – do statement – the for statement – jumps in loops.

Unit III**12 Hrs**

Arrays: Introduction-one dimensional array – declaration, initialization –two dimensional array – Initialization of two dimensional array- multi dimensional array – dynamic arrays. **Character Array and Strings:** Introduction-declarations initialization of string variables – reading and writing string – arithmetic operations on Characters – putting strings together – Comparison of two strings– string handling function – table of strings – features of string.


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Course Name : Master of Science

Discipline : Computer Applications

(For those who join in 2015 and after)

1) Course Objectives :

MCA is a course exclusively designed to meet the IT requirements of IT Trained Students for various organizations. The well balanced course significantly emphasizes on planning, designing and building of complex commercial application software and system software. The course also places equal importance on the functional knowledge in various areas. A three years full-time MCA course is not just a postgraduate course; it is also a complete professional grooming for students for a successful career in the IT Industry.

2) Eligibility for admission :

A pass in a recognized Bachelor's degree of minimum 3 years duration with mathematics at 10 + 2 level or at Graduate level and obtained atleast 50% marks (45% marks in case of candidates belonging to reserved category) in the qualifying degree examination.

(a) 10 + 2 + 3/4 years pattern

(or)

(b) 10+3 years Diploma +3 years pattern

(c) (i) 10 + 2 +AMIE

(or)

(ii) 10 + 3 years diploma (awarded by the State Board of Technical Education) + AMIE.

3) Duration of the Course : Three Years

4) Course Scheme :

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code	Status
I	Core 1	Mathematical Foundations	5	5	25+75=100	P2CAC1M	Revised
	Core 2	Digital Logic and Computer Organization	5	5	25+75=100	P2CAC11	Revised
	Core 3	Programming in C	5	5	25+75=100	P2CAC12	Revised
	Core 4	Multimedia and its Applications	5	4	25+75=100	P2CAC13	Revised
	Core 5 – Lab	C Programming Lab	5	3	40+60=100	P2CAC1P1	Revised
	Core 6 – Lab	Multimedia Lab	5	2	40+60=100	P2CAC1P2	Revised

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code	Status
II	Core 7	Optimization Techniques	5	5	25+75=100	P1CAC2M	No change
	Core 8	Object Oriented Programming with C++	5	5	25+75=100	P2CAC21	Revised
	Core 9	Data Structure	5	5	25+75=100	P2CAC22	Revised



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	Core 10	Operating System	5	5	25+75=100	P2CAC23	Revised
	Core 11 – Lab	Data Structure Lab	5	3	40+60=100	P2CAC2P1	Revised
	Core 12 – Lab	Unix and Shell Programming Lab	5	3	40+60=100	P2CAC2P2	Revised

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code	Status
III	Core 13	Accountancy and Financial Management	5	5	25+75=100	P2CAC3E	Revised
	Core 14	Open Source Technology	5	5	25+75=100	P2CAC31	New
	Core 15	Java Programming	5	5	25+75=100	P2CAC32	New
	Core 16 – Lab	Java Programming Lab	5	3	40+60=100	P2CAC3P1	Revised
	Core 17 – Lab	Open Source Programming Lab	5	3	40+60=100	P2CAC3P2	New
	Elective I	Object Oriented Analysis and Design / Computer Graphics/ Biometrics	5	5	25+75=100	P2CAE31/ P2CAE32/ P2CAE33	New Revised Revised

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code	Status
IV	Core 18	Database Management System	5	5	25+75=100	P2CAC41	Revised
	Core 19	Data Communications and Networks	5	5	25+75=100	P2CAC42	Revised
	Core 20 – Lab	Client Server Lab	5	3	40+60=100	P2CAC4P1	Revised
	Core 21 – Lab	Advanced Java Programming Lab	6	3	40+60=100	P2CAC4P2	Revised
	Elective II	Data Mining and Warehousing/ Artificial Neural Network/ Mobile Computing	5	5	25+75=100	P2CAE41/ P2CAE42/ P2CAE43	Revised Revised Revised
	NME	Introduction to Internet and Web Designing	4	4	25+75=100	P2CAN4/ P1CAN21	Inter changed



Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code
V	Core 22	Cryptography and Network Security	5	5	25+75=100	
	Core 23	Principles of Compiler Design	5	5	25+75=100	
	Core 24	Cloud Computing	5	5	25+75=100	
	Core 25 – Lab	Software Development Lab	5	4	40+60=100	
	Core 26 – Lab	Dot Net Programming Lab	5	3	40+60=100	
	Elective III	Digital Image Processing/ Embedded Systems/Android Programming	5	5	25+75=100	

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code
VI	Project and Viva-voce	Project and Viva-voce	-	12	100+100=200	

Core I - Mathematical Foundations

Contact Hours per week : 5 Hrs

Contact Hours per Semester: 60 Hrs

Credits: 5

Subject Code: P2CACIM

Objectives:

- To apply mathematical logic in the theory of inference.
- To study about various mathematical structures and their applications.
- To enrich the knowledge of computers by studying finite automata, phase structure grammar and Turing Machines.

Unit I

12 Hrs

Logic : Introduction – TF statements - connectives – Truth table of a formula – tautology – Tautological implications and Equivalence of formulae – Normal Forms – Theory of inference – Quantifiers – Statements involving more than one quantifiers.

Unit II

12 Hrs

Matrix Algebra: Introduction – Matrix operations – Inverse of a square matrix – elementary operations and rank of a matrix – simultaneous equations – eigen values and eigen vectors.



Course Name : Master of Science

Discipline : Computer Applications (Lateral Entry)

(For those who join in 2015 and after)

1) Course Objectives :

MCA (Lateral Entry) is a course exclusively designed to meet the IT requirements of IT Trained Students for various organizations. The well balanced course significantly emphasizes on planning, designing and building of complex commercial application software and system software. The course also places equal importance on the functional knowledge in various areas. A two years full-time MCA course is not just a postgraduate course; it is also a complete professional grooming for students for a successful career in the IT Industry.

2) Eligibility for admission :

A pass in a recognized Bachelor's degree of minimum 3 years duration in BCA, B.Sc.(Information Technology / Computer Science) with mathematics as a course at 10+2 level or at Graduate level and obtained atleast 50% marks(45% marks in case of candidates belonging to reserved category) in the qualifying degree examinations.

(a) 10 + 2 + 3 years pattern

3) Duration of the Course : 2 years

4) Course Scheme :

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code	Status
I	Core 1	Accountancy and Financial Management	5	5	25+75=100	PILCC11	No change
	Core 2	Open Source Technology	5	5	25+75=100	PILCC12	No change
	Core 3	Java Programming	5	5	25+75=100	PILCC13	No change
	Core 4 – Lab	Java Programming Lab	5	3	40+60=100	PILCC1P1	No change
	Core 5 – Lab	Open Source Programming Lab	5	3	40+60=100	PILCC1P2	No change
	Elective I	Object Oriented Analysis and Design / Computer Graphics/ Biometrics	5	5	25+75=100	PILCE11/ PILCE12/ PILCE13	No change

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code	Status
II	Core 6	Database Management System	5	5	25+75=100	PILCC21	No change
	Core 7	Data Communications and Networks	5	5	25+75=100	PILCC22	No change



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE

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Virudhunagar – 626 001.

	Core 8 – Lab	Client Server Lab	5	3	40+60=100	P1LCC2P1	No change
	Core 9 – Lab	Advanced Java Programming Lab	6	3	40+60=100	P1LCC2P2	No change
	Elective II	Data Mining and Warehousing/ Artificial Neural Network/ Mobile Computing	5	5	25+75=100	P1LCE21/ P1LCE22/ P1LCE23	No change
	NME	Introduction to Internet and Web Designing	4	4	25+75=100	P1LCN2	No change

Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code
III	Core 10	Cryptography and Network Security	5	5	25+75=100	
	Core 11	Principles of Compiler Design	5	5	25+75=100	
	Core 12	Cloud Computing	5	5	25+75=100	
	Core 13 – Lab	Software Development Lab	5	4	40+60=100	
	Core 14 – Lab	Dot Net Programming Lab	5	3	40+60=100	
	Elective III	Digital Image Processing/ Embedded Systems/Android Programming	5	5	25+75=100	

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Semester	Part	Subject	Hour	Credit	Int+Ext = Total	Subject Code
IV	Project and Viva-voce	Project and Viva-voce	-	12	100+100=200	

Core 1 – Accountancy and Financial Management

Contact Hours per Week: 5 Hrs

Contact Hours per Semester: 60 Hrs

Credits : 5

Subject code: P1LCC11/P2CAC3E

Objective:

- To gain knowledge in financial accounting
- Able to know about final accounts
- To be familiar with management accounting tools in budgeting, working capital and marginal costing



V.H.N. Senthikumara Nadar College, Virudhunagar
(Autonomous, Affiliated to Madurai Kamaraj University)

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CBCS COURSE STRUCTURE

Course Name: P.G.D.C.A

Rules and Regulations, Course Scheme and Scheme of Examinations
(For those who join From June 2015 Onwards)

1) Course Objectives :

The objective of this programme is to develop system programmers and analysts to meet the manpower requirement of fast developing software industry. The programme is designed to enrich the programming and analysis ability of students. Professional computer knowledge is offered through PGDCA.

2) Eligibility for admission :

The applicants for PGDCA must have completed their graduation.

3) Duration of the Course :

1 Year – Two Semesters

4) Course Scheme :

Semester	Part	Subject	Hour	Int+Ext = Total	Subject Code	Status
I	Core 1	Fundamentals of Computer & Information Technology	40	25+75=100	G2CA11	Revised
	Core 2	Programming in C	40	25+75=100	G2CA12	Revised
	Core 3 Lab	C Programming Lab	40	40+60=100	G2CA1P1	Revised
	Core 4 Lab	Visual Basic Programming Lab	30	40+60=100	G2CA1P2	Revised
	Core 5 Lab	Office Automation Lab	30	40+60=100	G2CA1P3	Revised

Semester	Part	Subject	Hour	Int+Ext = Total	Subject Code	Status
II	Core 6	Web Programming	40	25+75=100	G2CA21	Revised
	Core 7	Relational Database Management System	40	25+75=100	G2CA22	Revised
	Core 8 Lab	Web Programming Lab	30	40+60=100	G2CA2P1	Revised
	Core 9 Lab	RDBMS Lab	40	40+60=100	G2CA2P2	Revised
	Core 10 Lab	Multimedia Lab	30	40+60=100	G2CA2P3	Revised

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Course Name: Bachelor of Science**Discipline : Microbiology****(For those who join in 2015 and after)****Course Objectives:**

This course is designed for science majors who need a Microbiology course for their professional preparation, usually in an area of clinical application as pharmacy, nursing, physician's assistant, dental assistant, and others. In addition, this course is required in Biotechnology programmes. In order to enhance learning, the laboratory exercises are coordinated with lecture topics within each unit of study. Critical thinking and problem solving skills are developed both in laboratories and lecture classes.

Eligibility for Admission:

A candidate who has passed Higher Secondary Examination in any one of the biological sciences (Academic/Vocational stream) under Higher Secondary Board of Examination, Tamil Nadu or as per norms set by the Government of Tamil Nadu or an Examination accepted as Equivalent thereto by the Syndicate subject to such conditions as may be prescribed thereto are permitted to appear and qualify for the B.Sc., Microbiology Degree Examination of this University after a course of study of three academic years.

Duration of the Course:

The course for the Degree of Bachelor of Microbiology shall consist of three academic years divided into six semesters.

Course Scheme:

Semester	Part	Subject	Hour	Credit	Marks Int+Ext=Tot	Subject code	Status
I	Part I	Tamil/Hindi	6	3	25+75=100	U2PT1	Revised
	Part II	English	6	3	25+75=100	U2PE1	New
	Core I	Fundamentals of Microbiology	5	5	25+75=100	U1MBC11	No change
	Core 2 Lab	Major Practical I	3	2	40+60=100	U1MBC1P	No change
	Allied I	General Chemistry I	4	4	25+75=100	U2CHA1Y1	Revised
	Allied 2 Lab	Lab: Volumetric Analysis	2	--	--	--	--
	SBE 1	Basic Techniques in Microbiology	2	2	25+75=100	U1MBS1	No change
	VE	Value Education	2	2	25+75=100	U1VE11	No change
Semester	Part	Subject	Hour	Credit	Marks Int+Ext=Tot	Subject code	Status
II	Part I	Tamil/Hindi	6	3	25+75=100	U2PT2	Revised



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

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Virudhunagar – 626 001.

Part II	English	6	3	25+75=100	U2PE2	New
Core 3	Microbial Physiology	5	5	25+75=100	U2MBC21	Revised
Core 4 Lab	Major Practical II	3	2	40+60=100	U2MBC2P	Revised
Allied 3	General Chemistry II	4	4	25+75=100	U2CHA2Y2	Revised
Allied 4 Lab	Lab: Volumetric Analysis	2	2	40+60=100	U2CHA2YP	Revised
SBE 2	Principles of Biochemical Techniques	2	2	25+75=100	U2MBS2	New
EVS	Environmental Studies	2	2	25+75=100	U1ES21	No change

FUNDAMENTALS OF MICROBIOLOGY (Core-I)

Contact hours per week: 5

Contact hours per semester: 75

Credits: 5

Subject Code: U1MBC11

Objectives:

The subject is designed for the students to acquire knowledge to

- Define key terms and concepts pertaining to microbial growth, metabolism and disease
- Describe the differences between bacteria, protists, fungi and viruses
- Know the principles of microscopy (theoretical and practical aspects) including light microscopes and electron microscopes.

Unit-I

(16 Hours)

Introduction- History and Scope of Microbiology – Contributions of Antonie von Leeuwenhoek, Joseph Lister, Paul Ehrlich, Edward Jenner, Louis Pasteur, Robert Koch and Alexander Fleming. Spontaneous generation theory controversy – Biogenesis.

Unit-II

(16 Hours)

Classification of Microorganisms – Hackel's three kingdom concept domain Bacteria, domain Archaea and domain Eukaryota. Whittaker's five kingdom concept kingdom Monera, kingdom Protista, kingdom Fungi, kingdom Plantae, kingdom Animalia and Bergey's manual of classification – Difference between Prokaryotes and Eukaryotes.

Unit-III

(16 Hours)

Bacteria- structure and functions of cell and cellular components – capsule, pili, flagella, cell wall, cytoplasmic membrane, mesosomes, ribosome, nucleoid, endospores and other cytoplasmic inclusions- carboxysomes, magnetosomes and phycobilisomes.

Unit-IV

(15 Hours)

Salient features of Archae bacteria: *Methanobacterium*, *Halobacterium* and *Thermococcus*. Salient features of viruses – T4, CMV and TMV. Protozoa – *Plasmodium*.



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(An Autonomous Institution Affiliated to Madurai Kamaraj University)

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Virudhunagar – 626 001.

Course Name: Master of Science

Discipline : Microbiology

(Those who join from the Academic year 2015-2016)

Course Objectives:

The objectives of postgraduate training are orienting the students for research towards higher degrees, or in the field of development of industrial processes. The expectations and opportunities available for Master students are responsible positions in technical production, planning and policy making, both in research and industry. Though all postgraduate students do not undertake research career, all the researchers necessarily come from postgraduates in the subject and therefore, postgraduate curriculum in all its different aspects such as design, implementation and evaluation needs necessarily to be research oriented. Imparting in-depth fundamental knowledge of the diverse areas of the discipline, combined with acquaintance with front-line research trends and developments in related field is the aim of postgraduate curricula. The curriculum should be designed in such a way, that after their postgraduate studies, students should be able to work directly in the applied field (industry or research institute) without any additional special training. After completing this curriculum the students should be able to take up the following responsibilities:

1. Research at national and international level.
2. Higher positions in biotech products production units.
3. Teaching at undergraduate / postgraduate level courses in Microbiology and Biotechnology.

To keep the syllabus relevant to national needs, the guidelines from CSIR and UGC curricula for research fellowship were taken into account. Syllabus reforms involved discussions with experts from educational institutes, research and industry as well as few past and present students.

Eligibility for Admission:

Candidate who has passed the B.Sc. degree in any Life Sciences [Microbiology / Applied Microbiology/ Industrial Microbiology/ Botany/ Plant Sciences and Plant Biotechnology/ Zoology/ Animal Science/ Applied Animal Science and Animal Biotechnology/ Biochemistry/ Bioinformatics/ Biology/ Life Sciences/ Home Science/Food Science & Nutrition/ Chemistry with Botany or Zoology as Allied Subjects of this University or any other University accepted by the Syndicate as equivalent there to shall be eligible for admission to M.Sc. Degree Course in Microbiology.

Duration of the Course:

Two academic years consist four semesters.

Course Scheme:

The course of study shall comprise instruction in the following subjects according to the syllabus and books prescribed from time to time.

Semester	Part	Subject	Hou rs	Credit	Int+Ext =Total	Subject code	Status
I	Core 1	General Microbiology & Microbial Diversity	5	4	25+75=100	P2MBC11	No change
	Core 2	Biochemistry	5	4	25+75=100	P2MBC12	No change



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

[Re-accredited with 'A' Grade by NAAC]

Virudhunagar – 626 001.

	Core 3	Microbial Physiology	5	4	25+75=100	P2MBC13	Revised
	Core 4 Lab	Lab:General Microbiology and Microbial Diversity	5	4	40+60=100	P2MBC1P1	Revised
	Core 5 Lab	Lab:Microbial Biochemistry and Microbial Physiology	5	4	40+60=100	P2MBC1P2	Revised
	Elective 1	Food Microbiology, Food Safety and Quality Management	5	3	25+75=100	P2MBE1	New

Semester	Part	Subject	Hours	Credit	Int+Ext =Total	Subject code	Status
II	Core 6	Immunology	6	4	25+75=100	P2MBC21	Revised
	Core 7	Medical Microbiology	6	4	25+75=100	P2MBC22	Revised
	Core 8	Molecular Biology and Microbial Genetics	5	4	25+75=100	P2MBC23	Revised
	Core 9 Lab	Lab:Medical Microbiology and Immunology	5	4	40+60=100	P2MBC2P1	Revised
	Core 10 Lab	Lab : Molecular Biology and Microbial Genetics	5	4	40+60=100	P2MBC2P2	Revised
	NME	Personal Health and Hygiene	4	4	25+75=100	P2MBN2	New

GENERAL MICROBIOLOGY & MICROBIAL DIVERSITY

(Core-1)

Contact Hours per semester : 75

Contact Hours per week : 5

Objectives:

To provide students with

- A basic knowledge of the biology and growth of microorganisms
- To examine the extent of prokaryotic diversity and other major concepts related to prokaryotic diversity and to develop key quantitative skills.
- The students will have an overview of microbial diversity and the need to explore on identification of new microorganisms with potential applications in biotechnology.

Unit I

(15 Hours)

Introduction – History and Scope of Microbiology – Contribution of Anton Von Leeuwenhoek, Robert Koch, Louis Pasteur, Edward Jenner, Winogradsky and Francesco Redi –Classification of Microorganisms – Whittaker's five kingdom concept, Bergeys Manual of Systemic Classification –

Credits : 4
Subject code : P2MBC11

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Course Name : M. Phil

Discipline : Microbiology

(For those who join in 2015 and after)

Course Objectives:

- Student is offered with an opportunity to perform research under the supervision of a faculty. The purpose of this course is to provide an additional learning experience by means of a structured project and by expanding the student's exposure to a particular area of Microbiology. By doing research projects the student has the opportunity to function in a different setting, gain additional (or new) experiences with a variety of instruments, listen to other viewpoints, and generally establish a certain degree of confidence in knowing that she/he can function in such a college/ university
- To provide the student an opportunity to learn the mechanics of research and to obtain data.
- The student will actively take part in a research project and work towards publications and patents

Eligibility for Admission:

Candidates who have qualified for Post Graduate Degree in Microbiology/ Botany/ Zoology/ Environmental Science/ Biotechnology/ Biochemistry/ Home Science/ Nutrition and Dietics/ M.Sc., MLT/ Genetics/ Bio – informatics/ Marine Biology of this University or any other University recognized by the Syndicate as equivalent thereto shall be eligible to register for the degree of Master of Philosophy.

Duration of the Course:

One academic year consisting of two semesters.

Course Scheme:

The course of study shall comprise instruction in the following subjects according to the syllabus and books prescribed from time to time.

Semester	Part	Subject	Hours	Int+Ext=Total	Subject code	Status
I	Paper 1	Research Methodology	6	40+60=100	M1MBC11	No change
	Paper 2	Microbial Biotechnology AND Bioinformatics	6	40+60=100	M2MBC12	Revised
	Paper 3 - ELECTIVE	Recombinant DNA Technology AND Nanotechnology	6	40+60=100	M2MBE11	Revised
		Library/Project Work	12	-	---	----



VIRUDHUNAGAR HINDU NADARS' SENTHIKUMARA NADAR COLLEGE

(An Autonomous Institution Affiliated to Madurai Kamaraj University)

[Re-accredited with 'A' Grade by NAAC]

Virudhunagar – 626 001.

Semester	Subject	Hours	Viva+Dissertation	Subject code	Status
II	Dissertation & Viva Voce	30	50+150=200	M1MB2PV	No change

RESEARCH METHODOLOGY (Paper-I)

Contact Hours per semester : 90

Contact Hours per week : 6

Subject Code: M1MB2PV

Objectives:

- To disseminate new knowledge and technologies concern with biological instruments to the students.
- To develop the concepts and skills required to understand and critically evaluate research data and articles that address the biostatistics.
- To apply the biostatistics concept to interpret the data.

Unit I

(18 Hours)

Principles and applications of Scanning, Transmission and Fluorescence Microscopes – Centrifugation: Ultracentrifugation (velocity & Buoyant density) – Principles and applications of gel-filtration, ion-exchange affinity chromatography, thin layer, gas chromatography and High pressure liquid chromatography (HPLC).

Unit II

(18 Hours)

Electrophoresis: Agarose Gel, SDS-PAGE, 2D Gel electrophoresis, Isoelectric focusing, Gel documentation analysis – Blotting techniques: Southern, Western and Northern blotting – Polymerase chain reaction: probe construction, RFLP, AFLP, RAPD, RT-PCR, DNA and Protein Microarray – Immunochemical techniques : Radial, Double immuno diffusion, Rocket immunoelectrophoresis, ELISA, HIV DOT and FACS.

Unit III

(18 Hours)

Spectroscopic techniques: X-ray Crystallography, fluorescence, UV, Visible, NMR spectroscopy, Atomic absorption and MALDI-ToF – Tracer techniques in biology: Radiation dosimetry, radioactive isotopes and half life of isotopes – Autoradiography – Liquid scintillation counters.

Unit IV

(18 Hours)

Research Design and Writing – Response surface methodology – Plackett-Burman design and Randomized complete blocked design – Need, Problem definition, Pre writing considerations, Formats of report writing, Errors in Research – Plagiarism – Formats of publications in research journals.

Unit V

(18 Hours)

Principles, data representation and measures of central tendency and dispersion – Normal, Poisson and binomial distribution – Test of significance: Student's t test, F test. – Analysis of variance: one way and two way classification – Correlation and regression: Scatter Diagram, Coefficient of Correlation and Rank correlation – Lines of Regression – Statistical Software; PSPP, Assisat, PQRS and Bi-plot.