Annexure 10

Mandatory Disclosures

1.

Name of the Institution	The American College
Address	Tallakulam Madurai - 625002 Tamil Nadu, India
Telephone (Land Line)	0452-2530070
Mobile	
Email	office@americancollege.edu.in

2.

Name of the Trust/Society/Company and the Trustees	Governing Council of American College
Address of the Trust/Society/Company and the Trustees	Tallakulam Madurai - 625002 Tamil Nadu, India
Telephone (Land Line)	0452-2530070
Mobile	
Email	office@americancollege.edu.in

3.

Name of the Vice Chancellor/Principal/Director	Dr. M. Davamani Christober Principal & Secretary
Address of the Vice Chancellor / Principal / Director	The American College Tallakulam Madurai - 625002 Tamil Nadu, India
Telephone (Land Line)	0452-2530070
Mobile	9894114455
Email	office@americancollege.edu.in

4. Name of the Affiliating University - **Madurai Kamaraj University**

5. Governance

Governing Body	**The Governing Council** The college is governed by the Governing Council of American College headed by the Bishop - Church of South India (Madurai – Ramnad Diocese). The members of the council include the Principal & Secretary, Vice Principal, Bursar, nominees from university and various organizations along with two elected members from the faculty fraternity.
Academic Advisory Body	Deans are the executive officers who are entrusted with various tasks proposed by the Principal & Secretary and Senatus body. They help the administration on executing well-defined actions as required, thus the power of decentralization is realized.
Frequency of the Board Meeting and Academic Advisory Body	Minimum 7 meetings per Semester
Organizational Chart and Processes	Enclosed
Nature and Extent of involvement of Faculty and students in Academic affairs / improvements	Committees constitute a set of faculty and students who help the management in the effective functioning of the college. These committees are Administration, Nomination, Calendar and Time Table, Library, Athletic, Student Services, Magazine, Audio-visual, Anniversary, Publicity and Social Committee.
Board of Studies and Academic council	The reconstituted academic council of the College consisting of the Principal, Vice principal. Bursar, Heads of Departments, Dean for Academic Policies & Administration, Student Representatives, Experts from various fields, three University nominees and a faculty nominee, takes care of all academic activities including framing of curriculum, examinations, methods of evaluation and related matters.
Senatus	All academic discourses and practices of the Institution are validated by this body consisting of Officers of the College, Deans, Heads of Departments and Director/Coordinator of various centers.

Grievance Redressal Mechanism	Grievance Redressal Committee is constituted to look into the complaints lodged by any staff and student, judge its merit and take necessary action. The Grievance Redressal Committee is also empowered to look into matters of harassment. Grievances of students in the examination system are also addressed. Students register their grievances online and also in the Suggestion Box, Grievance cell for girls is constituted with women faculty as its members for attending the issues related to women students.
Establishment of Anti Ragging Committee	The College has an Anti-Ragging Committee constituted with members from various stake holders. Student representatives in the anti-Ragging committee help in mitigating ragging inside campus through interaction and representation at the college level.
Establishment of Internal Complaint Committee	ICC Committee includes Officers of the College, Faculty members, Non Teaching Staff and student representatives.
Establishment of Committee for SC/ST	SC/ST committee is constituted with the Officers of the college, University Nominee and senior faculty members.
Internal Quality Assurance Cell	The Internal Quality Assurance cell of the Institution conscientiously works with a vision to stimulate the academic environment for the promotion of quality teaching-learning and research.

THE GOVERNING COUNCIL

1	President	Rt. Rev. Dr. M. Joseph Bishop, Madurai – Ramnad Diocese
2	Secretary	Dr. M. Davamani Christober, Principal

Members of the Governing Council

3	Vice – Principal	Dr. G. C. Abraham
4	Bursar	Dr. C. Dorothy Sheela
5	Synod Nominee	Mrs. Leela Manohari Joseph "Rev. Grub"s Garden", No.5, Bhulabai Desai Road, Chokkikulam, Madurai-625002.
6	AIACHE Nominee (I)	Dr. C. Jothi Sophia Principal C.S.I. Jayaraj Annapackiam College of Nursing Pasumalai, Madurai – 625004.
7	AIACHE Nominee (II)	Dr. V. M. Spurgeon St. Christopher College of Education, 63, EVK Sampath Road, Veperry, Chennai-7.
8	CSI DM &R Nominee	Rev. D. Jeyasingh Prince Prabakaran Presbyter, Diocese of Madurai & Ramnad
9	College Elected Member (I)	Dr. David Jebaraj Assistant Professor, Dept. of Physics
10	College Elected Member (II)	Mr. K. Ravi, Assistant Professor, Dept. of Englsih
11	Co-opted Member (I)	Dr. G. Christopher Jaisunder Scientist „F", Govt. of India, Ministry of Electronics & Information Technology, National Informatics Centre, A-Block, CGO Complex, Lodhi Road, New Delhi – 110 003.
12	Co-opted Member (II)	Mr. C. Fernandas Rathinaraja General Secretary C.S.I. SYNOD, Chennai.
13	Co-opted Member (III)	Dr.A.Wilson Aruni Pro Vice Chancellor Sathyabama University, Chennai.

		Dr. M. Lellis Thivagar., M.Sc., Ph.D., Chairperson, School of Mathematics, Madurai Kamaraj University, Palkalai Nagar,
14	University Nominee	Madurai

ACADEMIC ADVISORY BODY

OFFICERS OF THE COLLEGE

Principal &Secretary	Dr.M.Davamani Christober, M.Sc.,M.Phil.,M.Ed.,PGDCA. Ph.D.,(Inter Disciplinary), Ph.D (Math)
Vice- Principal	Dr. G. C. Abraham, M.Sc.,M.Phil.,Ph.D.,
Bursar	Dr. C.Dorothy Sheela, M.Sc.,Ph.D.,
Chaplin	Rev.J.John Jeya Kamaraj, M.Sc.,M.Phil.,B.Ed.,PGDCA.,M.C.A.,M.Phil.,

ACADEMIC ADMINISTRATORS

Controller of Examinations	Dr. A. Martin David, M.Com., M.Phil., Ph.D.,
Dean for Policies &Administration	
	Dr. D. Lourdu Immaculate M.Sc., B.Ed., M.Phil., Ph.D.,
Dean of Academic advising	Mr. J. Justin Manohar, M.Com., M.Phil.,
Dean for Curriculum Development & Research	Dr. S. Rajkumar Immanuel, M.Sc., M.Phil., Ph.D.,
Dean for International Exchange & Study Abroad	Dr. J. Paul Jayakar, M.A., M.Phil.,Ph.D.,PGDCA.,
Dean of Women Students	Dr. M. Vathanaruba M.Sc., M.Phil., B.Ed., Ph.D.
Dean of Self–Financed Programmes	Dr. M. Balakrishnan, M.P.Ed., M.Phil.,Ph.D.,
Deputy Controller of Examinations	Mrs.D. Anandha selvam, M.Sc., M.Phil.,
Additional Dean for Policies &Administration	Dr. J. Jebaraj , M.Sc., M.Phil.,M.Ed.,PGDCA., Ph.D.,

Additional Dean of Academic Advising	Dr. B. Johnson, M.Sc., M.Phil., Ph.D.,
Additional Dean for Curriculum Development Research	Dr. S. Israel, M.Sc., M.Phil., Ph.D.,
Additional Dean for International Exchange & Study Abroad	Dr. R. Mary Sophia Chitra, M.Com.,M.Phil.,Ph.D.,
Additional Dean of Women Students	Dr. M. Beaula Ruby Kamalam M.Sc., M.Phil.,PGDCA., Ph.D.,
Additional Dean of Self – Financed Programmes	Dr.P. Arulappan M.A., M.Phil., Ph.D.,

ORGANIZATIONAL CHART

Dr. M. Davamani Christober
M.Sc., M.Phil., Ph.D (Interdisciplinary), Ph.D (Maths)
Principal & Secretary

The American College
Madurai - 625 002, India.
Ph   : +91452 2530070, 2530973, Fax : +91452 2520711
Email : principal@americancollege.edu.in
        acmdu1881@gmail.com, acsc1881@gmail.com
Web : www.americancollege.edu.in

Since 1881

PROCEEDINGS OF THE PRINCIPAL & SECRETARY, THE AMERICAN COLLEGE

MADURAI 625 002. DATED: 30.03.2021

ANTI RAGGING COMMITTEE

Dr.M.Davamani Christober	Principal & Secretary
Mr.S.Thangaraj	Advocate
Mr.Justin Prabhakar	Assistant Commissioner of Police
Ms.I.Lydia Indra Priyadharshini	Vikatan (Sales Management)
Ms.Gayathri	Kadalosai FM, VJ
Dr.G.C.Abraham	Vice Principal
Dr.M.Balakrishnan	Director, Department of Physical Education
Dr.M.Vathanaruba	Assistant Professor
J.P.Edward John	Non Teaching, Lab Assistant,
Mr.E.Samuel Thavaraj	Parent
Mr.S.Pon Baskar	Parent
Ms.K.Narmatha(18MCA14)	Student Member
Mr.A.Antony Kishore(20MCA04)	Student Member
Mr.K.Noordeensha (19MBA220)	Student Member
Ms.R.Sarah Grace(20MBA227)	Student Member

Dr. M. Davamani Christober
Principal & Secretary
The American College
Madurai-625 002

Dr. M. Davamani Christober
M.Sc., M.Phil., Ph.D (Interdisciplinary), Ph.D (Maths)
Principal & Secretary

PROCEEDINGS OF THE PRINCIPAL & SECRETARY, THE AMERICAN COLLEGE
MADURAI 625 002. DATED: 30.03.2021

INTERNAL COMPLIANTS COMMITTEE

Dr.C.Dorothy Sheela	Bursar & Associate Professor
Er.N.Thirupathirajan	Associate Professor
Dr.J.Frank Ruben Jebaraj	Associate Professor
Mr.S.Abraham Deivanayam	Non Teaching Staff
Mr.Christopher Ponniah Ranjan	Non Teaching Staff
Mr.Selvam Ramasamy	Social Worker, Madurai.
Mr.S.Ulaganathan (20MCA15)	Student Member
Ms.S.Kiruthika (20MBA206)	Student Member
Mr.M.Bala Surya(20MBA218)	Student Member

Dr. M. Davamani Christober
Principal & Secretary
The American College
Madurai-625 002

Dr. M. Davamani Christober
M.Sc., M.Phil., Ph.D (Interdisciplinary), Ph.D (Maths)
Principal & Secretary

PROCEEDINGS OF THE PRINCIPAL & SECRETARY, THE AMERICAN COLLEGE
MADURAI 625 002. DATED: 30.03.2021

SC/ST COMMITTEE

Dr.M.Davamani Christober	Principal & Secretary
Dr.C.Dorothy Sheela	Bursar
Dr.M.Lellis Thivagar	University Member
Dr.A.Joseph Thatheyus	Associate Professor
Dr.B.Aribabu	Assistant Professor

Dr. M. Davamani Christober
Principal & Secretary
The American College
Madurai-625 002

INTERNAL QUALITY ASSURANCE CELL 2021-22

Coordinator	: Dr. K.Gnanasekar
Deputy Coordinators	: 1. Dr. David Jebaraj
	2. Dr. P.M. Anurama
Ex-Officio Members	: Principal & Secretary (Chairperson)
	Vice-Principal
	Bursar
	Controller of Examinations
	Dean (Academic Polices & Administration)
	Dean (Curriculum Development & Research)
	Dean (Academic Advising)
	Dean (Self-financed Programmes)
	Deputy Controller of Examinations
	Librarian
Faculty Representatives	: Dr. K. John Adaikalasamy
	Dr.A.JosephThatheyaus
One Member from Management GC Member	: Dr. M. LellisThivagar Chairperson, School of Mathematics Madurai Kamaraj University, Madurai

Two Nominees from Employer/ Industry:

1) Dr. G. John

   Associate Professor of Commerce

   St. Joseph College,Tiruchirappalli.

2) Dr. S. Jenefa

   Chairperson,Prof & Head

   School of Linguistics & Communication

   Madurai Kamaraj University

3) Mr. R. Illangovan

   Chairman, VISHAAL Promoters Pvt Ltd, Madurai

Nominees from Alumni
: 1) Mr. B. Immanuel Devaram – Entrepreneur
  Fantasy Foods
  32, B/1, Kambar Street
  S.S Colony, Madurai – 625 010

  2) Ms. I. Lydia Indra Priyadharsini
  Vikatan
  Sales Management, Madurai

6. Programmes

Name of programmes approved by AICTE	MCA
Name of programmes Accredited by NBA	
Status of Accreditation of the Courses ● Total number of courses ● No. of courses for which applied for Accreditation ● Status of Accreditation- Primary / Applied for SAR and results awaited / Applied for SAR and visits completed/ Results of the visits awaited/Rejected/ Approved for…Courses (Specify the number of courses)	Approved

For each programme the following details are to be given (Preferably in Tabular form)

Name	**Master of Computer Applications**
Number of seats	30
Duration	2 years
Cut off marks/rank of admission during the last three years	55%
Fee (as approved by the state government)	as per Government norms fee structure enclosed
Placement Facilities	Available
Campus placement in last three years with minimum salary, maximum salary and average salary	Details given below

Year	Name of student placed and contact details	Program graduated from	Name of the employer with contact details	Pay package at appointment
2021	P.Abinaya	MCA	Solartis Technology Services Pvt.Ltd	10000
2021	R.Bowliya Mary	MCA	Vedhasoft Technologies, Bangalore	20000
2021	L.G.Karthik	MCA	Cholamandalam , Chennai	20000
2021	Shobika	MCA	IIServz, Madurai	15000
2021	Mohmed Shimer	MCA	Tata Consultancy Services, Chennai	30000
2021	Naveen Kumar	MCA	Zoho Corporation Private Ltd,	50000

2021	Bharath	MCA	Sri Mookambika Infosolutions, Madurai	15000
2021	Jeyasurya	MCA	Talodyn Networks Private Ltd., (TataElxsi)	15000
2021	Victor Immanuel .A	MCA	Tata Consultancy Services, Chennai	25000
2021	K.Abinaya	MCA	Osiz Technologies, Madurai	10000
2021	S.Kalavalli	MCA	Tata Consultancy Services, Plot No. 1/G1, Siruseri Special Economic Zone,	25000
2021	Bavadharani	MCA	Silver Dollar Technologies, Coimbatore	6500
2021	A.Syed Sheik Abdullah	MCA	FootBall Player - Representing District Team	
2020	B.Aishwarya	MCA	Toolagen Technologies, Bangalore	22000
2020	Ajith Kumar	MCA	Entrepreneur - Customer Verification for IT Companies	15000
2020	Aravind Kumar	MCA	Entrepreneur - Lislip private ltd	25000
2020	Athira Raj	MCA	Aruna Alloy Steel Pvt Ltd.	14500
2020	Joshua	MCA	Entrepreneur - Online Investments/ Share Trading	15000
2020	Kousalya	MCA	Nervgrid, Madurai	16500
2020	Mahalakshmi	MCA	LGT Technologies Private Limited	12750
2020	Nagarajan	MCA	Radio City - RJ	10000
2020	Pradeeep Kumar	MCA	ICICI Bank - Value Banker	15000
2020	M.Sakthi Mehra	MCA	Freelance Programmer	20000
2020	R.Tamil Selvan	MCA	Freelance Programmer	20000
2020	Karthikeyan	MCA	Seeroo IT Solutions Pvt. Ltd, Cochin	12000
2020	Satya Narayanan	MCA	Antano & Harini Legacy Accelerators	15000
2020	Ganesh Kumar	MCA	Web Manager	10000
2020	Santhosh Kumar	MCA	Entrepreneur - Photography Studio	25000
2020	Herbert	MCA	Plintron Mobility Solutions, Chennai	15000
2020	Ashwin	MCA	Family Business	25000

2020	Vinyak	MCA	Entrepreneur - Lislip private ltd	25000
2020	Ramya	MCA	Family Business	20000
2020	Gayathri	MCA	CapGemini, Chennai	37500
2019	Newslin Nesakumar	MCA	Amazon	40000
2019	Arlene Kingson	MCA	Inflow Technological Pvt Ltd	20000
2019	Rajadurai	MCA	The American College	10000
2019	J.Pavithra	MCA	Trioangle Minds Technologies Pvt Limited	8000

NAAC Accreditation Status		
1	Accredited	Re-accredited (2nd Cycle) with Grade 'A' 3.46 on a 4 point scale.
2	Applied for Accreditation	Yes, NAAC 3rd Cycle
	A. Applied but Visit not happened	Visit scheduled on 5th & 6th of April 2022
	B. Visit happened but result awaited	
3	Not Applied	

राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

An Autonomous Institution of the University Grants Commission

Certificate of Accreditation

The Executive Committee of the

National Assessment and Accreditation Council

on the recommendation of the duly appointed

Peer Team is pleased to declare the

The American College (Autonomous)

Tallakulam, Madurai, affiliated to Madurai Kamaraj University, Tamil Nadu as

Accredited

with CGPA of 3.46 on four point scale

at A grade

valid up to March 16, 2021

Date : March 17, 2016

Director

EC(SC)/13/A&A/26.2

APPROVAL PROCESS 2021-22

Extension of Approval (EoA)

F.No: Southern/1-9317577016/2021/EOA   Date: 01-Jul-2021

To,

The Principal Secretary
(Higher Education) Govt. of Tamil Nadu,
N. K. M. Bld. 6th Floor Secretariat,
Chennai-600009

Sub: Extension of Approval for the Academic Year 2021-22

Ref: Application of the Institution for Extension of Approval for the Academic Year 2021-22

Sir/Madam,

In terms of the provisions under the All India Council for Technical Education (Grant of Approvals for Technical Education) (1st Amendment) Regulations, 2021 notified on 24th February 2021 and other notifications as applicable and published from time to time, I am directed to convey the approval to

Permanent Id	1-518690991	Application Id	1-9317577016
Name of the Institution /University	THE AMERICAN COLLEGE	Name of the Society/Trust	GOVERNINGCOUNCILOF AMERICAN COLLEGE
Institution /University Address	ALAGARKOIL ROAD,TALLAKULLAM, MADURAI, MADURAI, Tamil Nadu, 625002	Society/Trust Address	ALAGAKOIL ROAD,TALLAKULLAM,MADURAI, MADURAI,Tamil Nadu,625002
Institution /University Type	Private-Self Financing	Region	Southern

To conduct following Programs / Courses with the Intake indicated below for the Academic Year 2021-22

Program	Level	Course	Affiliating Body (University /Body)	Intake Approved for 2020-21	Intake Approved for 2021-22	NRI Approval Status	FN / Gulf quota/ OCI/ Approval Status
MCA	POST GRADUATE	MASTER OF COMPUTER APPLICATIONS	Madurai Kamaraj University, Madurai	30	30	NA	NA

It is mandatory to comply with all the essential requirements as given in APH 2021-22 (Appendix 6)

Application No:1-9317577016   ALL INDIA COUNCIL FOR TECHNICAL EDUCATION   Page 1 of 2
Note: This is a Computer generated Report. No signature is required.

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Letter Printed On:27 September 2021

Important Instructions

1. The State Government/ UT/ Directorate of Technical Education/ Directorate of Medical Education shall ensure that 10% of reservation for Economically Weaker Section (EWS) as per the reservation policy for admission, operational from the Academic year 2019-20 is implemented without affecting the reservation percentages of SC/ ST/ OBC/ General. However, this would not be applicable in the case of Minority Institutions referred to the Clause (1) of Article 30 of Constitution of India. Such Institution shall be permitted to increase in annual permitted strength over a maximum period of two years.

2. The Institution offering courses earlier in the Regular Shift, First Shift, Second Shift/Part Time now amalgamated as total intake shall have to fulfil all facilities such as Infrastructure, Faculty and other requirements as per the norms specified in the Approval Process Handbook 2021-22 for the Total Approved Intake. Further, the Institutions Deemed to be Universities/ Institutions having Accreditation/ Autonomy status shall have to maintain the Faculty: Student ratio as specified in the Approval Process Handbook.

3. Strict compliance of Anti-Ragging Regulation, Establishment of Committee for SC/ ST, Establishment of Internal Complaint Committee (ICC), Establishment of Online Grievance Redressal Mechanism, Barrier Free Built Environment for disabled and elderly persons, Fire and Safety Certificate should be maintained as per the provisions made in Approval Process Handbook and AICTE Regulation notified from time to time.

4. In case of any differences in content in this Computer generated Extension of Approval Letter, the content/information as approved by the Executive Council / General Council as available on the record of AICTE shall be final and binding.

Prof.Rajive Kumar
Member Secretary, AICTE

Copy ** to:

1. **The Director of Technical Education**, Tamil Nadu

2. **The Registrar**,
Madurai Kamaraj University, Madurai

3. **The Principal / Director,**
THE AMERICAN COLLEGE
Alagarkoil Road,Tallakullam,
Madurai,Madurai,
Tamil Nadu,625002

4. **The Secretary / Chairman,**
ALAGAKOIL ROAD,TALLAKULLAM
MADURAI,MADURAI
Tamil Nadu,625002

5. **The Regional Officer,**
All India Council for Technical Education
Shastri Bhawan 26, Haddows Road
Chennai - 600 006, Tamil Nadu

6. **Guard File(AICTE)**

Note: Validity of the Course details may be verified at http://www.aicte-india.org/

** Individual Approval letter copy will not be communicated through Post/Email. However, consolidated list of Approved Institutions(bulk) will be shared through official Email Address to the concerned Authorities mentioned above.

This is a computer generated Statement. No signature Required

Application No:1-9317577016   ALL INDIA COUNCIL FOR TECHNICAL EDUCATION   Page 2 of 2
Note: This is a Computer generated Report. No signature is required.

Printed By : aic000468

Letter Printed On:27 September
2021

7. Faculty

Course / Branch wise list Faculty members:	
Permanent Faculty	7
Adjunct Faculty	No
Permanent Faculty :Student Ratio	1:9
No. of Faculty employed and left during the last three years	Nil

8. Profile of Vice Chancellor / Director / Principal/Faculty

Principal & Secretary

Work Experience

Teaching	32 Years
Research	15 Years
Industry	
others	
Area of Specialization	Mathematics
Courses taught at Diploma/ Post Diploma/ Under Graduate/ Post Graduate/ Post Graduate Diploma Level	Mathematics

Name	Dr. M. DavamaniChristober
Date of Birth	23/05/1965
Unique ID	1-821993674
Education Qualifications	M.Sc., M.Phil., M.Ed., PGDCA., Ph.D.

Research Guidance (No. of Students) - 6

No. of papers published in National/ International Journals/ Conferences	
Master Projects(Completed/Ongoing)	
Ph.D. (Completed/Ongoing)	Completed
Projects Carried out by faculty	
Patents (Filed & Granted)	
Technology Transfer	
Research Publications (No.of papers published in National/International Journals/Conferences)	47
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	Refer below

Title of the Book	Publisher	Year	ISBN Number
Concepts of Data Science using R	KanthagaPookkalpathippagam, Sivakasi, Tamilnadu	2021	978-93-80368-41-2
Applications of IT	Dr.D.Y.Patil Vidyapeeth, Pune	2020	978-93-90291-11-3
"Computers for Nursing"- Text book for Dr. M.G.R. Medical University for the students of 2nd year B.Sc Nursing	CSI JeyarajAnnapackiam College of Nursing, Madurai	2011	-
"Concept mapping on Mathematics Education through CAI"	JGR Publications, Madurai	2010	978-81-928661-3-0

Faculty Profile

Name	Dr.J.Frank Ruben Jebaraj
Date of Birth	25-04-1971
Unique ID	1-518878555
Education Qualifications	M. Sc. (Phy), P.G.D.C.A., M.C.A., M.Phil.,Ph.D

Work Experience

Teaching	25 years
Research	8 years
Industry	2 years
others	-
Area of Specialization	Virtual Reality
Courses taught at Diploma/ Post Diploma/ Under Graduate/ Post Graduate/ Post Graduate Diploma Level	Digital Principles, Software Engineerring, DataMining, OOAD & UML, Computer Hardware Architecture, Computer Hardware Components, System Analysis and Design

Research Guidance (No. of Students)

No. of papers published in National/ International Journals/ Conferences	National -4 International – 3 Conference-4
Master (Completed/Ongoing)	Completed
Ph.D. (Completed/Ongoing)	Completed
Projects Carried out	125 Student Projects
Patents (Filed & Granted)	-
Technology Transfer	-
Research Publications (No.of papers published in National/International Journals/Conferences)	Journal -3
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	2

Faculty Profile

Name	N.Thirupathirajan
Date of Birth	03/04/1964
Unique ID	1-518878555
Education Qualifications	M.Sc., M.Phil., PGDCA., M.Tech.,

Work Experience

Teaching	31
Research	2
Industry	-
others	-
Area of Specialization	Fuzzy Logic
Courses taught at Diploma/ Post Diploma/ Under Graduate/ Post Graduate/ Post Graduate Diploma Level	Mathematical Foundation, Computer Graphics, Mobile Computing, Design and Analysis of Algorithm, Python, Data Science

Research Guidance (No. of Students)

No. of papers published in National/ International Journals/ Conferences	International-1
Master (Completed/Ongoing)	Completed
Ph.D. (Completed/Ongoing)	-
Projects Carried out	150 Student Projects
Patents (Filed & Granted)	-
Technology Transfer	-
Research Publications (No.of papers published in National/International Journals/Conferences)	International - 1
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	-

Faculty Profile

Name	A.Ann Ramola Jeyanthi
Date of Birth	20/04/1971
Unique ID	1-9322344082
Education Qualifications	MCA., M.Phil

Work Experience

Teaching	25
Research	5
Industry	-
others	-
Area of Specialization	Image Processing
Courses taught at Diploma/ Post Diploma/ Under Graduate/ Post Graduate/ Post Graduate Diploma Level	Operating System, Computer Graphics, Computer Networks, Linux, Embedded Technology, Biometrics

Research Guidance (No. of Students)

No. of papers published in National/ International Journals/ Conferences	National – 8, International -3
Master (Completed/Ongoing)	Completed
Ph.D. (Completed/Ongoing)	Ongoing
Projects Carried out	125 Student Projects
Patents (Filed & Granted)	-
Technology Transfer	-
Research Publications (No.of papers published in National/International Journals/Conferences)	Journal -1
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	-

Faculty Profile

Name	J.John Jeya Kamaraj
Date of Birth	11/06/1968
Unique ID	1-518878555
Education Qualifications	M.Sc., M.Phil., PGDCA.,

Work Experience

Teaching	25
Research	2
Industry	-
others	PG School Teaching – 2 years
Area of Specialization	Artificial Intelligence, Fuzzy Logic
Courses taught at Diploma/ Post Diploma/ Under Graduate/ Post Graduate/ Post Graduate Diploma Level	C, C++, Java, Soft Computing, Multimedia Technology,

Research Guidance (No. of Students)

No. of papers published in National/ International Journals/ Conferences	International - 1
Master (Completed/Ongoing)	Completed
Ph.D. (Completed/Ongoing)	-
Projects Carried out	100 Student Projects
Patents (Filed & Granted)	-
Technology Transfer	-
Research Publications (No.of papers published in National/International Journals/Conferences)	-
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	-

Faculty Profile

Name	T.Suganya
Date of Birth	19/12/1969
Unique ID	1-3221230887
Education Qualifications	M.Sc., MPhil.,

Work Experience

Teaching	12 years
Research	3 years
Industry	1 year
others	6 years
Area of Specialization	Reinforcement Learning
Courses taught at Diploma/ Post Diploma/ Under Graduate/ Post Graduate/ Post Graduate Diploma Level	Operating System, C, C++, JAVA, DotNet, Data Structures, Web Programming, Computer Graphics, Linux, RDBMS

Research Guidance (No. of Students)

No. of papers published in National/ International Journals/ Conferences	National – 3 International – 7 Conferences - 8
Master (Completed/Ongoing)	Completed
Ph.D. (Completed/Ongoing)	Ongoing
Projects Carried out	50 Student Projects
Patents (Filed & Granted)	-
Technology Transfer	-
Research Publications (No.of papers published in National/International Journals/Conferences)	Journals - 1
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	-

Faculty Profile

Name	J.Christy Jeeva Ratna Devi
Date of Birth	22-06-1977
Unique ID	1-3221670843
Education Qualifications	MCA., M.Phil

Work Experience

Teaching	19
Research	2
Industry	Nil
others	Govt computer Literacy Programme for Govt College Students – 4 years
Area of Specialization	Machine Learning
Courses taught at Diploma/ Post Diploma/ Under Graduate/ Post Graduate/ Post Graduate Diploma Level	C,C++, JAVA, Dotnet, Web Programming, Data Structures, Software Engineering, Unix, Operating System, RDBMS

Research Guidance (No. of Students)

No. of papers published in National/ International Journals/ Conferences	National – 1, International-2
Master (Completed/Ongoing)	Completed
Ph.D. (Completed/Ongoing)	-
Projects Carried out	40 Student Projects
Patents (Filed & Granted)	-
Technology Transfer	-
Research Publications (No.of papers published in National/International Journals/Conferences)	Working on a paper
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	-

Faculty Profile

Name	N.Gayathri
Date of Birth	30/09/1987
Unique ID	1-3220296248
Education Qualifications	M.E. Computer Science

Work Experience

Teaching	5 years 7 months
Research	-
Industry	4 years 5 months
others	-
Area of Specialization	Cloud computing, Networks
Courses taught at Diploma/ Post Diploma/ Under Graduate/ Post Graduate/ Post Graduate Diploma Level	-

Research Guidance (No. of Students)

No. of papers published in National/ International Journals/ Conferences	1
Master (Completed/Ongoing)	Completed
Ph.D. (Completed/Ongoing)	-
Projects Carried out	25 Student Projects
Patents (Filed & Granted)	-
Technology Transfer	-
Research Publications (No.of papers published in National/International Journals/Conferences)	-
No. of Books published with details (Name of the book, Publisher with ISBN, year of publication, etc.)	-

9. Fee

Details of Fee, as approved by State Fee Committee, for the Institution	List enclosed
Time schedule for payment of Fee for the entire Programme	List Enclosed
No. of Fee waivers granted with amount and name of students	Nil
Number of scholarship offered by the Institution, duration and amount	Nil
Criteria for Fee waivers/scholarship	Nil
Estimated cost of Boarding and Lodging in Hostels	List Enclosed
Any other fee please specify	NA

Name of the Department : M.C.A

Fee Structure of Govt Quota

Tuition fee (A/c No.496030879)				
Tuition Fee	Rs.	35000	35000	35000
Part V	Rs.	-	-	-
Admission Fee	Rs.	2000	-	-
Tuition Total		**37000**	**35000**	**35000**

Fee Structure of Management Quota

			I YEAR	II YEAR	SF III YEAR
	Special fee (A/C.No.496030868)				
	Special Fee	Rs.	5000	5000	5000
1	CBCS, SSC & Skill training	Rs.	500	500	500

2	Lab/ Computer fee	Rs.	15000	16000	16000
3	Special Lab fee	Rs.	1000	1000	1000
4	Project & Viva	Rs.	1000	1000	1000
5	Gasoline fees	Rs.	-	-	-
6	Deposit (Refundable)	Rs.	1000	-	-
	Special fees Total		**23500**	**23500**	**23500**
	Tuition fee (A/c No.496030879)				
1	Tuition Fee	Rs.	35000	35000	35000
2	Part V	Rs.	-	-	-
3	Admission Fee	Rs.	2000	-	-
	Tuition Total		**37000**	**35000**	**35000**
	Non-Salary (A/C No.6335921789)				
1	Library Fee	Rs.	2000	2000	2000
2	Flag	Rs.	5	5	5
3	Basic Amenities(EB, Water, Wifi, Etc)	Rs.	2000	2000	2000
4	Placement	Rs.	1000	1000	1000
5	Councelling & Guidance	Rs.	200	200	200
6	Souvenir (Calendar, Magazine, etc)	Rs.	200	200	200
7	PTA	Rs.	100	100	100
	Non-Salary Total		**5505**	**5505**	**5505**
	SF-Management Fee (A/c No.496030799)				
1	Development Fee	Rs.	5000	5000	5000
2	Insurance	Rs.	100	100	100
3	Orientation	Rs.	500	-	-
4	Sports Day	Rs.	250	250	250
5	ID & Filing	Rs.	150	150	150
6	Dispensary	Rs.	100	100	100
7	Store	Rs.	100	100	100
8	Celebration	Rs.	150	150	150
9	Candle Lighting	Rs.	-	-	150
10	English Text Book	Rs.	-	-	-
11	Part-1	Rs.	-	-	
12	VAC	Rs.	400	400	400
	SF-Management Fee Total		**6750**	**6250**	**6400**
1	**Alumini Membership A/c.No496025576**	Rs.	-	-	500
	Grand Total	**Rs.**	**72755**	**70255**	**70905**

	HOSTEL FEES	
	STRUCTURE2021-2022	
S.NO	PARTICULARS	AMOUNT
1	ESTABLISHMENTS	8500.00
2	ROOM RENT	7500.00
3	MAINTENANCE CHARGES	5000.00
4	MEDICAL FEE	100.00
5	OTHER AMMUNITY	2000.00
6	ADMISSION FEE	2500.00
		25600.00
	* REFUNDABLE DEPOSIT OF RS.5000/-WILL BE COLLECTED DURING ADMISSION	

10. Admission

Number of seats sanctioned with the year of approval	30
Number of students admitted under various categories each year in the last three years	As per the govt norms
Number of applications received during last two years for admission under Management Quota and number admitted	2020 - Applications received – 117, admitted-23 2021- Applications received – 189, admitted - 21

11.Admission Procedure

Mention the admission test being followed, name and address of the Test Agency/ State Admission Authorities and its URL (website)	TANCET, Tamil Nadu Common Entrance Test. https://www.annauniv.edu/
Number of seats allotted to different Test Qualified candidate separately (AIEEE/CET (State conducted test/University tests/CMAT/GPAT)/ Association conducted test etc.)	TANCET - 9

Calendar for admission against Management/Vacant seats:

Last date of request for applications	30/06/2021
Last date of submission of applications	25/07/2021
Dates for announcing final results	03/08/2021
Release of admission list (main list and waiting list shall be announced on the same day)	03/08/2021
Date for acceptance by the candidate (time given shall in no case be less than 15days)	18/08/2021
Last date for closing of admission	15/10/2021
Starting of the Academic session	13/09/2021

The waiting list shall be activated only on the expiry of date of main list	Yes
The policy of refund of the Fee, in case of withdrawal, shall be clearly notified	If the student discontinued the programme before the orientation day, the entire amount with the reduction of Rs.1000 will be refunded. If discontinued after the orientation, 25 per cent of the total fee will be deducted. If discontinued after the closure of admission as per the MKU notification, no refund is given.

15. Information of Infrastructure and other Resources Available

Number of Class Rooms and size of each	3, 60sqm,60sqm,61sqm
Number of Tutorial rooms and size of each	1, 60sqm
Number of Laboratories and size of each	1, 250 sqm
Number of Drawing Halls with capacity of each	-
Number of Computer Centers with capacity of each	1, 290sqm
Central Examination Facility, Number of rooms and capacity of each	1, 300 seater
Online examination facility (Number of Nodes, Internet bandwidth, etc)	180 nodes, 200mbps
Barrier Free Built Environment for disabled and elderly persons	Yes
Occupancy Certificate	Yes
Fire and Safety Certificate	Yes
Hostel Facilities	Yes

OCCUPANCY CERTIFICATE

CERTIFICATE OF TAHSILDAR

This is to certify that The American College occupied in the bearing survey no:**4, 1c/1(p)** situated in North Madurai Village of Madurai (North) Taluk, Madurai District, Tamil Nadu State is Registered Society in the name of **The Governing Council of the American College, Madurai**. Registration bearing document No: 4286/1929 by way Registered sale deed.

That there is no dispute pertaining to the said Land, the Land is Free from all encumbrances. The Building Plan for the Building constructed on the aforesaid Land is duly approved by the Madurai Corporation, which competent to approve the said building plan.

That the approved building plans from the competent authority considering the total built up area as required to run the program and the Division/ Department for the entire duration of the course submitted by the society are verified.

26/p/2020

நிர்வாக அலுவலர்.
மினகருசலன் திருமந்
மதுரை வடக்கு வட்டம்

REVENUE INSPECTOR
KULAMANGALAM FIRKA,
MADURAI NORTH.

வட்டாட்சியர்
மதுரை வடக்கு ஓ‑ழுஆர

LICENCE No: 157/2020
L.Dis No: 2301/D/2020
Date: 11.03.2020.

District Office, Fire & Rescue Services,
Madurai District, Madurai.

NO OBJECTION CERTIFICATE

SUB: Fire and Rescue Services- Madurai District – M/s. The American College –
MCA Block (Paul Linder Love Hall) Alagar Kovil Road, Goripalayam ,
Madurai North Taluk, Madurai – No Objection Certificate – Reg.

Ref: 1) Application received from The Principal, & Secretary The American
College, Alagar Kovil Road, Goripalayam Madurai.
****

With reference to the letter cited above, The Assistant District Officer has inspected the building of M/s, The American College, MCA Block (Paul Linder Love Hall) S.No: 4, 1C/1, Alagar Kovil Road, Goripalayam, Madurai North Taluk, Madurai District on 10.03.2020 and the report is given as hereunder.

OBSERVATION

The existing building consists of Ground Floor + 3 Floors with the height of 13.70 Mtrs. Total Floor area 2090 Sq.mtrs. The building classified to comes under Group 'B' Educational Buildings, Sub Division 'B-2' All others training institutions as per NBC 2016 Part 4 Fire and Life Safety.

There is no objection to the fire and rescue service point of view for Paul Linder love hall building (MCA Block) subject to the following conditions

CONDITIONS

1) Hose reel system should be provided with 450 LPM fire pump connected with terrace level tank of capacity 10000 liters.
2) Emergency staircase should be provided.
3) House keeping should be provided entire building neat and clean.
4) Side set back area should be cleared.

11 MAR 2020

Principal & Secretary
The American College,
Alagar Kovil Road,
Goripalayam Madurai.

District Officer,
Fire and Rescue Services,
Madurai District, Madurai.

Library

Number of Library books / Titles/ Journals available	Titles - 2827 Volumes – 9258, Journal - 14
List of Online National / International Journals subscribed	10

NDLI Club

Your Institute The American College is now is now a part of the NDLI Club

Dear Vasanthakumar,

The request of The American College to set up NDLI Club at the institute has been approved. All interested students, faculty members and employees of The American College can now enroll themselves as members of The American College NDLI Club, using the passkey given below:

Passkey: -- 3d2765b5-6a29-4204-ad47-7715dc09e2ef

Club Registration Number : INTNNC4D2GZUHVC

You are requested to share the Passkey with all your students, faculty members and employees via e-mail and advise them to visit
https://club.ndli.iitkgp.ac.in/sign-up to enroll themselves as member of the NDLI Club using their e-mail id and the Passkey. You may also take a printout of the enclosed document and paste it on the notice boards of The American College so that the students, faculty members and employees can view the details about the NDLI Club and enroll themselves as members of the Club by scanning the QR Code indicated in the page.

You will be able to download a Certificate of Registration for NDLI Club of The American College from the NDLI Club portal club url once you conduct 1st event of your NDLI Club (which may be NDLI User Awareness Session) within the next 30 days and that is attended by at least 100 members of the NDLI Club of The American College.

This NDLI Club Certificate of Registration is valid for 12 Month and will be renewed every 12 Month, subject to the NDLI Club of The American College conducting at least 6 reading/knowledge related Events and 4 Global Events conducted by others online within the next 12 months and at least 100 members of your Club attending .

The best performing NDLI Clubs at District/ State/ National level will be recognized appropriately.

We look forward to your continued support.

To verify your Club role, please Click Here. In case of any difficulty in accessing the above link please click on the url below

//mail.google.com/mail/u/0?ik=5d48f03f83&view=pt&search=all&permthid=thread-f%3A1696552035164998713&simpl=msg-f%3A169655203516...   1/2

)21   The American College Mail - Fwd: Congratulations! Your Institute The American College is now an NDLI Club.
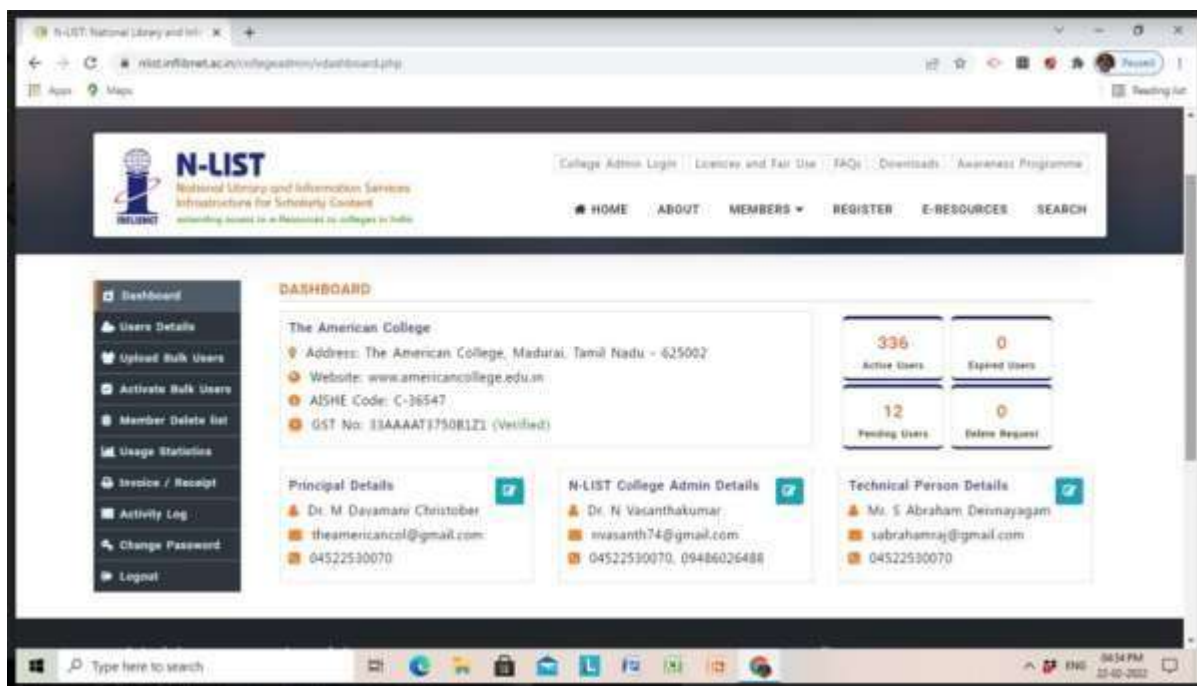
Computing Facilities

Internet Bandwidth	200mbps
Number and configuration of System	120,
Total number of systems connected by LAN	120
Total number of systems connected by WAN	-
Major software packages available	10
Special purpose facilities available (Conduct of online Meetings/Webinars/Workshops, etc)	Seminar Hall, 150sqm
Facilities for conduct of classes/courses in online mode (Theory & Practical)	Yes
Innovation Cell	-
Social Media Cell	-
Compliance of the National Academic Depository (NAD), applicable to PGCM/ PGDM	NAD

List of facilities available

Games and Sports Facilities	Track & Field, Football, Hockey, Volley ball, Cricket
Extra-Curricular Activities	Students can join the college cultural team
Soft Skill Development Facilities	Timely guest lectures by eminent resource persons

Teaching Learning Process

MCA Programme CURRICULUM GRID

SEMESTER 1				
Sno	**Course Code**	**Course Title**	**Hrs / Crs**	**Marks**
1	MCA 4655	Mathematical Foundation for Computer Application -I	6	120
2	MCA 4457	Advanced Programming in C	4	80
3	MCA 4459	Digital Principles and Computer Organization	4	80
4	MCA 4661	Operating System (TL)	4 + 2	120
5	MCA 4663	Web Programming (TL)	4 + 2	120
6	MCA 4465	LAB 1 – C Programming	4	80
SEMESTER 2				
Sno	**Course Code**	**Course Title**	**Hrs / Crs**	**Marks**
7	MCA 4656	Mathematical Foundation for Computer Application -II	6	120
8	MCA 4458	Design and Analysis of Algorithm using C++	4	120
9	MCA 4660	Advanced DBMS (TL)	4 + 2	120
10	MCA 4462	Embedded System (TL)	2 + 2	80
11	MCA 4664	OOAD & UML (TL)	4 + 2	120
12	MCA 4466	LAB 2 –Computer Algorithms using C++	4	80
SEMESTER 3				
Sno	**Course Code**	**Course Title**	**Hrs / Crs**	**Marks**
13	MCA 5655	Data Science using Python (TL)	4 + 2	120
14	MCA 5557	Advanced Software Engineering	5	100
15	MCA 5559	Advanced Java Programming	5	100
16	MCA 5661	Computer Networks (TL)	4 +2	100
17		Elective I	4	80
18	MCA 5463	LAB 3 – Java Programming	4	100

SEMESTER 4				
Sno	Course Code	Course Title	Hrs / Crs	Marks
19	MCA 5456	Dot Net Programming	4	120
20	MCA 5558	Data Mining and Warehousing	5	100
21	MCA 5460	Soft Computing	4	100
22		Elective II	4	80
23	MCA 5462	LAB 4 – Dot net Programming	4	80
24	MCA 5964	Project – Viva Voce	9	180

ELECTIVE COURSES

Sno	Course Code	Course Title	Hrs / Crs	Marks
1	MCA 0440	Android Programming (TL)	2+2	80
2	MCA 0441	Artificial Intelligence	4	80
3	MCA 0442	Computer Graphics (TL)	2+2	80
4	MCA 0443	Big Data Analytics	4	80
5	MCA 0444	Biometrics	4	80
6	MCA0445	Compiler Design	4	80
7	MCA 0446	Multimedia and Applications (TL)	2+2	80
8	MCA 0447	Parallel Computing	4	80

PROGRAMME SPECIFIED OUTCOMES (PSOs):

MCA programme has been designed to prepare graduates for attaining the following program outcomes:

1. An ability to apply knowledge of mathematics, computer science and management in practice
2. An ability to identify, critically analyse, formulate and develop computer applications
3. An ability to select modern computing tools and techniques and use them with dexterity
4. An ability to design a computing system to meet desired needs
5. An ability to make realistic constraints such as safety, security and applicability
6. An ability to devise and conduct experiments, interpret data and provide well informed conclusions
7. An ability to understand the impact of system solutions in a contemporary, global, economical, environmental, and societal context for sustainable development
8. An ability to function professionally with ethical responsibility as an individual as well as in multidisciplinary teams with positive attitude
9. An ability to communicate effectively
10. An ability to appreciate the importance of goal setting and to recognize the need for life-long learning.

Mapping of Course Outcomes (COs) with Programme Specific Outcomes (PSOs)

Courses	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10
MCA 4655	✓	✓	✓	✓		✓	✓			
MCA 4457	✓	✓	✓	✓	✓	✓				
MCA 4459	✓	✓	✓	✓	✓			✓		
MCA 4661	✓	✓		✓	✓		✓		✓	
MCA 4663	✓	✓	✓	✓	✓				✓	
MCA 4465	✓	✓	✓	✓	✓	✓		✓		
MCA 4656	✓	✓	✓	✓		✓	✓			
MCA 4658	✓	✓	✓	✓		✓	✓			
MCA 4660	✓	✓	✓	✓	✓	✓				
MCA 4462	✓	✓	✓	✓	✓	✓				
MCA 4464	✓	✓	✓	✓		✓	✓			
MCA 4466	✓	✓	✓	✓	✓			✓		
MCA 5655	✓	✓	✓	✓	✓			✓		
MCA 5557	✓	✓	✓	✓		✓	✓	✓		
MCA 5559	✓	✓	✓	✓	✓			✓	✓	✓
MCA 5561	✓	✓		✓	✓		✓			
MCA 5563	✓	✓	✓	✓	✓	✓		✓		
MCA 5456	✓	✓	✓	✓	✓	✓				
MCA 5458	✓	✓	✓	✓	✓	✓				
MCA 5460	✓	✓	✓	✓	✓		✓	✓	✓	
MCA 5462	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
MCA 5464	✓	✓	✓	✓	✓	✓				
MCA 0440	✓	✓	✓	✓		✓	✓			
MCA 0441	✓	✓	✓		✓	✓	✓			
MCA 0442	✓	✓	✓	✓	✓	✓			✓	
MCA 0443	✓	✓	✓	✓		✓	✓			
MCA 0444	✓	✓		✓	✓		✓		✓	
MCA 0445	✓	✓	✓	✓	✓	✓				
MCA 0446	✓	✓	✓	✓	✓	✓			✓	
MCA 0447	✓	✓	✓	✓	✓	✓			✓	

Mapping Programme Outcome (POs) for Post graduation with MCA (PSOs)

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
PSO 1		✓								
PSO 2		✓								
PSO 3					✓					
PSO 4									✓	
PSO 5					✓					
PSO 6	✓		✓							
PSO 7	✓							✓		
PSO 8	✓						✓		✓	✓
PSO 9						✓				
PSO 10				✓						

MCA 4655   Mathematical Foundation for Computer Applications - 1   6Hrs / 6 Cr

Objective

This course will enable the students to know the logic and relation, graph theory and automata. Theorems are discussed with examples. This course explores various techniques in numerical methods for solving different mathematical models such as linear and non-linear equations.

Upon completing the course students will be able to

  i.   Natural language encoded to proposition calculus and model design by relation.
 ii.   Real world problem describe by diagram by means of vertex and edges and analyze the properties
iii.   Analyze abstract machines and automata, as well as the computational problems that can be solved using them.
 iv.   Find the solution for   algebraic and transcendental and   system of equations
  v.   Find the unknown values from known values

Unit 1: Logic   10hrs

LOGIC-Connectives –Normal Form - Rules of Inference Theory in Statement Calculus - Relation – Equivalence Relation- Partial Order Relation - Relational Matrix - Relational Graph

Unit 2: Graph   14hrs

GRAPH – Walk – Path – Tree - Binary Tree - Kruskal Algorithm - Prims Algorithm – Connectivity- Planner Graph –Colouring.

Unit 3: Automata   12hrs

Finite Automata – Deterministic Finite Automata – Non-deterministic Finite   Automata - Languages – Grammars - Push Down Automata.

Unit 4: Linear Equations   12hrs

Methods for finding roots of linear and non-Linear equations - Bisection Method- False Position Method Newton - Raphson Method – System of linear equations - Gauss-Elimination Method, Gauss - seidel.

Unit 5: Interpolation   12hrs

Interpolation – Newton Forward and Backward differences interpolation methods – Lagrange Interpolation – – Numerical Differentiation – Integration - Solving first order ordinary differential equations using R-K method.

Textbook

1. Tremblay JP, Manohar R, "Discrete Mathematical Structures with application to Computer Science", McGraw HillPublication, 2018.

References

1. Narsingh Deo, "Graph Theory with applications to Engineering and Computer Science", Prentice Hall India, 2012.
2. HopcroftJEullman, JD, "Introduction to Automata Theory, Languages and Computation", Narosa Publishing House, 2013
3. M.K.Jain, S.R.K. Iyengar, R.K. Jain, "Numerical Methods Problems and Solutions", New Age International, 2008.
4. EBalagurasamy, "Numerical Methods", Tata McGraw Hill, 2012.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5					5	

MCA 4457   **Advanced Programming in C**   **4 Hrs/4cr**

Objective

This course introduces programming concepts and helps them to write programs in an advanced level. It introduces control structures, arrays, functions, pointers, file handling. Also, gives Introduction to TSRs programs and interfaces programming using C.

Upon completing the course students will be able to

   i.   Classify data types, operators and Functions.
  ii.   Build code using Pointers and Arrays.
 iii.   Discover the role of pointers in DMA and examine its usage in OOP.
  iv.   Implements Structure and Data Files.
   v.   Categorize BIOS functions and examines network and low level programming.

Unit 1: C Introduction   **12hrs**

C introduction – Operators and expressions – Data types – Arithmetic expressions - I/O statements – Control statements – Looping statements – Arrays – Strings and string functions – Procedures – Functions – User defined functions – Built-in-functions including all graphics commands.

Unit 2: Pointers Arrays and Functions   **10hrs**

Introduction to pointers – Operators - expressions, passing on addressing to a function, function returning pointers. Pointers and Arrays – Passing an array element to a function – Multidimensional Arrays - array of pointers.

Unit 3: Pointers and Strings   **14hrs**

Pointers and strings – Strings – Standard library functions - array of pointers to string - limitation of array of pointers - Pointers and structures – array of structure -structure pointer - dynamic memory allocations - Pointers and miscellaneous – Pointers to function - Command line arguments – Near, far and huge pointers.

Unit 4: Structures   **14hrs**

Structure definition - processing a structure, user defined data types –typedef array of structures – Self referential structures – More about structures – Union – Files – C pre-processor

Unit 5: Low Level Programming   **10hrs**

Advanced concepts – pointers and type casting - ROM-BIOS Functions –Basics of TSR – Introduction to Network programming and Interface – introduction to Low level programming

Textbook

1. Yashwant Kanetkar, "Understanding C pointers", BPB Publications, New Delhi, 2009.

References

1. Henry Mullish Herbert L. Cooper, "The Spirit of C", Jaico Publishing House, 1987.
2. Les Han Cock, Morris Kriger, "C primer", 3rd Edition, Tata McGraw Hill, 1991.
3. Yashwant Kanetkar, "Writing TSRs through C", BPB Publications, 1995.
4. Barry Nance, "Network Programming in C", PHI, New Delhi, 2002.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3		2				
CO4			3		5	
CO5				4		6

MCA 4459   **Digital Principles and Computer Organization**   **4Hrs/4cr**

Objective

This course aims to give the students basic ideas regarding digital hardware components at the level of Gate and realization of sequential circuits and combinatorial circuits. Also will enable the students to design digital systems employing the techniques and give better insights into the basic digital hardware building blocks.

Upon completion of this course students will be able to:

  i.   Understand the need for digital system and Perform conversion, arithmetic calculations on number system
 ii.   Gain Knowledge to apply digital principles to create and synthesize combinatorial logic circuits and simplify problems using Boolean algebra and K map.
iii.   Evaluate and design the data processing circuits and various types of flip flops
 iv.   Design and synthesize the sequential logic circuits
  v.   Acquire knowledge on memory subsystem organization and different types of memory

Unit 1: Digital System Concepts   **10hrs**

Introduction to digital systems and computers – Applications of digital systems Number systems and Codes - Conversion Binary to Decimal – Hexadecimal – octal – Representation of Negative Numbers, Complements in other Number systems 1's Complement – 2's Complement _ BCD Representation. ASCII, Excess_3, Gray, Weighted and unweighted codes.

Unit 2: Basic Building Blocks   **10hrs**

Introduction to logic circuits – Basic building blocks - Boolean algebra - Universal gates - De Morgan's Law - Truth tables - Boolean Expressions –Sum of products - Products of sum methods - Karnaugh map – Don't care conditions

Unit 3: Data Processing Circuits and Sequential Logic Circuits   **15hrs**

Multiplexers – De_Multiplexers - Decoder- Encoder - Introduction to Flip Flops -RS Flip-flop - Clocked Flip Flop – D Flip Flop - JK Flip Flop -JK Master -Slave Flip Flop.

Unit 4: Memory Element and Basic Computer Organization   **15hrs**

Introduction to Registers -Types of Registers - Introduction to Counters – Counter Design - Basic computer Organization – System buses – instruction cycles. CPU Organization .

Unit 5: Memory Subsystem Organization   **10hrs**
Memory subsystem organization – Types of memory – memory subsystem configuration – I/O Subsystem Organization

Textbooks

1. Malvino AP & Leach DP, "Digital Principles and Applications", Tata McGraw Hill Publications, 6th Edition 2002.
2. John D Carpinelli, Computer systems Organization & Architecture, Pearson Education, 1st Edition, 2012

References

1. TC Bartee, "Digital Computer Fundamentals", Tata McGraw Hill, 6th Edition, 2011.
2. Morris Mano, "Digital Design", Prentice Hall of India Pvt. Ltd, 2012.
3. John P. Hayes, Computer Architecture and Organization, Tata McGraw Hill, 2nd Edition, 2013.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1	1				
CO2			2	2	2	2
CO3			3	3		
CO4		4	4	4		
CO5		5				

MCA 4661   **Operating System   (TL)(4+2)**   **6Hrs /6Cr**

Objective

This course aims at to teach the students about the evolution of Operating systems and to understand the organization and strategies of the Operating Systems. This course makes the student to create an environment in which a user can execute programs in a convenient manner.

Upon completing the course students will be able to

   i.   Understand the structure and functions of OS.
   ii.   Learn about processes and threads.
   iii. Implementing the principles of concurrency scheduling algorithms and deadlocks.
   iv.   Learn and Implement the different memory management schemes.
   v.   Understand and Implement the different Input, Output and file management schemes.

Unit 1: Introduction   15hrs

Architecture of OS (Ex. Monolithic, Microkernel, Layered, Exokernel) - Virtual Computers, Interaction of O. S. & hardware architecture - Evolution of operating systems, Batch, multiprogramming. Multitasking - Multiuser, parallel, distributed & real –time O.S. Computers and Software – Operating System Strategies – The abstract model of computing- resources – processes – threads – Operating System Organization – Device Management – Process Management – Storage Management-Scheduling-Computing Environment-Mobile Operating system.

Unit 2: Processes and Threads   20hrs

Basic Synchronization principles – Interacting and Coordinating Processes, Semaphores - High-level synchronization – Monitors – Inter process Communication – Deadlock – Memory Management – Virtual Memory – Paging, Segmentation and algorithms - Operating System Services- Operating System Structure-System calls and its types- Operating System Design and Implementation-Virtual Machines- Operating System Generation-System Boot.

Unit 3: Concurrency and Scheduling   15hrs

Threads-Multithreads-Thread Libraries-Models File Management – Protection and Security – Remote Files – Distributed Computing-CPU Scheduling-Deadlocks-Three Memory Management (Main Memory, Virtual Memory, Secondary Memory) - Storage Management.

Unit 4: Memory Input/Output and File Systems   20hrs

Introduction to UNIX and the Shell – UNIX Directories and Pathnames - Working with UNIX files – Shell Programming -User and system administration – pipelining – Communicating with other user and systems – Accessing other Unix systems on the network or Internet – Accessing

Unix from windows – Unix and the internet-Production and Security(Cryptography, Firewall)-Distributed File System-Seven Special-Purpose Systems(Real Time and Multimedia)

Unit 5: Case Studies   **20hrs**

Case Studies on LINUX, WINDOWS, MAC-OS, ANDROID and IOS- protection and security.

Textbook

1. Gary Nutt, "Operating Systems a Modern Perspective", Pearson Education Asia, 2010.

References

1. Deital & Deital , "Operating Systems", Addison Wesley publications, 2013.
2. Milan Milenkovic, "Operating Systems", Tata McGraw Hill, 2012.
3. Tanenbaum, "Operating systems", Tata McGraw Hill, 2011.
4. W. Richard stevens, Stephen A. Rago – "Advanced programming in the Unix environments", second Edition – Addison Wesley publication, 2013.
5. Steart E. Madnick, John J. Donovan – "Operating Systems" – Tata McGraw-Hill-2009 edition.

Bloom's Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4				4		6
CO5					5	

MCA 4663　　　　　　**Web Programming　(TL)(4+2)**　　　**6 Hrs/6 Cr**

Objective

This course aims at preparing the students to gain theoretical skills and practical experience required for designing web pages and use variety of latest technologies to create responsive websites.

Upon completing the course students will be able to

    i.   Recall Web Basics, history of Internet and use HTML tags, attributes and write simple web pages
    ii.   Apply DHTML to web pages and make it dynamic
    iii.   Compare XML with HTML and develop xml documents.
    iv.   Build interactive web pages using Java Script.
    v.   Define PHP commands, write programs and establish database connectivity in Mysql.

Unit 1: Web Basics and HTML　　　　　　　　　　　　　　　　**20hrs**

Introduction, Concept of Internet- History of Internet, Protocols of Internet, World Wide Web, URL, Web Server, Web Browser. Introduction, History of HTML, Structure of HTML Document: Text Basics, Structure of HTML Document: Images and Multimedia, Links and webs, Document Layout, Cascading Style Sheet- HTML 4 style sheet features, Creating Forms, Frames and Tables.

Unit 2: Dynamic HTML　　　　　　　　　　　　　　　　　　**15hrs**

Introduction of DHTML- HTML vs. DHTML, Advantages of DHTML, CSS of DHTML, Event Handling, Data Binding, Browser Object Models.

Unit 3: XML　　　　　　　　　　　　　　　　　　　　　　**15hrs**

Introduction of XML- Some current applications of XML, Features of XML, Anatomy of XML document, The XML Declaration, Element Tags- Nesting and structure, XML text and text formatting element, Table element, Mark-up Element and Attributes, Document Type Definition (DTD), types.

Unit 4: Javascript　　　　　　　　　　　　　　　　　　　**20hrs**

JAVA SCRIPT – Introduction – Usage of variables – operations – control structures – looping structures – predefined keywords – arrays – predefined functions – user defined functions – arrays and functions – mathematical functions – string functions – objects – expressions –pattern matching using RegEXp Class – String Class – Exception Handling – Built–in objects – Bgcolor/Fgcolor – Date Object – Events and Event Handling – Validations – Window – Confirmation, alert message.

Unit 5: PHP and MySQL 20hrs

Introduction and basic syntax of PHP, decision and looping with examples, PHP and HTML, Arrays, Functions, Browser control and detection, string, Form processing, Files, Advance Features: Cookies and Sessions, Object Oriented Programming with PHP. Basic commands with PHP examples, Connection to server, creating database, selecting a database, listing database, listing table names, creating a table, inserting data, altering tables, queries, deleting database, deleting data and tables, PHPMyAdmin and database bugs.

Textbook

1. "HTML5 Black Book: Covers CSS3, JavaScript, XML, XHTML, Ajax, PHP and Jquery", Kogent Learning Solutions Inc 2016.

References

1. Ecky Putrady, "Practical Web Development with Haskell: Master the essential skills to build fast and scalable web applications", !st edition , Apress, 2018
2. Danny Goodman, "Dynamic HTML" 3rd Edition, O'reilly, 2006.
3. Media Paul Colton, R Allen Wyke, Richard Wagner, "JavaScript Unleashed", Sams Publication, 3rd Edition, 2000.
4. Eric. C Richardson, "Programming web server", Galgotia Publications, 1996.
5. Joe Fawcett, Danny Ayers, Liam R.E Quin, "Beginning XML", 5th Edition, Wrox, 2012
6. Jon Duckett, "PHP & MYSQL Server side development", 1st edition 2019.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3				4		
CO4			3			
CO5					5	

MCA 4465   **Lab 1 - C Programming**   **4 Hrs / 4Cr**

Objective

The course aims at training the students in the developing the following programs and enable them to develop a mini project.

Upon completing the course students will be able to

   i.   Apply different types of User Defined Functions and Arrays.
  ii.   Summarize application software using pointers on different Data Types.
 iii.   Create code using Structure and Union.
 iv.   Solve problems using File Handling Techniques.
  v.   Design TSR and simple Network Programs.

Lab Cycle

     1. I/O Statements and Control Structures
     2. Arrays and strings
     3. Functions
          i) Call by Value
          ii) Call by Reference
          iii) User defined
          iv) Built-in
     4. Pointers
          i) Operators & expressions
          ii) Pointers and arrays
          iii) Pointers and strings
          iv) Pointers and structures
          v) Pointers to function
     5. Structures and Unions
     6. C Preprocessors, Command line arguments
     9. File Handling
     10. TSR programs
     11. Simple network programming
     12. Program to implement Client / Server concepts
     13. Interface programming

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2	1	2				
CO3		2	3			
CO4				4		
CO5						6

MCA4656   Mathematical Foundation for Computer Application -II   6Hrs / 6 Cr

Objective

This course aims to solve the various statistical methods such as Distribution of Random variables, Distributions and analyse sample using different method. Solve the Linear programming problem, transportation problem and assignment problem and also help to understand network modeling for planning and scheduling the project activities and different models on queuing theory

Upon completing the course students will be able to

  i.   Illustrate the characterization of   probability density functions
 ii.   Test and analyses mean and variance of small and large samples
iii.   Management   problems convert   to L.P.P and find the optimum solution for it.
 iv.   Find the solution for transportation problem and Assignment problem and construct network diagram and obtain critical path and project length.
  v.   Identify and analyze queue model and find the different values.

Unit 1: Mathematical Expectations   15hrs

Distributions of Random Variables – probability set function – Distribution function – probability models – mathematical expectations – Some special mathematical Expectations – Conditional probability -marginal and conditional distributions.

Unit 2: Sampling Theory   20hrs

Sampling theory - confidence intervals for means – confidence intervals for difference of variance – Hypothesis – Examples and Definitions – T_Tests – Chi_square Tests – F_Test – The Analysis of Variance.

Unit 3: Simplex Method   20hrs

Mathematical Formulation - Graphical Solution of linear programming models – Simplex method –Artificial variable Techniques- Two Phase Method.

Unit 4: Transportation Problem   15hrs

Transportation problem- assignment problem-Network Construction – Critical Path Method – Project Evaluation and Review Technique – Resource Analysis in Network Scheduling

Unit 5: Queuing Models   20hrs

Characteristics of Queuing Models – Poisson Queues - (M / M / 1) : (FIFO / ∞ /∞), (M / M / 1) : (FIFO/ N / ∞), (M / M / C) : (FIFO / ∞ / ∞), (M / M / C) : (FIFO / N / ∞) models.

Textbooks

1. Freund, "Mathematical Statistics", 5th Edition, Prentice Hall India, 1997.
2. Taha H.A., "Operations Research: An Introduction", 8th Edition, Pearson Education, 2008

References

1. S.C. Gupta & VK Kapoor Sultan Chand, "Elements of Mathematical Statistics", New Delhi, 1992
2. A.M.Natarajan, P.Balasubramani, A.Tamilarasi, "Operations Research", Pearson Education, Asia, 2005

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3		2	3			
CO4				4	5	
CO5						6

MCA4658   **Design and Analysis of Algorithm using C++**   **4hrs/4cr**

Objective

The aim of this course is to enable the student to understand and apply OOP features to solve different computer algorithms. This course also aims at making the student to implement and analyse the basic operations of data structures and the programming techniques such as Divide and Conquer, Greedy method, Dynamic programming, Graph Algorithms and Back Tracking.

Course Outcomes

  i.   Understand Object Oriented Programming and its features
  ii.   Advanced features of OOP
 iii.   Understand the concepts of data types, data structures and linear structures analyse linear data sorting
 iv.   Sort and Searching algorithms.
  v.   Greedy Method and Dynamic Programming.

Unit 1: OOPS   **16hrs**

Introduction – Programming Paradigms –Advantages and Features of OOP – objects - classes-Data Abstraction-User Defined Types – Namespace -Abstract Types- Inline Functions - Friend function-Virtual Functions - Constructor and destructor functions – Overloading Functions - Passing objects and returning objects in functions – Using pointers to objects – the this pointer – Using new and delete functions.

Unit 2: Additional Features in OOPS   **14hrs**

Operator overloading – Inheritance –Types of inheritance –Virtual base classes - Pointers to derived classes – Virtual functions - Applying polymorphism + File Handling in C++ -Templates and exception handling - class templates-function templates.

Unit 3: Data Structures   **15hrs**

Computer Algorithms - Introduction – Algorithm as technology – Designing an algorithm - Analysing an algorithm –– Asymptotic notations – Standard notations and common functions - Elementary Data Structures – Types – Implementation Examples - Implementing pointers and objects - Trees – Hashing – Types of Sorting – Examples.

Unit 4: Sorting and Searching   **14hrs**

Divide and Conquer-Merge sort – Quick Sort – performance of quick sort – randomized version of quick sort - Binary Search Tree – Insertion and deletion in Binary Search Tree – Red Black Trees – Implementations.

Unit 5: Greedy Method and Dynamic Programming   **16hrs**

Greedy Method- Optimal Storage on Tapes – Knapsack Problem – Minimum Spanning Trees – Single Source Shortest Path- Bellman-Ford algorithm – Dijkstra's algorithm. Dynamic Programming - General Method – Multistage Graphs – Optimal Binary Search Trees – 0/1 Knapsack – Reliability Design – Travelling Sales Man Problem --Eight queen problem-backtracking.

Textbook

1. Herbert Schildt, "C++ Complete reference, Osborne McGraw Hill", 2ndEdition, 2012.
2. Thomas H Cormen, Charles E Leiserson, Ronald L Rivest, Clifford Stein, "Introduction to algorithms ", 2nd edition,PHI,2011.

References

1. Robert Latfore, "Object Oriented Programming in Microsoft C++", Galgotia publication, 2009.
2. E Balagurusamy, "Object Oriented programming with C++", PHI 6th Edition
3. Debasish Jana, "C++ and Object Oriented Programming Paradigm", PHI, NewDelhi, 2010.
4. Ellis Horowitz, SartajSahni, "Fundamentals of Computer Algorithms", Galgotia Publications, 2010.
5. Donald E Knuth, "Fundamental algorithms -The art of computer programming", PearsonEducation, 3rd Edition, 2002.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2	3			
CO3			3			
CO4				4		
CO5					5	

MCA 4660   **Advanced Database Management Systems (TL)(4+2)   6 Hrs/ 6Cr**

Objective

This course aims to train the students to design databases in an efficient manner. In these course fundamental concepts in DBMS, Data models, and relational algebra concepts are discussed. Hands on training is given using ORACLE.

 Upon completion of this course students will be able to

   i.   Obtain basic knowledge on database, relational database, data Models and ER model.
  ii.   Demonstrate the DDL, DML, TCL using SQL constructs.
 iii.   Apply PL/SQL using Programming language constructs.
  iv.   Understand the Data Management concepts to organize the data.
   v.   Understand and Design Advanced Databases systems.

Unit 1: Introduction to DBMS   15hrs

Introduction to DBMS – Data Models – Database Languages – Database System Structures – ER Model – Relational Model

Unit 2: Introduction to RDBMS   20hrs

Introduction to RDBMS-SQL – Introduction to ORACLE – Data types - DDL – DML – TCL – QBE. Sub queries – Functions and Procedures – Triggers.

Unit 3: PL/SQL   20hrs

Packages - Types – Objects – Methods – Collectors – PL/SQL – Built in Functions – Programming constructs – Cursors – Error Handling-normalization.

Unit 4: Data Management   20hrs

Data Storage and Indexing – File Organizations – Query Optimization – Security -Transaction Management – Concurrency Control – Crash Recovery.

Unit 5: Introduction to Advanced Database Systems   15hrs

Introduction to: Parallel and Distributed Databases – Internet Databases – Decision Support - Data Mining – Object Database Systems – ORDBMS – OODBMS.

Textbook

1. Silberschatz, Sudharshan and Koth, "Database System Concepts", McGraw Hill Publications, 6th Edition, 2010.

References

1. Ramakrishnan and Gehrke, "Database Management Systems", McGrawHill, 3rd Edition, 2012.
2. Loney and Koch, "ORACLE 9i - The Complete Reference", Tata McGraw Hill Edition, 2010.
3. Urman, "ORACLE PL/SQL programming", Tata McGraw Hill, 1997.
4. McFadden, Hoffer and Prescott, "Modern Database Management", Pearson Education, 5th Edition, 2001.
5. Nilesh Shah , Database Management Systems using Oracle, Pearson Education, 2015.
6. Arun Majumdar & Pritimoy Bhattacharya, Database Management systems, TMH publications,2007.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2	1	2				
CO3		2	3			
CO4			3	4		
CO5					5	

MCA 4462   **Embedded System (TL)(2+2)**   **4 Hrs/4cr**

Objective

This course facilitates to gain   an understanding of the overall system architecture involving hardware and software components as well as of its complex communication structures, enabling them to understand the underpinnings of modern design methodology.

Upon completing the course students will be able to

    i.   Understanding the concepts and development of microprocessor
    ii.   Exploring the TASM / MASM / NASM
    iii.   To know Microcontroller based system design and applications
    iv.   Exploring advanced micro processor
    v.   Knowledge up gradation on recent trends in digital design for embedded systems

Unit 1: Microcomputer Architecture   **15hrs**

Microcomputer architecture- The IntelCPU's-8086/8088 CPU components: Bus interface unit- execution unit - 8086 CPU registers- instruction set: addressing modes. Programmable peripheral Interface-8279 Programmable keyboard / display interface-8254 Timer – 8251A Communications interface-DMA – Interrupts - A Simple Micro Controller – Parallel I/O Ports – Serial I/O Interface – Counter Timer – Interrupt Control Mechanism - Assembly Language Programming For Micro Controllers - Micro Controllers For Embedded Systems.

Unit 2: Assembly Language   **10hrs**

Assembly language fundamentals: segment and end directives—data definition directives – the assume directives - Input/output services - interrupts – Dos function calls - Assembly language program development tools - editor – assembler (MASM/TASM) – linker – loader – debugger - simple assembly programs - Interfacing Assembly Language Routines to High Level Language Programmes.

Unit 3: Processor   **15hrs**

Introduction to ES-What is ES, Examples of ES-Inside ES : processor, memory, peripherals, software.- Embedded Processors , Memories &Peripherals ,Microcontrollers 8051 -Discrete processors : 8-bit architecture, 16/32 bit CISC, RISC, DSP-Integrated processors : ARM RISC-Choosing a processor-Memory systems : types (SRAM, DRAM, FLASH), organization, access-time, validating the contents of memory-Basic peripherals : parallel ports, timers, clocks

Unit 4: Microprocessor and Controller 10hrs

Advanced Microprocessors - EDA tools – Coprocessors: Math Coprocessor (8087) – Microcontrollers: introduction – architecture – addressing modes. Case study: X86 compatible VIA C7, Via Nano, AMD's Geode, Athlon Neo, Intel Atom.

Unit 5: Case Study 10hrs

Case study on strain sensors, Temperature sensors, Pressure sensors, Humidity sensors, Accelerometers, Gyroscopes, RF MEMS Switch, phase shifter and smart sensors. Case study of MEMS pressure sensor Packaging – real time interfacing with raspberry pi -arduino board.

Textbook

1. Barry B Brey, "The Intel Microprocessor 8086/8088, 80186/80188, 80286, 80386, 80486, Pentium and Pentium Pro Processor: Architecture, programming and Interfacing", 4th Edition, Prentice Hall of India 2011.

References

1. Carl Hamacher, ZvonkoVranesic, SafwatZaky , "Computer Organization", McGraw Hill Higher Education, Fifth Edition, 2013.
2. Douglas V Hall, "Microprocessor and Interfacing – Programming and Hardware", McGraw-Hill, 2011.
3. Muhammad Ali Mazidi, Janice GillispieMazidi, "The 8051 Micro controller and Embedded systems", Pearson Education Asia, 2002.
4. Christian Hill, Learning Scientific Programming with Python, Cambridge university press, 2016.
5. Internet Sites: www.chips.ibm.com, www.intel.com, www.nexgen.co

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3		2				
CO4			3			
CO5			3	4		6

MCA 4464   **OOAD and UML   (TL)(4+2)**   **4 Hrs/4cr**

Objective

This course is to enable the students to understand the existing system and to provide practical guidance on construction of Object-Oriented Systems. Here the basic concepts in systems analysis and design are introduced with emphasis to Object-Oriented Analysis and Design. UML is used for the realization of OOAD. In UML the basic structural, behavioural and architectural modellings are discussed.

Upon completion of this course students will be able to

   i.   Understand and apply the software development life cycle concepts.
   ii. Design and Analyze systems using the design principles.
   iii. Understand and Design using the Object Oriented Methodology.
   iv. Understand and Apply UML for visualizing, specifying, constructing, and documenting information about software – intensive systems.
   v.   Model the structure of the run-time system and their physical hardware elements.

Unit 1: Introduction to Systems   **15hrs**

Systems - Role of System Analyst - SDLC – Feasibility Analysis – Fact Finding Techniques – SSAD - ER Diagrams – DFD – Decision Table – Decision Trees – Structured English.

Unit 2: System Design   **15hrs**

System Design - Application Architecture and Modelling – Database Design - Input and Output Design - User Interface Design – System Construction and Implementation – System Operations and Support.

Unit 3: System Modelling   **10hrs**

OOAD - Comparison of SSAD and OOAD - Modelling as a Design Technique – Object Modelling – Dynamic Modelling - Functional Modelling – Object Design – OOD Design Process.

Unit 4: Introduction to UML   **10hrs**

Introduction to UML – Basic Structural Modelling – Classes – Relationships Common Mechanisms – Class Diagrams – Behavioural Modelling – Interaction – Uses cases - Architectural Modelling.

Unit 5: UML Diagrams   10hrs

Component Diagrams – Deployment Diagrams – Collaboration - Case Study.

Textbook

1. Sen, "System Analysis and Design", Tata McGraw Hill, 1989.

References

1.   Jeffrey, "Structured System Analysis and Design", Tata McGraw Hill 2002.
2. Rumbaugh, Blaha, Premerlani, Eddy and Lorensen, "Object-Oriented Modeling and Design", PHI, 1997.
3. Booch, Rumbaugh and Jacobson, "The Unified Modeling Language User Guide", Pearson Education, 2003.
4. Jason, "UML - A Beginners Guide", Tata McGraw Hill, 2003.
5. Yourdon, "Object-Oriented Analysis", Pearson Education, 2nd Edition, 2001.
6. Object- Oriented Analysis and Design with Applications, Addison-Wesley Professional, 2nd Edition, 2007.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1	1	3	4	5	6
CO2		2	3	4		6
CO3		2	3			6
CO4		2	3	4		6
CO5		2	3	4		6

MCA 4466   **Lab 2 - Computer Algorithms using C++**   **4 hrs/4cr**

Objective

This course aims at training the student to implement the following problems which includes the important Computer Algorithms.

Upon completing the course students will be able to

   i.   Explain different types of User Defined Functions through OOP.
  ii.   Create code using Reusability Techniques.
 iii.   Categorize different types of Polymorphism.
 iv.   Solve problems using different Data Structures.
  v.   Implement different problem solving techniques such as Divide and Conquer, Greedy Method and Dynamic Programming.

   Lab cycle Objectives:

     1. Different User Defined Functions.
     2. Function Overloading
     3. Functions with default arguments
     4. Constructors and Destructor
     5. Passing objects to functions
           a.   By Value and By Reference
           b.   Friend functions and Inline functions
           c.   Call by Reference and Return by Reference
     6.   Operator overloading
     7.   Virtual Function
     8.   Inheritance Types
     9.   Function and Class Templates
     10. Implementations of linear Data Structures.
     11. Implementations of nonlinear Data Structures.
     12. Sorting Techniques
     13. Implementation of Divide and Conquer method.
     14. Implementation of Greedy method.
     15. Implementation of Dynamic Programming approach.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2	1	2				
CO3		2	3			
CO4				4		
CO5						6

MCA5655   **Data Science using Python (TL)(4+2)**   **6hrs / 6crs**

Objective

This course is to enable the students to learn program and concepts acquiring programming skills in python. To Train the students to analysis and visualize the different type on Data.

Upon completing the course students will be able to

  i.   Built-in Data Types, introduces you to Python built-in data types
 ii.   Explain the modules and its features.
iii.   Illustrate different type of analytic
 iv.   Ability to done testing ,GUI and script
  v.   Describe the Data Science by analysis and visualize

Unit 1: Python Basics   **15hrs**

Introduction to Python — Built-in data types -Control Statements-Iterations – Conditional Programming – Looping - Functions

Unit 2: Modules   **20hrs**

Modules- Importing module -Math module - Random module Packages – Composition-Testing – Profiling – Dealing with Exceptions – GUIs and Scripts

Unit 3: Data Science Skills   **15hrs**

Skills required for Data Science – Deep Dive of Analytics – Descriptive Analytics – Diagnostic Analytics – Predictive Analytics – Prescriptive Analytics – Classification – Forecasting – Recommendations – Optimization – Simulation

Unit 4: Python   **20hrs**

Hands on Data Analysis with Python – Manipulating Data Streams - Working with flat files - Working with unstructured files - Interacting with relational databases – Interacting with web-based data

Unit 5: Data Analysis   **20hrs**

Exploratory Data Analysis and Visualization with Python – Creating basic graph – Adding measurements – Graph with styles and color – Graph with annotations and legends

Textbook
  1. Introduction to Computing and Problem Solving Using Python, Balagurusamy,McGraw Hill Education India Private Limited; First edition ,2017

References

1. Python for Data Science for Dummies – by Luca Massaron and John Paul Mueller
2. Think Python: How to Think Like a Computer Scientist, Allen B. Downey, Updated for Python 3, Shroff/O'Reilly Publishers,2nd edition, 2016.
3. Core Python Programming , R. NageswaraRao ,Dreamtech Press,2016
4. An Introduction to Python – Revised and updated for Python 3.2, Guido van Rossum and Fred L. Drake Jr, Network Theory Ltd., 2011

Websites

1. www.learnpython.org
2. www.codecademy.com/learn/learn-python

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4				4		6
CO5					5	

MCA 5557   **Advanced Software Engineering**   **5 Hrs/5crs**

Objective

This course aims to equip the students to analyse, estimate and design new software with quality standards. In this course the Essentials in Software Engineering, software processes and the various software engineering paradigms are introduced. Software testing methods and quality maintenance strategies are included.

Upon completion of this course students will be able to

i.   Define diverse software application domains with different process models used   in software development.
ii.   Elucidate the need for software specifications and requirements with their gathering techniques.
iii. Transform requirements model into design model and demonstrate software and UI design principles.
iv.   Differentiate SCM and SQA models, classify testing strategies and tactics and evaluate them.
v.   Generate project schedule and construct, design and develop network diagrams for different types of Projects.

Unit 1: Introduction to Software and Software Engineering   15hrs

The Nature of Software – The Unique Nature of WebApps – Software Engineering - The Software Process- Software Engineering Practice – Software Myths – Process Models: A Generic process Model – Process Assessment and improvement - Prescriptive process Models – Specialized Process Models- Unified process - personal and team process models.

Unit 2: Modelling: Principles that guide practice   15hrs

Software Engineering Knowledge   – Core Principles – Principles that guide Each Framework Activity.   Understanding Requirements: Requirements engineering Establishing the Groundwork – Eliciting Requirements – Requirements Modelling: Scenarios, Information, and analysis Classes: Requirements Analysis- Scenario-Based Modelling - UML Models that supplement that use case – Data Modelling Concepts – Class-Based Modelling.

Unit 3: Design Concepts   15hrs

Design with the Context of software Engineering – The Design Process – Design Concepts – The design Model. Architecture Design: Software Architecture- Architecture Genres – Architecture Styles - Architecture Design. QUALITY MANAGEMENT: Quality Concepts: What is quality? – Software Quality –The Software Quality Dilemma – Achieving Software Quality.

Unit 4: Software Testing Strategies 15hrs

A Strategic Approach to Software Testing- Strategic Issues – Test Strategies for Conventional Software – Validation Testing – System Testing – Testing Conventional Applications - Software Testing Fundamentals – Internal and External Views of Testing – White Box Testing – Basis Path Testing – Control Structure Testing - Black Box Testing.

Unit 5: Managing Software Products 15hrs

Project Management Concepts: - The Management Spectrum – People – The Product – The Process – The Project – The W5HH Principle – Critical Practices. Project Scheduling: Basic Concepts - Project Scheduling – Scheduling. Risk Management: Reactive versus Proactive Risk Strategies - Software Risks – Risk Identification - Risk Projection – Risk Refinement.

Textbook

1. "Software Engineering a Practitioner's Approach", Roger S. Pressman, McGraw – Hill International Edition, Seventh Edition 2013.

References

1. Roger S Pressman, " Software Engineering -A Practical Approach" Tata McGraw Hill, 7th Edition, 2013
2. Stephen R Schach, " Object Oriented and Classical Software Engineering", Tata McGraw Hill, 8th Edition,2010
3. Watts S Humphrey, "A Discipline for Software Engineering", Pearson Education, 2001.
4. Boriz and Beizer, "Software Testing Techniques", DreamTech, 2nd Edition, 2000.
5. "Software Engineering", Ian Sommer Ville, Pearson Education, Nineth Edition, 2011.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1	2	3			
CO2		2	3	4	5	6
CO3			3	4	5	6
CO4		2	3	4		
CO5	1	2	3	4	5	

MCA 5559   **Advanced Java Programming**   **5hrs/5cr**

Objective

This course aims at developing the students to understand the power of Java and make them develop Web Applications using Java Servlet, JSP and create J2EE applications and also create database connectivity using JDBC.

Upon completion of this course students will be able to

   i. Develop simple java programs to demonstrate OOPs concepts.
   ii. Define Web Basics and Java Servlets
   iii. Explain Java Server Page features & database connectivity using JDBC
   iv. Analyze Enterprise architecture
   v. Create Java Applications using the features learnt.

Unit 1: Core Java   **15hrs**

Introduction -Genesis of Java- Types of Java applications – Java Virtual Machine - Data types, Variables - Control statements - Arrays – String – Classes and Objects - Methods – Constructors - Inheritance - Interfaces - Packages – Exception Handling - to AWT - Java Applets- Life Cycle of An Applet – AWT controls -**:** Introduction to Java Foundation Classes(JFC) – Swings.

Unit 2: Introduction to Java Servlets   **15hrs**

Java Server Technologies - Basics of Web Application, Architecture and challenges of Web Application, Introduction to servlet, Servlet life cycle, Developing and Deploying Servlets, Exploring Deployment , Descriptor (web.xml), Handling Request and Response Tracking Session.

Unit 3: JSP & Database Connectivity   **15hrs**

JSP Architecture ,JSP Standard / Implicit Objects, JSP Page Implementation Class, JSP Basics & Syntax, JSP Directive Tags, JSP Action Tags, JSP Script related Tags, Using Java Beans from JSP, UseBean Tag, setProperty Tag, getProperty Tag, JSP Custom Tag Library. Database Programming using JDBC Introduction to JDBC, JDBC Drivers & Architecture, CURD operation Using JDBC, Connecting to non-conventional Databases.

Unit 4: J2EE Architecture   **15hrs**

J2EE Platform Introduction -Enterprise Architecture Styles - J2EE Architecture - J2EE Technologies -Developing J2EE Applications - Naming and directory services - Application Servers - Implementing the J2EE Specifications - J2EE packaging and Deployment - J2EE packaging overview - Configuring J2EE packages.

Unit 5: Struts **15hrs**

Basics of Struts, Core Components, Struts Action, Struts Configuration, Interceptors, Struts Validation, Aware Interfaces, Zero Configuration, Struts with Tiles2, Hibernate with Struts, spring with Struts, Project Development in Struts.

Textbooks

1. Patrick Naoghton and Herbert Schidt, "The Complete Reference - JAVA" 9th Edition Tata McGraw Hill, 2014.
2. John Hunt and Chris Loftus, "Guide to J2EE: Enterprise Java", 2nd Edition, Springer, 2012

References

1. Santosh Kumar K., Kogent Solutions Inc., Santosh Kumar K. And Kogent Solutions Inc, "Jdbc Servlets, And Jsp Black Book," New Edition (With Cd) , Dreamtech Press, 2008
2. Bryan Basham, Kathy Sierra, Bert Bates, "Head First Sevlets and JSP: Passing the Sun Cetified Web Component", 2nd edition, O'Reilly Media, 2008
3. Kogent Solutions Inc, "JAVA SERVER PROGRAMMING , JAVA EE5", 1st edition, Dreamtech Press, 2008.
4. Ted Husted Cedric Dumoulin, "Struts in Action", 1st edition, Manning – Dreamtech Press, 2007.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5						6

MCA 5661   **Computer Networks (TL)(4+2)**   **6hrs/6cr**

Objective

In order to play role in this era network-based computing, student must have a thorough understanding of these emerging networking technologies and applications.

Upon completion of this course students will be able to

i.   Basic Networking Concepts
ii. Fundamental Radio Propagation Waves
iii. Basic wireless networking concepts: Wifi, MAC protocols, mobile networking, 5G MILLI METER WAVES, ULTRA DENSE NETWORKS.
iv. Network function virtualization and software defined networking
v.   Machine Learning Assisted Networking.

Unit 1: OSI Model   **20hrs**

Uses of computer networks – Network hardware – Network software – Reference models – The OSI Reference models – The TCP / IP Reference– A comparison of the OSI and TCP Reference models – Example networks – Novell NetWare, The ARPANET – NSFNET – The Internet – X.25 networks – network standardization.

Unit 2: Application Layer   **15hrs**

Fourier analysis – Bandwidth limited signals – The maximum data rate of a channel – Transmission media –Wireless transmission – The telephone system – Structure of the telephone system – The local loop – Cellular radio – Communication Satellites.

Unit 3: Network Layer   **20hrs**

The channel allocation problem – Multiple accesses protocols – IEEE standard for LANS and MANS – Bridges – High speed LANS – Satellite networks - Data link layer design issues – error detection and correction elementary data link protocols. Network layer design issues – Routing algorithms –congestion control algorithms-internetworking- Internet layer in the internet.

Unit 4: Transport Layer   **15hrs**

The transport – The transport service – Elements of transport protocols – A simple transport protocol - Network security – Domain Name system – Electronic Mail – USENET NEWS – The World Wide Web – Multimedia - Distributed processing

Unit 5: Data Link Layer   **20hrs**

Connectivity of vehicles : protocols AND frameworks – Security trust safety and privacy - Information Security –homomarphic encryption for cloud computing – Adhoc and deterministic network for mobility challenges and limitations relating to VANET and MANET- Sensor technologies and networks – ambient Intelligence in the network.

Textbook

1. Andrew S Tanenbaum, "Computer Networks", Prentice Hall of India private Ltd., New Delhi 3rd edition, 2013

References

1. John Freer Pitman, "Computer Communication and Network", Computer system series, 2010.
2. Sitnie, "Computer Network (TCP/IP), Tata McGraw Hill, 2011.
3. Willams Stallings, "Data & computer communications", Pearson Education Asia, Sixth Edition, 2012.
4. RS Rajesh, KS Easwarakumar, R Balasubramanian, "Computer Networks- Fundamentals and Applications", 12th Edition, Vikas Publications, NewDelhi, 2012.

Lab Exercises

1. Implementing a simple client/server application using sockets and TCP/IP
2. Using of open SSH
3. Port forwarding
4. Sniffing
5. Proactive filtering of weak pass words and salting passwords
6. Using open SSH for communication confidentiality and integrity
7. Using open SSL to set up a simple certifying authority
8. Issuing and verifying certificates to avoid MITM attacks
9. Setting up of a firewall
10. Setting up of IP Sec virtual private network (VPN)
11. Packet capturing and packet replay attack
12. ARP spoof, DNS spoof attacks- man in the middle attacks demonstration
13. Logic for brute force attacks
14. Program that using hashing technique. Encryption and Decryption of file program.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5					5	

MCA 5463   **Lab -3 Java Programming**   **4 hrs/4 crs**

Objective

This course is to train the student to develop problem solving abilities and facilitate them to build the necessary skill set and analytical abilities for developing java based software for real life problems.

Upon completion of this course students will be able to

  i.   Develop simple java servlets to handle forms, session and Cookies.
 ii.   Construct programs using JSP, create user defined tags and bean applications
iii.   Establish database connectivity and perform DDL, DML operations.
 iv.   Understand Enterprise architecture and create ee applications
  v.   Write programs using Struts.

Lab Components

  1. Implementation of Array and flow control statement.
  2. Write a Java program to count the letters, spaces, numbers and other characters of an input string.
  3. Demonstrate the use of constructor or destructor.
  4. Implementation of forms using servlet.
  5. Develop Session handling using 4 different methods (Cookies, Hidden form field, URL rewriting and HttpSession
  6. Demonstrate the advantages of JSP over Servlets.
  7. Form handling in JSP
  8. Create user defined Tags and demonstrate the same.
  9. Write Java bean applications.
 10. Create Java database connectivity
 11. Perform DDL operations.
 12. Perform DML Operations.
 13. Develop applications – J2EE, J2ME and JNDI.
 14. Design applications using Struts

Bloom Taxonomy	K1	K2	K3	K4	K5	K6
CO1			3		5	
CO2				4		6
CO3		2				6
CO4					5	6
CO5						6

MCA 5456   **Dot Net Programming**   **4hrs/4cr**

Objective

The aim of the course is to understand the fundamental concepts of .NET framework and its merits over other programming languages, it will enable the students to develop desktop applications and web applications.

Upon completion of this course students will be able to

i.   Define .net technology and its salient features
ii.   Explain the attributes of vb.net and write programs.
iii. Perform database connectivity with vb.net and ado.net
iv.   Compare the properties of C# with vb.net and C++.
v.   Create simple application systems using .net.

Unit 1: Dot Net Technology   **10hrs**

Introduction - .Net revolution - Building blocks of .Net, overview of .Net applications .Net framework and its architecture Intermediate Language(IL), Common Language Runtime (CLR), JIT Compilation, Common Type System (CTS), Common Language System (CLS), Assemblies –Components of Assembly – DLL hell and Assembly Versioning

Unit 2: VB.NET   **15hrs**

Introduction to VB.Net – and features of VB.NET- Arrays - procedures –scope – built-in functions – classes and objects – features of oops –constructors and destructors – creating property procedures – creating events – namespaces – import keyword - Inheritance, Polymorphism and Interfaces – overriding methods and properties – MyBase Keyword – MyClass Keyword – Abstract Base Classes – Shared members.

Unit 3: ADO.NET   **10hrs**

Working with forms – Inheritance in windows forms – loading and showing forms –visual inheritance – adding controls – layout enhancement properties of controls – working with simple controls – adding menus – context menus - delegates -overview of ADO.Net – ADO.NET Architecture – ADO.NET Components – Using ADO.NET – Data form wizard Components and Inter operability.

Unit 4: C#.NET   **10hrs**

Overview to C# - C # Compilation and Execution Process – C# Fundamentals (Data types, Operators, Programming constructs) –Inheritance –Sealed Classes – Interface - Polymorphism – Method Hiding – C# Property –Exception Handling.

Unit 5: ASP.NET   **15hrs**

ASP.Net- IIS - ASP.Net Page Life Cycle – ASP Vs ASP.Net - HTML Controls Vs Server side
Controls –Validation Controls – Data binding in ASP.Net – Caching – Configuration in ASP.Net
(web.config) –Session management – View State in ASP.Net.

Textbook

1. Kogent Learning Solutions Inc., ".NET 4.5 Programming 6-in-1, Black Book", 1 st
   edition, Dreamtech Press, 2013.

Reference

1. Evangelos Petroutsos, "Mastering Visual Basic .NET" 3d Edition, SYBEX, 2006
2. Bill Hamilton, "ADO.NET 3.5 Cookbook: Building Data Centic .net Applications", 2nd
   edition , O'Reilly, 2008.
3. Joseph Albahari, Ben Albahari, "C# 7.0 in a nutshell: The Definitive Reference", 1st
   edition, O'Reilly Media, 2017.
4. Dino Esposito, "Programming ASP.NET Core (Developer Reference)", 1st edition,
   Microsoft Press, 2018.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5					5	6

MCA 5558   **Data Mining and Warehousing**   **5 Hrs/5cr**

Objective

The aim of the course is to enable the students to understand the basic concepts of data mining and its classification along with its applications. It introduces data mining and data warehousing and its architectures, Tasks under data mining, Association Rules, Classifications of data mining and Application in data mining.

Upon completion of this course students will be able to

i. Understand the basic functionalities and concepts of data mining and data warehousing.
ii. Analyse the need for data pre-processing and various steps involved in it.
iii. Categorize the methodologies and algorithms and be familiar with association rule mining techniques and constraint based association mining.
iv. Analyse the usages of Decision tree Algorithm, Bayesian Classification and Back Propagation techniques.
v. Understand Clustering and Outline the applications and trends in Data mining.

Unit 1: Introduction to Data Mining and Data Warehousing   **15hrs**

Introduction – Data mining – Data mining functionalities – kinds of patterns can be mined – classification – major issues. Data warehouse – A multidimensional data model – Data warehouse architecture – Data warehouse implementation – From data warehouse to data mining

Unit 2: Data Pre-Processing   **15hrs**

Data pre-processing – Data cleaning – Data Integration and Transformation – Data Reduction – Discretization and concept hierarchy generation – Data mining primitives – Data mining Task – A data mining query language - Architecture of Data mining systems – Characterization and comparison

Unit 3: Association Rule Mining   **15hrs**

Association Rule Mining – Mining single dimensional Boolean association rules from transactional databases – mining multilevel association rules from transaction databases- mining multidimensional association rules from Relational databases and Data warehouses – From association mining to correlation analysis

Unit 4: Classification and Prediction   **15hrs**

Classification and prediction – Issues regarding classification and prediction – classification by decision Tree Induction – Bayesian Classification – Classification by Back propagation – classification based on concepts from association rule mining – prediction – classifier accuracy.

Unit 5: Clustering and Trends in Data Mining **15hrs**

Clustering – Introduction to types of Clustering - Applications and Trends in Data Mining – Data mining system products and Research prototypes – Additional themes on Data mining – Social Impacts of Data Mining – Trends in Data mining.

Textbook

1. Jiawei Han, Michelien Kamber, "Data Mining Concepts and Techniques", 3rd Edition, 2014.

References

1. Arun K. Pujari, "Data Mining Techniques", Universities Press (India) Limited,2 nd Edition, 2013.
2. Alex Berson, Stephen j Smith , Data Warehousing ,Data mining and OLAP (Data warehousing / Data Management) , McGraw Hill 2012.
3. George M Marakas, Modern Data warehousing, Mining and Visualization: core concepts, Prientice Hall , First Edition, 2002
4. John Wang, Encyclopaedia of Data warehousing and Mining, Idea Group Publishing, 2009.
5. Shawkat Ali A B M, Saleh A. Wasimi, "Data Mining: Methods and Techniques ,Third Indian Reprint, Cengage Learning, 2010.
6. Soman K. P., ShyamDiwakar, Ajay V. "Insight into Data Mining Theory and Practice" ,   Fifth Printing, PHI Learning, 2011.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1	2				
CO2		2	3	4		
CO3		2	3	4		
CO4			3	4		
CO5			3	4		6

MCA 5460   **Soft Computing**   **4 Hrs/4cr**

Objective

The aim of this course is to provide the basic idea about Fuzzy sets and fuzzy logics. It also discusses the operations and applications of fuzzy logics. Introduces various ANN structures such as feed forward with back propagation, Counter propagation networks, Hopfield nets, BAM structure and ART architecture.

Upon completion of this course students will be able to

i. Recall the difference between Crisp and Fuzzy sets and recognize Fuzzy Operations.
ii. Design Fuzzy Based Applications.
iii. Compare and contrast Biological and Artificial Neurons and explain the basic ANN algorithm.
iv. Assess different ANN training algorithms
v. Design Recurrent Networks and Elaborate ART architecture

Unit 1: Introduction to Soft Computing   **10hrs**

Soft Computing: Meaning and Features - Introduction to Fuzzy Logic - Fuzzy set – Fuzzy Set versus Crisp set – Operation on Fuzzy Sets – Fuzzy Arithmetic - Fuzzy relations.

Unit 2: Fuzzy Set   **10hrs**

Constructing Fuzzy Sets and Operations on Fuzzy Set – Fuzzy rule based system: Fuzzy propositions – formation - decomposition & aggregation of fuzzy rules, fuzzy reasoning, fuzzy inference systems, fuzzy decision making & Applications of fuzzy logic.

Unit 3: Neural Networks   **15hrs**

Why Neural Networks? - Characteristics of ANN – Training of ANN – Activation function – Multilayer networks - Back Propagation – The training algorithm, Forward pass, reverse pass, Adjusting weights – Advanced Algorithms – Applications.

Unit 4: Propagation   **15hrs**

Counter Propagation Networks – Network Structure – Kohonen layer – Training, Interpolative Mode - The Grossberg Layer – An Application. Statistical methods – Training applications - Boltzmann Training - Cauchy Training.

Unit 5: Art   **10hrs**

Hopfield Nets – Recurrent Network Configuration, Stability, Associative Memory BAM - Adaptive Resonance Theory – ART Architecture

Textbook

1. Phillip D Wasserman – Neural Computing Theory and Practice – Van Nostrand Reinhold Publications, Newyork, 1989.

References

1. Valluru Rao, Haya Griva Rao and Valluru B Rao – C++ Neural Networks and Fuzzy Logic – Addison Wesley, 1999.
2. Stamastios V Kartalopoulos – Understanding Neural Networks and Fuzzy Logic Basic Concepts and Applications – IEEE press, PHI publications, 1996.
3. Klir, GJ, Youan Bo, "Fuzzy Sets and Fuzzy Logic", Prentice Hall, 2012.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2						6
CO3		2				
CO4					5	6
CO5						

MCA 5462   **Lab -4 Dot Net Programming**   **4hrs/4cr**

Objective

This course aims at training the students to develop simple desktop and web applications using Dot Net Technology.

Upon completion of this course students will be able to

  i.   Recall simple programs and write programs on various concepts of VB.NET
 ii.   Restate VB.NET forms
iii.   Apply ADO.NET on VBNET forms
 iv.   Illustrate OOPS concepts in C#.net
  v.   Design web pages in ASP.NET

Lab Exercises

1. Create Simple application using web controls
2. Use of calendar control, Tree view control & Validation controls
3. Query textbox and Displaying records & Display records by using database
4. Implement Single Inheritance and Overloading and Overriding
5. Explore the use of MyBase and MyClass
6. Data binding using data list control.
7.   Data binding using data grid & Data grid control template
8. Inserting record into a database & Deleting record from a database
9. Create a complete system for student database
10. Implement Inheritance, Polymorphism in C#.NET
11. Implement Operator Overloading using C#.NET
12. Design a simple web page
13. Create an Digital Advertisement
14. Implement Data Connectivity in a web page
15. Handle Validation Operations in ASP.NET.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1	2				
CO2		2	3			
CO3			3	4		
CO4				4	5	
CO5					5	6

MCA 5964   **Project Viva Voce**   **9hrs/4cr**

Objective

This course is to encourage the students to develop a Real Time Application for client with the guidance of internal and external faculty.

Upon successful completion of the course the students will be able to

  i.   Identify the company's software technology and methodologies
 ii.   Develop the software projects by understanding the client requirement
iii.   Evaluate and analyse the SDLC, understand software design, coding techniques and software testing principle
 iv.   Analyse a given problem and develop an algorithm to solve the problem
  v.   Implement the various programming languages like C, C++, VB. Net, Java Construct in the right way

Evaluation Pattern

Internal (3 Presentations)   -75 marks
External (Final Presentation and Viva Voce) - 25 marks

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2						6
CO3					5	
CO4			3			
CO5						6

MCA 0440   **Android programming (TL)   (2+2)**   **4hrs/4cr**

Objective

The aim of this course is to understand the theory as well as practical knowledge of mobile computing using android.

Upon completion of this course students will be able to

   i.   Describe the features of the WAP
  ii.   Discuss the Introduction to Android
 iii.   Construct the different buttons and menus
 iv.   Illustrate different types of layout
  v.   Creating different type of view

Unit 1: Wap Overview   **15hrs**

Overview of the WAP – Components of WAP standard – WAP architecture – Design principles- Design

Unit 2: Android Architecture   **10hrs**

Introduction to Android – Android Architecture –Features – Applications - Versions – Flavours - Building the project.

Unit 3: Controls   **10hrs**

User Interface Architecture –Activity life cycle - Intents – Services – Content providers - UI Widgets – Text controls –Button controls – Toggle buttons – Menus – Options menu – Context menu – popup menu.

Unit 4: Layout   **10hrs**

Layout manager – Relative layout – Linear layout - Table layout – Grid layout – Adaptor – Array adaptor – ArrayList adaptor – Base adaptor – Lists.

Unit 5: Viewing   **15hrs**

View – Grid view – Web view – Scroll view – Search view – Dynamic list view – Expanded list view – Working with data storage – Shared preferences – Preferences activity – Files access – database connectivity using SQLite. App Development.

Textbook

1. Learning Android, Marko Gargenta, Masumi Nakamura, O'Reilly, 2nd edition, 2014.

References

1. Principles of Mobile Computing, UweHansmann, LotharMerk, Martin S.Nicklous and Thomas Stober , Springer Professional Computing, 2nd Edition, 2008.
2. Mobile Computing Theory and Practice, KumKumGarg, Pearson Education, illustrated edition, 2010.
3. Mobile Computing and Wireless Communications, Amjad Umar, NGE Solutions, 2004.

Websites

1. www.edunotes.in/mobile-computing
2. www.tutorialspoint.com/android.
3. www.javapoint.com/android.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3	4		
CO4					5	
CO5						

MCA 0441   **Artificial Intelligence**   **4 hrs/4cr**

Objective

The primary objective of this course is to introduce the basic principles, techniques, and applications of Artificial Intelligence. Emphasis will be placed on the teaching of these fundamentals, not on providing a mastery of specific software tools or programming environments.

Upon completion of this course students will be able to

   i.   Formulate the AI problem using strategies
  ii.   To solve different problems   using AI algorithm
 iii.   Formulate a given problem in the language/framework of different AI methods.
  iv.   Illustrate   knowledge base system
   v.   Classify the expert systems

Unit 1: Introduction to AI   **12hrs**

Introduction to AI-Problem formulation, Problem Definition -Production systems, Control strategies, Search strategies. Problem characteristics, Production system characteristics - Specialized production system.

Unit 2: AI Algorithms   **13hrs**

Problem solving methods – Problem graphs, Matching, Indexing and Heuristic functions -Hill Climbing-Depth first and Breath first, Constraints satisfaction – Related algorithms, Measure of performance and analysis of search algorithms

Unit 3: Knowledge Representation   **13hrs**

Game playing – Knowledge representation, Knowledge representation using Predicate logic, Introduction to predicate calculus, Resolution, Use of predicate calculus, Knowledge representation using other logic-Structured representation of knowledge.

Unit 4: Rules of Inference   **11hrs**

Knowledge representation -Production based system, Frame based system. Inference – Backward chaining, Forward chaining, Rule value approach, Fuzzy reasoning – Certainty factors, Bayesian Theory-Bayesian Network- Dempster – Shafer theory.

Unit 5: Expert Systems   **11hrs**

Expert systems – Architecture of expert systems, Roles of expert systems – Knowledge Acquisition – Meta knowledge, Heuristics. Typical expert systems – MYCIN, DART, XOON, Expert systems shells. Introduction to Deep Leaning.

Textbook

1. Stuart Russel and Peter Norvig, "Artificial Intelligence – A Modern Approach", Pearson Education, 2010.

References

1. David W. Rolston, "Principles of Artificial Intelligence and Expert System Development", McGraw Hill Book Company, 1988.
2. Elaine rich, Kevin Knight, "Artificial Intelligence", Tata McGraw Hill.
3. Carl Townsend, "Introduction to Turbo Prolog", 2nd Edition, Sybex Inc, 1987.
4. Stamations V. Kartalopous, "Understanding Neural Networks and Fuzzy Logic", Wiley Press, 1995.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5					5	6

MCA 0442   **Computer Graphics (TL)(2+2)**   **4hrs/4cr**

Objective

The course aims to provide knowledge and understanding in the fundamental principles of Computer Graphics and Mathematical concepts related to Computer graphical operations. To provide in-depth knowledge of display systems, image synthesis and shape modeling of 3D applications.

Upon completion of this course students will be able to

  i.   Recall display devices, Line and circle drawing algorithms
  ii.   Interpret 2d transformations and clipping on images
  iii. Apply 3D concept on objects and surface.
  iv.   Analyse 3D transformation and Projection
  v.   Create a real life picture with fractals

Unit 1: Computer Graphics Algorithms   **10hrs**

Introduction to Computer Graphics: Display devices - Hard copy devices – Interactive input devices Graphics System, Application of computer graphics - Line Drawing Algorithms- Circle Generating Algorithms- ellipse generating -Scan-Line Polygon

Unit 2: 2D Transformations and Clipping   **15hrs**

Two dimensional Geometric Transformations - Composite Transformations -Transformations between Coordinate Systems Raster methods for Transformations- Two Dimension Viewing. TWO-Dimension Viewing- Clipping- Line Clipping- Polygon Clipping – Text Clipping.

Unit 3: 3D Representation   **15hrs**

Three Dimensional Concepts- Three Dimensional Display Methods viewing – Three Dimensional Object Representations – Polygon Surfaces- Polygon Tables-Polygon Meshes- Bezier Curves - Bezier Surfaces- Sub Division Method – Octrees - BSP Trees.

Unit 4: Projections   **10hrs**

Three Dimensional Transformations – Projection - Parallel Projection - Perspective Projection Hidden Surface and Hidden – Line Removal-Classification of Algorithms – Back Face Removal – Depth Buffer Method – Scans Line Method

Unit 5: Fractals   **10hrs**

Fractals : Fractals and Self similarity – Peano curves – Creating image by iterated functions – Mandelbrot sets – Julia Sets – Random Fractals – Overview of Ray Tracing – Intersecting rays

with other primitives – Adding Surface texture – Reflections and Transparency – Boolean operations on Objects

Textbook

1. Computer Graphics by Donald Hearn and M Pauline Baker PHI Publications 2013.

References

1. Principles of Interactive computer graphics – William M. Newman & F Sproull.
2. Steven Harrington. Computer Graphics McGraw Hill International Edition 2nd Edition, 1987.
3. Edward Angel, Dave Shreiner, "Interactive Computer Graphics: A Top Down Approach with Webgl", 7th Edition, Pearson, 2014
4. Steven J Gortler, "Foundations of 3D Computer Graphics", 1st edition, MIT Press 2012

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5					5	

MCA 0443   **BIG DATA ANALYTICS**   **4Hrs/4cr**

Objective

The aim of the course is to explore the fundamental concepts of Big Data Analytics, and analyse the big data using intelligent techniques, and facilitate them to understand various search methods and visualization techniques, and help them to employ the various techniques for mining data stream, and understand the applications using analytics tools to solve big data problems.

Upon completion of this course students will be able to

  i.   Explain the challenging nature of big data and differentiate it with existing technologies.
 ii.   Design strategies to collect, manage, store, query, and analyze various datasets.
iii.   Develop hands-on experience on large-scale analytics tools to solve big data problems.
 iv.   Understand the impact of big data in business decisions and strategy designing.
  v.   Exhibit New skills in Big data analytics

Unit 1: Big Data in the Enterprise   **10hrs**

Big Data in the Enterprise: Search at Scale- Multimedia Content-Sentiment Analysis- Enriching and Contextualizing Data- Data Discovery or Exploratory Analytics- Operational Analytics or Embedded Analytics- Realizing Opportunities from Big Data- Taming the "Big Data". The New Information Management Paradigm: What Is Enterprise Information Management?- New Approach to Enterprise Information Management for Big Data- Implications of Big Data to Enterprise IT.

Unit 2: Big Data implications for Industry   **10hrs**

Big Data Implications for Industry: The Opportunity- Big Data Use Cases by Industry Vertical. Emerging Database Landscape: The Database Evolution- The Scale-Out architecture Database Workloads- Database Technologies for Managing the Workloads- Columnar Databases- Requirements for the Next Generation Data Warehouses- Polyglot Persistence: The Next Generation Database Architecture.

Unit 3: Architecture for Big Data and Analytics   **15hrs**

Application Architectures for Big Data and Analytics: Big Data Warehouse and Analytics- Big Data Warehouse System Requirements and Hybrid Architetures- Enterprise Data Platform Ecosystem- BDW and EDW- How Does Traditional Data Warehouse processes map to tools in Hadoop Environment- How Hadoop Works- The Hadoop Suitability Works- Additional Considerations for Big Data Warehouse- Big Data and Master Data Management- Data quality Implications for Big Data- Putting it all Together- A Conceptual BDW Architecture. Data Modelling Approaches for Big Data and Analytics Solutions: Understanding Data Integration Patterns- Big Data Workload Design Approaches- Map-Reduce Patterns, Algorithms, and Use Cases- No SQL Data Modelling Techniques.

Unit 4: Big Data Analytics Methodology   **15hrs**

Big Data Analytics Methodology: Challenges in Big Data Analysis- Big Data Analytics Methodology- Analyze and Evaluate Business Use Case- Develop Business Hypotheses. Extracting Value from Big Data: In Memory Solutions, Real Time Analytics, And Recommendation Systems: Building a Recommendation System.

Unit 5: Data Scientist   **10hrs**

Data Scientist: The New Skill: Data Scientist- The Big Data Workflow- Design Principles for Contextualizing Big Data- A Day in the Life of a Data Scientist.

Textbooks

1. "Big Data Principles and best practices of scalable real time data systems" Nathan Marz, James Warren Dreamtech Press Edition, 2015.
2. "Big Data Analytics: Disruptive Technologies for Changing the game", Dr. Arvind Sathi, Elsevier, 2013, ISBN 978-1-58347-380-1.

Reference

1. Michael Berthold, David J. Hand, "Intelligent Data Analysis", Springer, 2007.
2. Chris Eaton, Dirk DeRoos, Tom Deutsch, George Lapis, Paul Zikopoulos, "Understanding Big Data: Analytics for Enterprise Class Hadoop and Streaming Data", 1st Edition, Tata McGrawHill, 2012.
3. Anand Rajaraman, Jeffrey David Ullman, "Mining of Massive Datasets", Cambridge University Press, 2012.
4. Bill Franks, "Taming the Big Data Tidal Wave: Finding Opportunities in Huge Data Streams with Advanced Analytics", John Wiley & sons, 2012.
5. Glenn J. Myatt, "Making Sense of Data", John Wiley & Sons, 2007.
6. Pete Warden, "Big Data Glossary", O'Reilly, 2011.
7. Da Ruan, Guoquing Chen, Etienne E.Kerre, Geert Wets, "Intelligent Data Mining", Springer, 2007.
8. Michael Minelli (Author), Michele Chambers (Author), Ambiga Dhiraj (Author), Big Data, "Big Analytics: Emerging Business Intelligence and Analytic Trends for Today's Businesses", Wiley Publications, 2013.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1	2				
CO2	1	2	3			
CO3		2	3	4		6
CO4		2	3	4	5	
CO5			3			6

MCA 0444   **Biometrics**   **4 Hrs/4cr**

Objective

The aim of this course is to enable the student to understand the security and authentication methods available in biometrics techniques such as finger prints, hand print, face, Iris, Retina, and voice recognition and the technology behind them.

Upon completion of this course students will be able to

  i.   Exploring the biological characteristics
  ii.   Individual physically and behaviourally distinctive in a number of ways
  iii. Making them to understand technology uses and applications
  iv.   Exploring with the scientific basis of biometrics
  v.   Enhancing the security by combining more than one

Unit 1: Introduction   **10hrs**

Biometrics – Introduction- Verification vs Identification – Applications – Facts other common Biometric characteristics. Finger print technology - Technical Description – Finger print security characteristics – Technology uses and applications increased or decreased costs.

Unit 2: Face Recognition   **15hrs**

Face Technology – Technical Description – Face Recognition security characteristics – Face Technology uses - Face Technology considerations – Network product commonalities. Iris and Retina Vascular Pattern Technology – Technical Description- Technology uses and applications- Implementation criteria – Increased or Decreased costs – Sample product.

Unit 3: Signature   **10hrs**

Other Physical Biometrics – Hand Scan Geometry – Hand Print Biometrics – DNA Biometrics – Signature And Hand Writing Technology – Technical Description – Classification – Technology Uses And Applications.

Unit 4: Voice Recognition   **15hrs**

Voice Recognition – The speaking voice and factors to consider – How vowels are formed – Rules for modifying vowels – Spectral Analysis – Factors influencing fundamental frequency – Voice qualities and Recognizing Distinctiveness.

Unit 5: Authentication   **10hrs**

Multi-biometrics and Two factor authentication – Executive decision – Establish goals – Need analysis – Selection criteria – Ripple security logic – Selection process – Implementation Plan.

Textbook

1. John D Woodward Jr, Nicholos M Orlans and Peter T Higgins, "Biometrics", Osborne Publications, 2003.

References

1. Julian Ashbourn, "Practical Biometrics: From Aspiration to Implementation", Springer Professional Computing, 2001.
2. RundBolleJohnathan, H. Connell, Nalini K Ratha, "Guide to Biometrics" Springer Professional Publications, 2000.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5					5	

MCA0445   **Compiler Design**   **4 Hrs /4cr**

Objective

This course is to enable the students to understand the basic concepts in compiler construction. Fundamental concepts in compilers, structure of the compiler and the tools to write compilers are introduced. Internal process mechanism in a compiler is included. Parsing techniques and Translation schemes are introduced.

Upon completion of this course students will be able to

  i.   Understand the different phases of compiler.
  ii. Design a lexical analyzer for a sample language.
  iii. Apply different parsing algorithms to develop the parsers for a given grammar.
  iv. Describe syntax-directed translation and run-time environment.
  v.   Discuss to implement code optimization techniques and a simple code generator.

Unit 1: Introduction   **15hrs**

Introduction To Compilers – Structure of a compiler – Lexical Analysis – Role of Lexical Analyzer – Input Buffering – Specification of Tokens – Recognition of Tokens – Lex – Finite Automata – Regular Expressions to Automata – Minimizing DFA.

Unit 2: Parsers   **15hrs**

Parsers – Shift-reduce parsing – Operator-precedence parsing – Top-down parsing – Predictive parsers – LR Parsers – The canonical collection of LR (0) items- Constructing SLR parsing tables – Constructing canonical LR parsing tables – Constructing LALR parsing tables – Using ambiguous grammars – An automatic parser generator – Implementation of LR parsing tables – Constructing LALR sets of items.

Unit 3: Syntax   **10 hrs**

Syntax-directed translation schemes – Implementation of syntax-directed translators – Intermediate code – Postfix notation

Unit 4: Symbol   **10 hrs**

Three-addresses code, quadruples and triples – Postfix translations – The contents of a symbol table – Data structures for symbol tables – Representing scope information.

Unit 5: Lexical and Semantic 10hrs

Errors – Lexical-phase errors – Syntactic-phase errors – Semantic errors – The principal sources of optimisation – Loop optimization – The DAG representation of basic blocks – Object programs – Problems in code generation – A simple code generator – peephole optimization.

Textbook

1. Aho AV, Ullman JD, Principles of Compiler Design, Narosha Publications, 1999.

References

1. William A Bar, RM Bates, DA Gustaf, John D. Couch, "Compiler Construction", Galgotia Publications 2000
2. V. Raghavan, Principles of Compiler Design‖, Tata McGraw Hill Education Publishers, 2010

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3				4		
CO4			3			
CO5					5	

MCA 0446   **Multimedia and Applications   (TL)(2+2)   4Hrs/4cr**

Objective

This course gives a detailed study of the multimedia systems and the technologies that support the components of multimedia. Hands on training will be given on multimedia applications with the help of Sound Forge, Movie Maker and macro media FlashMX.   Advanced concepts of action script in flash will be implemented.

Upon completion of this course students will be able to

   i.   Recall Distributed Multimedia Systems and the components of Multimedia.
  ii.   Summarize the need and requirements of Continuous Multimedia Systems.
 iii.   Develop Audio and Video applications using Authoring Tools.
  iv.   Create interactive media applications using basic animation techniques in Flash.
   v.   Build interactive Forms using Action Script and the Objects in Flash.

Unit 1: Introduction   **14hrs**

Uses of multimedia information – Architectures and issues for distributed multimedia systems – Digital Audio representation and processing - Video Technology - Digital video and Image Compression - Time based media representation and delivery.

Unit 2: Middleware   **12 hrs**

Operating System support for continuous media applications – Middleware system services - Architecture - Multimedia file systems and information models - Multimedia services over the public network – Knowledge based Multimedia systems.

Unit 3: Audio   **14hrs**

Introduction to Sound Forge - Non-linear editing: meaning and process -sequencing -Audio Editing Tools - Process of equalization -Applying effects to sound - Audio Mixing - Introduction to Movie maker- Design, create and edit a movie using Movie maker - import audio clips into Movie Maker.

Unit 4: Flash   **10hrs**

Introduction to Flash MX - Animation Techniques in Flash MX - Action Scripts - constructs – Functions - Objects – Understanding Text usage - Predefined objects.

Unit 5: Forms   **10hrs**

Using and building Components – Data driven Flash solutions – scrolling, dragging, making menus, dynamic drawing, Using Forms.

Textbook

1. John F Koegel Buford, "Muiltimedia Systems", Pearson Education, 2001.

References

1. James E Shuman, "Multimedia in Action", Vikas Publications, 2001.
2. Robert Reinhardt and Joey Lott, "Flash Action Script Programming Bible", John Willey Dream Tech Publications, 2002.
3. "Macro Media Director 8.5 Shockwave studio user manual", Macromedia Publications, 2002.
4. Derek Franklin and Jobe Makar, "Flash MX Action scripting training from the source", Macromedia Press, 2003.
5. Colin Moock, "Action Script for Flash MX", Oreilly publications 2nd Edition, 2002.
6. Gary Rosenweig, "Special Edition Using Macromedia Director MX", QUE Publications, 2003.

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4						6
CO5						6

MCA0447 **Parallel computing** **4Hrs/4cr**

Objective

The aim of the course is to enable the students to understand OpenCL standard for programming heterogeneous computers built from CPUs, GPUs and other processors. Using OpenCL to write task-based and data-parallel programs to realize the advantage of these different types of processors in a single system.

Upon completion of this course students will be able to

    i.   Exploring the parallel computing knowledge
    ii.   Making them to design software using suitable searching technique.
    iii.   Exploring Graph algorithm to speed up the processing.
    iv.   Students to develop program compatible to any gadgets.
    v.   Develop to optimize the memory usage

Unit 1: Introduction **10hrs**

Introduction - Need for Parallel Computing - Scope of Parallel Computing – Issues in Parallel Computing - Models of Parallel Computing - Taxonomy of Parallel Architectures - Dynamic Interconnection Networks - Static Interconnection Networks - Message Transfer - Reduction, Parallel Prefix - GPU thread model

Unit 2: Modelling **15hrs**

Performance Modelling - Metrics - Granularity - Scalability – Overhead - Isoefficiency - Matrix Algorithms - Matrix Partitioning - Matrix Transposition - Matrix Vector Multiply - Matrix Multiply - CUDA, vector add, matrix multiply, sequence alignment -Linear Equations - LU(P) Decomposition-Searching and Optimization - The knapsack problem -Branch and Bound - Dynamic Programming -Sorting - Types of sorters -Sorting networks - Radix / Bucket sorts

Unit 3: Graph **10hrs**

Graph algorithms -Minimum Spanning Tree - Single Source Shortest Paths -All Pairs Shortest Paths - Fast Fourier Transforms - Fourier Series, basis functions, Euler - Discrete and Fast Fourier Transforms - Convolution, roots of unity, divide and conquer - Evaluation and Interpolation -Recursive, bit reversal, iterative Cooley - Tukey FFT - Pease FFT, locality.

Unit 4: Open CL **15hrs**

Introduction to OpenCL - OpenCL Architecture - Programming Model - Getting Started - Software Development Environment and Tools - Debugging tools -Getting into OpenCL Details OpenCL Kernel Programming - Data Types and Type Checking-GPU - specific Features-

Advanced OpenCL - Developing applications on Heterogeneous devices - OpenCL Images - API Features – Graphics API Bindings.

Unit 5: Applications 10hrs

Generic Application tuning - Evaluating Application Performance - Performance Tuning Tips - Optimizations on Multi - Core CPUs-Optimization on Many - Core Architectures - GPU architectures - GPU Threading Concepts - GPU Memory Hierarchy - ATI GPU Architecture - Nvidia GPU Architecture.

Textbook

1. Kai Hwang and Zhi.WeiXu, "Scalable Parallel Computing", Tata McGraw-Hill, New Delhi, 2003

References

1. David E. Culler &Jaswinder Pal Singh, "Parallel Computing Architecture: A Hardware/Software Approach", Morgan Kaufman Publishers, 1999.
2. Michael J. Quinn, "Parallel Programming in C with MPI &OpenMP", Tata McGraw-Hill, New Delhi, 2003.
3. Kai Hwang, "Advanced Computer Architecture" Tata McGraw-Hill, New Delhi, 2003.
4. David B. Kirk, Wen-mei W. Hwu. Programming Massively Parallel Processors: A Hands-on Approach. Morgan Kaufmann, 2010.
5. http://amd.developers.opencl/

Blooms Taxonomy	K1	K2	K3	K4	K5	K6
CO1	1					
CO2		2				
CO3			3			
CO4				4		
CO5					5	

Academic Calendar

THE AMERICAN COLLEGE

Since 1881

JANUARY 2022

DATE	DAY		DAY ORDER	WORKING DAYS
1	SAT	New Year		
2	SUN	Even Semester begins		
3	MON		II	81
4	TUE		III	82
5	WED	II Internal Test Period for 21 series (05 Jan-13 Jan)	IV	83
6	THU		V	84
7	FRI		VI	85
8	SAT		I	86
9	SUN			
10	MON		I	87
11	TUE		II	88
12	WED		III	89
13	THU		IV	90
14	FRI	Pongal Holidays (14 – 16)		
15	SAT	Pongal/ Thiruvalluvar Day		
16	SUN	Uzhavar Thirunal		
17	MON	Retest if needed (17 – 19)		
18	TUE			
19	WED			
20	THU			
21	FRI	Odd Semester Examination begins		E1
22	SAT			E2
23	SUN			
24	MON			E3
25	TUE			E4
26	WED	Republic Day		
27	THU			E5
28	FRI			E6
29	SAT			E7
30	SUN			
31	MON			E8

——————— Calendar 2021 - 22

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

FEBRUARY 2022				
DATE	DAY		DAY ORDER	WORKING DAYS
1	TUE			E9
2	WED			E10
3	THU			E11
4	FRI			E12
5	SAT			E13
6	SUN			
7	MON			E14
8	TUE	Semester Holidays (8 – 15)		
9	WED			
10	THU			
11	FRI			
12	SAT			
13	SUN			
14	MON			
15	TUE			
16	WED	Even Semester Begins	I	1
17	THU		II	2
18	FRI		III	3
19	SAT		IV	4
20	SUN			
21	MON		V	5
22	TUE		VI	6
23	WED		I	7
24	THU		II	8
25	FRI		III	9
26	SAT		IV	10
27	SUN			
28	MON		V	11

Calendar 2021 - 22

MARCH 2022				
DATE	DAY		DAY ORDER	WORKING DAYS
1	TUE		VI	12
2	WED	Ash Wednesday	I	13
3	THU		II	14
4	FRI		III	15
5	SAT		IV	16
6	SUN			
7	MON		V	17
8	TUE		VI	18
9	WED		I	19
10	THU		II	20
11	FRI	Sports Day	III	21
12	SAT		IV	22
13	SUN			
14	MON		V	23
15	TUE		VI	24
16	WED		I	25
17	THU		II	26
18	FRI		III	27
19	SAT		IV	28
20	SUN			
21	MON		V	29
22	TUE		VI	30
23	WED		I	31
24	THU		II	32
25	FRI		III	33
26	SAT	Hostel Day	IV	34
27	SUN			
28	MON	I Internal Test Period (28 Mar – 6 Apr)	V	35
29	TUE		VI	36
30	WED		I	37
31	THU		II	38

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Madurai-625 002

Calendar 2021 - 22

APRIL 2022				
DATE	DAY		DAY ORDER	WORKING DAYS
1	FRI		III	39
2	SAT	Telugu New Year		
3	SUN			
4	MON	Registration and payment of Even Semester Exam fees without fine	IV	40
5	TUE		V	41
6	WED		VI	42
7	THU		I	43
8	FRI		II	44
9	SAT			
10	SUN	Palm Sunday		
11	MON		III	45
12	TUE		IV	46
13	WED		V	47
14	THU	Tamil New Year/ Mahavir Jayanthi		
15	FRI	Good Friday		
16	SAT			
17	SUN	Easter		
18	MON		VI	48
19	TUE		I	49
20	WED	Registration and payment of Even Semester Exam fees with fine	II	50
21	THU		III	51
22	FRI		IV	52
23	SAT	College Day	V	53
24	SUN			
25	MON		VI	54
26	TUE		I	55
27	WED		II	56
28	THU		III	57
29	FRI		IV	58
30	SAT		V	59

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Calendar 2021 - 22

MAY 2022

DATE	DAY		DAY ORDER	WORKING DAYS
1	SUN	May Day		
2	MON		VI	60
3	TUE	Ramzan		
4	WED		I	61
5	THU		II	62
6	FRI		III	63
7	SAT	Graduation Day	IV	64
8	SUN			
9	MON		V	65
10	TUE		VI	66
11	WED		I	67
12	THU	Thirukalyanam		
13	FRI		II	68
14	SAT		III	69
15	SUN			
16	MON	Ethirsevai		
17	TUE	II Internal Test Period (17 – 25)	IV	70
18	WED		V	71
19	THU		VI	72
20	FRI		I	73
21	SAT		II	74
22	SUN			
23	MON		III	75
24	TUE		IV	76
25	WED		V	77
26	THU		VI	78
27	FRI		I	79
28	SAT			
29	SUN			
30	MON		II	80
31	TUE		III	81

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

Calendar 2021 - 22

**JUNE 2022**					
DATE	DAY			DAY ORDER	WORKING DAYS
1	WED	III Internal Test Period (if needed) 1 – 4		IV	82
2	THU			V	83
3	FRI			VI	84
4	SAT			I	85
5	SUN				
6	MON			II	86
7	TUE	Candle Lighting Satellite Campus		III	87
8	WED	Candle Lighting PG		IV	88
9	THU	Candle Lighting UG SF		V	89
10	FRI	Candle Lighting UG Aided Even Semester Ends		VI	90
11	SAT				
12	SUN				
13	MON				
14	TUE	End of Semester Examination begins			E1
15	WED				E2
16	THU				E3
17	FRI				E4
18	SAT				E5
19	SUN				
20	MON				E6
21	TUE				E7
22	WED				E8
23	THU				E9
24	FRI				E10
25	SAT				E11
26	SUN				
27	MON				E12
28	TUE				E13
29	WED				E14
30	THU				E15

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

Calendar 2021 - 22

Academic Time table

THE AMERICAN COLLEGE, MADURAI-2.
DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
TIME TABLE APRIL 2022

Day ORDER	YEAR	08.00 – 08.55	09.00 – 09.55		10.15 – 11.10	11.15 – 12.10	12.15 – 1.10
D1	I MCA	MCA 4664 LAB 1 JFR	MCA 4664 LAB 2 JFR		MCA 4656 NTR 1	MCA 4660 RJ 1	MCA 4458 JJK1
	II MCA	MCA 5462 LAB1 TS	MCA 5462 LAB 2 TS		MCA 5460 JJK1	MCA 5558 NG 1	MCA 5964 CJ 1
D2	I MCA	MCA 4660 LAB 1 RJ	MCA 4660 LAB 2 RJ		MCA 4656 NTR 1	MCA 4664 JFR 1	MCA 4458 JJK2
	II MCA	MCA 0440 LAB 1 JC	MCA 0440 LAB 2 JC		MCA 5558 NG 2	MCA 5460 JJK2	MCA 5964 TS1
D3	I MCA	MCA 4466 LAB 1 NG	MCA 4466 LAB 2 NG		MCA 4656 NTR 3	MCA 4664 JFR 2	MCA 4660 RJ 2
	IIMCA	MCA 5460 JJK 3	MCA 0440 JC 1		MCA 5456 TS 1	MCA 5964 NTR1	MCA 5964 NTR2
D4	I MCA	MCA 4458 JJK3	MCA 4462 JC 1		MCA 4656 NTR 4	MCA 4664 JFR 3	MCA 4660 RJ 3
	II MCA	MCA 5462 LAB 3 TS	MCA 5462 LAB 4 TS		MCA 5558 NG 4	MCA 0440 JC 2	MCA 5964 TS2
D5	I MCA	MCA 4462 LAB 1 JC	MCA 4462 LAB 2 JC		MCA 4656 NTR 5	MCA 4458 JJK4	MCA 4660 RJ 4
	IIMCA	MCA 5456 TS 2	MCA 5558 NG 3		MCA 5558 NG 5	MCA 5964 JFR 1	MCA 5964 JFR2
D6	I MCA	MCA 4466 LAB 3 NG	MCA 4466 LAB 4 NG		MCA 4656 NTR 6	MCA 4664 JFR 4	MCA 4462 JC 2
	II IMCA	MCA 5456 TS 3	MCA 5456 TS 4		MCA 5460 JJK 4	MCA 5964 RJ1	MCA 5964 RJ2

JFR – Dr.J.Frank Ruben Jebaraj
NTR – Er.N.Thirupathirajan
RJ - Mrs.A.Ann Ramola Jeyanthi
JJK – Prof. J.John Jeya Kamaraj
TS – Mrs.T.Suganya
CJ – Mrs.J.Christy Jeeva Ratna Devi
NG – Mrs.N.Gayathri

THE AMERICAN COLLEGE

DEPARTMENT OF MCA

WORKLOAD FOR THE SEMESTER APRIL 2022

ER.N.THIRUPATHIRAJAN

SNO	COURSE CODE	COURSE TITLE	HOURS
1	MCA 4656	Mathematical Foundation for Computer Application -II	6
2	MCA 5964	Project	2
		TOTAL	8

DR.J.FRANK RUBEN JEBARAJ

SNO	COURSE CODE	COURSE TITLE	HOURS
1	MCA 4664	OOAD & UML (TL)	6
3	MCA 5964	Project	2
		TOTAL	8

Mrs.A.Ann Ramola Jeyathi

SNO	COURSE CODE	COURSE TITLE	HOURS
1	MCA 4660	Advanced DBMS (TL)	4 + 2
2	MCA 5964	Project	2
		TOTAL	8

REV.J.JOHN JEYA KAMARAJ

SNO	COURSE CODE	COURSE TITLE	HOURS
1	MCA 4458	Design and Analysis of Algorithm using C++	4
2	MCA 5460	Soft Computing	4
		TOTAL	8

MRS. T.SUGANYA

SNO	COURSE CODE	COURSE TITLE	HOURS
1	MCA 5456	Dot Net Programming	4
2	MCA 5462	LAB 4 – Dot net Programming	4
3	MCA 5964	Project	2
		TOTAL	10

MRS. J.CHRISTY JEEVA RATNA DEVI

SNO	COURSE CODE	COURSE TITLE	HOURS
1	MCA 4462	Embedded System (TL)	2+2
2	MCA 0440	Android Programming (TL)	2+2
3	MCA 5964	Project	1
		TOTAL	9

MRS. N.GAYATHRI

SNO	COURSE CODE	COURSE TITLE	HOURS
1	MCA 4466	LAB 2 –Computer Algorithms using C++	4
2	MCA 5558	Data Mining and Warehousing	5
		TOTAL	9

Memorandum of Understanding

Memorandum of Understanding (MoU)for Industry- Institution collaboration

between

The American College(Autonomous),

Affiliated to Madurai Kamaraj University,

Madurai – 625 002

And

Sysfore Technologies Pvt. Ltd.,

Bengaluru–560 034

This Memorandum of Understanding has been agreed to between The American College (Autonomous), Tallakulam, Madurai – 625 002,hereinafter called First Party and Sysfore Technologies Pvt. Ltd, #117-120, 80 feet road, 4ᵗʰ Block, Koramangala, Bengaluru – 560 034,herein after called Second Party for Academic Co-operation, Research and Placementherein after called Second Party for Academic Co-operation, Research and Placement.

The American College and, recognize the strength in education, practical training and research in accordance with their individual mission and objective to foster and identify their areas of mutual interest for college and corporate institute tie-up.

Now therefore Memorandum of Understanding by The American College witnesseth as under:

- Faculty uplift programme in the following realms:
    - Technology updation (once in a quarter)
    - hands on experience on the new trends and how IT industry operates (once in a year)
    - To invite the experts to act as members of Board of Studies in Information Technology.
- b) Enrich students knowledge and soft skill support through the following modus operandi:
    - Regular connects to run soft skill programs with the Rhein Brucke support.
    - The American College to set up the state-of-the art Lab to enable students to acquire technical skills so as to have an easy jump start in the IT world.

- To jointly organize seminars, conferences, or workshops on topics of mutual interest for students so as to invite each other's faculty to participate therein.
- To provide hands-on experience and internship training in IT industry for the students of The American College.
- To provide placement opportunity for the students of The American College.
- To provide project placement for the students of The American College

Duration of the Agreement

This agreement will take effect from the date it is signed by representatives of the two institutions. It will remain valid for a years, and may be continued thereafter after suitable review and agreement.

Arbitration and Termination

In the event of any dispute, difference or disagreement arising out of or in connection with this agreement, the matter will be referred in the first instance and Principal & Secretary of The American College. They will endeavour to resolve the matter in a spirit of interdependence, mutual respect, and shared responsibility.

Either party may terminate the agreement by giving written notice of not less than 180 days notice to expire on the proposed termination date. Agreements for termination must include provision by and The American College for continuing students to complete their studies and the period of notice should take account of any re-assessment requirements that may be outstanding.

Intellectual Property

The American College andagree to respect each other's rights to Intellectual Property. Further, the intellectual property rights that arise as a result of young collaborative research or activity under this agreement will be worked out on a case-by-case basis, and will be consistent with officially laid down IPR policies of the two institutions.

Publicity Materials

The American College will not include the name, visual identity, crest or logo of the other institution in any advertising or publicity material without that institution's prior approval on a case-by-case basis. The format and style of any visual identity and logo, and advertising and publicity material relating to the Agreement and any guidelines for their use, and responsibility

for funding such material must be agreed jointly by and Principal & Secretary, The American College prior to the appearance in the media.

The legal dispute of this Memorandum of Understanding will be at the jurisdiction of Tamilnadu. Signed at Madurai on the 21st October 2015.

Agreed on behalf of
The American College

Dr. M. Davamani Christober
Principal & Secretary
The American College
Madurai-625 002

Authorised Signatory

Date:

Witnesses:

1.

BURSAR
THE AMERICAN COLLEGE
MADURAI

2.

Er. N. THIRUPATHIRAJAN,
M Sc.,M.Phil.,POD 3A.,M.Tech.,
Director - Incharge
Dept. of MCA
The American College, Madurai 1

Agreed on behalf of
Sysfore Technologies Pvt. Ltd.

Authorised Signatory

Date: 20.2.2016

Witnesses:

1.

2.

भारतीय गैर न्यायिक

बीस रुपये

रु.20

Rs.20

TWENTY RUPEES

INDIA

INDIA NON JUDICIAL

தமிழ்நாடு तमिलनाडु TAMIL NADU

21·10·19 Dorothy Sheela
Madurai

M. ராஜேமோகன்
பதிவுசெய்யப்பட்ட விற்பனையாளர்
144, நேதாஜிரோடு சென்ற
மதுரை-20
RC. 6246 / C2 / 93

72AB 271584

Memorandum of Understanding (MoU) for Research and Academic Co-operation

between

The American College (Autonomous),

Affiliated to Madurai Kamaraj University,

Madurai – 625 002

and

M/S RheinBrucke IT Consulting

Chennai – 600 032

This Memorandum of Understanding has been agreed to between The American College (Autonomous), Tallakulam, Madurai – 625 002, hereinafter called First Party and RheinBrucke IT Consulting, Chennai – 600 032 herein after called Second Party for Academic Co-operation, Research and Placement.

The American College and RheinBrucke IT Consulting, Chennai – 600 032 recognize the strength in education, practical training and research in accordance with their individual mission and objective to foster and identify their areas of mutual interest for college and Corporate Institute tie-up.

Now therefore Memorandum of Understanding by The American College and RheinBrucke IT Consulting, Chennai witness as under:

a) To exchange information on local demand and Commercial opportunity and educational programmes.

b) To exchange information on teaching and learning materials relevant to their education and research programmes.

c) To jointly organize short-term training programmes on topics of mutual interest and to invite each other's faculty/ staff to participate therein.

d) To jointly organize seminars, conferences, or workshops on topics of mutual interest and to invite each other's faculty to participate therein.

e) To provide hands-on experience and internship training in Data Science for the students of The American College.

f) It would be agreed that selected students of the first party to do their internship in RheinBrucke IT Consulting, Chennai, second party venue and Selected students can work as a Data Analyst, Business Analyst, Digital Marketing Analyst, Data Survey Analyst and Project Analyst for RheinBrucke IT Consulting, Chennai and at the end of the internship, the student should submit the projects in the format of CD or Hard disc. The resources and the equipment of the first party shall be used for this purpose and the certificates of acknowledgement can be issued to the concerned students.

g) To provide placement opportunity for the students of The American College.

h) To invite the experts from RheinBrucke IT Consulting, Chennai for delivering guest lectures and act as members of Board of Studies in Data Science.

Every year the partners will evaluate the number and extent of activities and, where it is considered necessary, agree on any adjustment that should be made in the subsequent year to redress any imbalance.

Student Exchanges

The American College and RheinBrucke IT Consulting, Chennai agree that student's exchanges shall be confided to Diploma, undergraduate, post-graduate and research student exchanges between both the institutions for doing their internship, course-work and other research work as well as training.

Joint Conferences, Workshops, and short-term Courses

The American College and RheinBrucke IT Consulting, Chennai agree to identify and invite faculty members from other institutions to participate in conferences, workshops and short-term courses. The terms and conditions for such participation will be worked out by mutual agreement between the invited faculty member(s) and the institutions extending such an invitation. When a faculty member visits the other institution on invitation or as part of such joint activity, then such a visit will be classified as such, and handled as per the rules of the respective institution.

Duration of the Agreement

This agreement will take effect from the date it is signed by representatives of the two institutions. It will remain valid for five years, and may be continued thereafter after suitable review and agreement.

Arbitration and Termination

In the event of any dispute, difference or disagreement arising out of or in connection with this agreement, the matter will be referred in the first instance to RheinBrucke IT Consulting, Chennai and Principal & Secretary of The American College. They will endeavour to resolve the matter in a spirit of interdependence, mutual respect, and shared responsibility.

Either party may terminate the agreement by giving written notice of not less than 180 days notice to expire on the proposed termination date. Agreements for termination must include provision by RheinBrucke IT Consulting, Chennai and The American College for continuing students to complete their studies and the period of notice should take account of any re-assessment requirements that may be outstanding.

Intellectual Property

The American College and RheinBrucke IT Consulting, Chennai agree to respect each other's rights to Intellectual Property. Further, the intellectual property rights that arise as a result of young collaborative research or activity under this agreement will be worked out on a case-by-case basis, and will be consistent with officially laid down IPR policies of the two institutions.

Publicity Materials

RheinBrucke IT Consulting, Chennai and The American College will not include the name, visual identity, crest or logo of the other institution in any advertising or publicity material without that institution's prior approval on a case-by-case basis. The format and style of any visual identity and logo, and advertising and publicity material relating to the Agreement and any guidelines for their use, and responsibility for funding such material must be agreed jointly by RheinBrucke IT Consulting, Chennai and Principal & Secretary, The American College prior to the appearance in the media.

The legal dispute of this Memorandum of Understanding will be at the jurisdiction of Tamilnadu.

Signed at _Madurai_ on the _3rd_ day of _July_ in the year _2020_ .

Agreed on behalf of The American College, Madurai

Authorised Signatory
Seal: **Dr. M. DAVAMANICHRISTOBER**
Principal & Secretary
The American College
Madurai-625 002
Date: 3rd July 2020

Witnesses:
1. C.D. Ruly.
   BURSAR
   THE AMERICAN COLLEGE
   MADURAI
2. N. Aha~
[Dr. N. Rama shabram Nanwaan]
The American College

Agreed on behalf of RheinBrucke IT Consulting, Chennai – 600 032

Authorised Signatory
Seal:

Date:

Witnesses:
1.

2.

Memorandum of Understanding

Between

Ureka Education Group
Oxford Science Park, Oxford, OX4 4GP United Kingdom

and

The American College
Alagar Kovil Road, Goripalayam, Madurai-625002
Tamil Nadu, India.

This Memorandum of Understanding (MOU) sets for the terms and understanding between the Ureka Education Group (hereby referred as "Ureka") that comprises of Ureka Education Ltd, London and its associate companies in UAE, France and India and The American College, Madurai, Tamil Nadu, India.

Purpose

This MOU aims to develop strategic association and explore long term collaboration opportunities between both parties to

- support development of employability enhancing skills and traits that lead to overall success of students, teachers and their institution.

- promote a global mindset through hands-on experiences and exposure to best practices from the best institutions in the world.

- create international engagement and development opportunities for students and faculty through programmes, lectures, seminars, conferences, visits, events, study trips, internships and initiatives like Data Science, Analytics & Cybersecurity club or the Global Business Leaders club for students etc

The above goals will be accomplished by undertaking the following activities. Any financial consideration or expenses relating to any of the activities will be agreed separately agreed between both parties through a written notification.

What can Ureka Education UK provide

- International Programmes for students that include those cited below and others:
    - Setting up a **Data Science, Analytics & Cybersecurity Club** and / or the **Global Business Leaders Club** for students, a free of charge initiative of Ureka Foundation
    - **IBM, Pearson or University of Oxford Certified Online Training + Virtual Internship** in Data Science and Analytics
    - **Global Work Experience Programme** with optional **Certificate from University of Oxford** – work on two live international projects in team with students from different countries and travel to UK / France / UAE / Austria for project completion after Covid related travel restrictions are eased.
    - **International Management Professional Programme** - A job-skills programme with Experience Certificate from Ureka UK to prepare those with no or little prior work experience for top MNC jobs post Covid-19.
    - **University of Oxford Certified Online Training + Virtual Internship** in areas of Marketing, Finance, HR, Product Management, Sports Management and Entrepreneurship
    - **Global Immersion Programmes** – academically rigorous, certified international study trips to California, London, Oxford, Lyon, Dubai, Singapore and Kuala Lumpur

- International Programmes for faculty that include those cited below and others:
    - **Harvard Certified** – Future of Learning programme
    - **University of Pennsylvania Certified** – Teaching Online Classes programme

- Arrange international faculty, experts, students **visit to campus**
- **Co-organise international conferences**, seminars, events etc
- Provide analytics driven **Career Guidance** by **University of California** certified professional
- Anything else not mentioned here but agreed between both parties through a written notification from either party

What can The American College provide

- Co-brand and Promote Ureka Education UK's **services amongst its students** using online and offline media on a regular basis.
- Help establish and promote the **Data Science, Analytics & Cybersecurity Club** and/or the **Global Business Leaders Club**.
- **Co-organise and host international events, conferences, seminars** that may include visits by international executive speakers, experts, faculty and students invited by Ureka to your city.
- Co-organise with Ureka, international and national conferences, seminars, events etc by means of **nominating experts / faculty from the institution as speakers, panelists** etc
- Jointly with Ureka, **apply for research grants** like Innovate UK, UKIERI, La French Tech etc
- Anything else not mentioned here but agreed between both parties through a written notification from either party

What does this MOU not provide unless agreed between both parties through a written notification from either party

- Any form of financial commitment in the form of payments, discounts, vouchers etc
- Assignment of any IPRs, patents, etc

All financial arrangements to be agreed separately agreed between both parties through a written notification.

Lapse of MOU

- This MOU will lapse if there is no activity or engagement between both the parties for a continuous period of 12 months from the start of the agreement date and each anniversary thereon.

Duration

3 years from the date of signing. This MOU is at-will and may be modified by both parties through a written notification from authorised officials from each party. This MOU shall become effective upon signature by the authorised officials and will remain in effect until modified or terminated by any one of the parties through a written notification or the end of term of the MOU is reached.

Authorised Signatories

Ureka Education Group

1. Ms Aamna Sultan, Chief Learning Officer
   Email: as@ureka.co.uk
   Telephone: +971 4 501 3917

2. Dr. M. Davamani Christober,
   Principal & Secretary,
   The American College, Alagar Kovil Road,
   Goripalayam, Madurai-625002.
   Tamil Nadu, India.
   Email: principal@americancollege.edu.in
   Mobile: +91 9894114455
   Telephone: +91 452-2530070

Through these contact persons, either party may initiate proposals for activities under this agreement. Specific details will be set forth in a letter of agreement which will form part of this general arrangement following signature by the appropriate authorities of both parties.

A letter of agreement will include such items as:
1. Elaboration of the responsibilities of each institution for the agreed upon activity. Scheduled for specific activity
2. Financial arrangement agreed between both parties for each activity
3. Any other terms deemed necessary for the efficient management of the activity.

Signatures of concerning officials

_____ Date:
Name: Aamna Sultan
Organization: Ureka Education Group
Designation: Chief Learning Officer

_____ Date: 10 November 2020
Name: Dr. M. Davamani Christober
Organization: The American College
Designation: Principal & Secretary

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College
Madurai-625 002

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Rs.20

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INDIA

INDIA NON JUDICIAL

தமிழ்நாடு तमिलनाडु TAMIL NADU

11.6.2020

81AB 417925

Memorandum of Understanding (MoU) for Research and Academic Co-operation

between

The American College (Autonomous),

Affiliated to Madurai Kamaraj University,

Madurai – 625 002

and

Winways Systems Private Limited

No-34c, Hakim Ajmal Khan Rd, Chinna Chokikulam, Madurai - 625002

This Memorandum of Understanding has been agreed to between The American College (Autonomous), Tallakulam, Madurai – 625 002, hereinafter called First Party and V.A.Palani Kumar, Winways Systems Private Limited, No-34c, Hakim Ajmal Khan Rd, Chinna Chokikulam, Madurai - 625002 herein after called Second Party for Academic Co-operation, Research and Placement.

The American College and Winways Systems Private Limited, No-34c, Hakim Ajmal Khan Rd, Chinna Chokikulam, Madurai - 625002 recognize the strength in education, practical training and research in accordance with their individual mission and objective to foster and identify their areas of mutual interest for college and Corporate Institute tie-up.

Now therefore Memorandum of Understanding by The American College and Winways Systems Private Limited, No-34c, Hakim Ajmal Khan Rd, Chinna Chokikulam, Madurai witness as under:

a) To exchange information on local demand and Commercial opportunity and educational programmes.

b) To exchange information on teaching and learning materials relevant to their education and research programmes.

c) To jointly organize short-term training programmes on topics of mutual interest and to invite each other's faculty/ staff to participate therein.

d) To jointly organize seminars, conferences, or workshops on topics of mutual interest and to invite each other's faculty to participate therein.

e) To provide hands-on experience and internship training in Data Science for the students of The American College.

f) It would be agreed that selected students of the first party to do their internship in Winways Systems Private Limited, Madurai, second party venue and Selected students can work as a Data Analyst, Business Analyst, Digital Marketing Analyst, Data Survey Analyst and Project Analyst for Winways Systems Private Limited, Madurai and at the end of the internship, the student should submit the projects in the format of CD or Hard disc. The resources and the equipment of the first party shall be used for this purpose and the certificates of acknowledgement can be issued to the concerned students.

g) To provide placement opportunity for the students of The American College.

h) To invite the experts from Winways Systems Private Limited, Madurai for delivering guest lectures and act as members of Board of Studies in Data Science.

Every year the partners will evaluate the number and extent of activities and, where it is considered necessary, agree on any adjustment that should be made in the subsequent year to redress any imbalance.

Student Exchanges

The American College and Winways Systems Private Limited, Madurai agree that student's exchanges shall be confided to Diploma, undergraduate, post-graduate and research student exchanges between both the institutions for doing their internship, course-work and other research work as well as training.

Joint Conferences, Workshops, and short-term Courses

The American College and Winways Systems Private Limited, Madurai agree to identify and invite faculty members from other institutions to participate in conferences, workshops and short-term courses. The terms and conditions for such participation will be worked out by mutual agreement between the invited faculty member(s) and the institutions extending such an invitation. When a faculty member visits the other institution on invitation or as part of such joint activity, then such a visit will be classified as such, and handled as per the rules of the respective institution.

Duration of the Agreement

This agreement will take effect from the date it is signed by representatives of the two institutions. It will remain valid for five years, and may be continued thereafter after suitable review and agreement.

Arbitration and Termination

In the event of any dispute, difference or disagreement arising out of or in connection with this agreement, the matter will be referred in the first instance to Winways Systems Private Limited, Madurai and Principal & Secretary of The American College. They will endeavour to resolve the matter in a spirit of interdependence, mutual respect, and shared responsibility.

Either party may terminate the agreement by giving written notice of not less than 180 days notice to expire on the proposed termination date. Agreements for termination must include provision by Winways Systems Private Limited, Madurai and The American College for continuing students to complete their studies and the period of notice should take account of any re-assessment requirements that may be outstanding.

Intellectual Property

The American College and Winways Systems Private Limited, Madurai agree to respect each other's rights to Intellectual Property. Further, the intellectual property rights that arise as a result of young collaborative research or activity under this agreement will be worked out on a case-by-case basis, and will be consistent with officially laid down IPR policies of the two institutions.

Publicity Materials

Winways Systems Private Limited, No-34c, Hakim Ajmal Khan Rd, Chinna Chokkikulam, Madurai and The American College will not include the name, visual identity, crest or logo of the other institution in any advertising or publicity material without that institution's prior approval on a case-by-case basis. The format and style of any visual identity and logo, and advertising and publicity material relating to the Agreement and any guidelines for their use, and responsibility for funding such material must be agreed jointly by Winways Systems Private Limited, Madurai and Principal & Secretary, The American College prior to the appearance in the media.

The legal dispute of this Memorandum of Understanding will be at the jurisdiction of Tamilnadu.

Signed at _Madurai_ on the _11_ day of _Feb_ in the year _2020_ .

Agreed on behalf of The American College, Madurai	Agreed on behalf of Winways Systems Private Limited, Madurai
(signature)	*(signature)*
Authorised Signatory	Authorised Signatory
Seal: Dr. M. DAVAMANI CHRISTOBER	Seal: Winways Systems Private Limited
Principal & Secretary	No. 34C, Hakim Ajmal Khan Road,
The American College	Chinna Chokkikulam,
Date: Madurai-625 002	Date: Madurai-625 002.

Witnesses:

1. C.A. *(signature)*
   EUROAR
   THE AMERICAN COLLEGE,
   MADURAI-625 002.

2. N. *(signature)*
   [Br.N. Rarira Shabnam Pasveen]
   Assistant Professor,
   The American College

Witnesses:

1. *(signature)*
   TS. JAYAKUMAR
   HEAD - SOFTWARE DEVELOPMENT
   WINWAYS SYSTEMS PVT LTD
   MADURAI - 625002

2. J. B. Suj. Natjmi
   Head, Direct Sales
   Winways Systems Pvt Ltd
   Madu.. - 625 002.

தமிழ்நாடு तमिलनाडु TAMIL NADU   பா. திருப்பதி   81AB 108318

.- 4 JUN 2020

Dorothy Phule Dular
The American College
Madurai

Memorandum of Understanding (MoU) for Research and Academic Co-operation

between

The American College (Autonomous),

Affiliated to Madurai Kamaraj University,

Madurai – 625 002

and

Premier Systems & Peripherals

153 L. North Veli Street, Simmakal, Madurai- 625 001

This Memorandum of Understanding has been agreed to between The American College (Autonomous), Tallakulam, Madurai – 625 002, hereinafter called First Party and K.Senthilnathan , Premier Systems & Peripherals, 153 L, North Veli Street, Simmakal, Madurai-625 001 herein after called Second Party for Academic Co-operation, Research and Placement.

The American College and Premier Systems & Peripherals, 153 L, North Veli Street, Simmakal, Madurai- 625 001 recognize the strength in education, practical training and research in accordance with their individual mission and objective to foster and identify their areas of mutual interest for college and Corporate Institute tie-up.

Now therefore Memorandum of Understanding by The American College and Premier Systems & Peripherals, 153 L, North Veli Street, Simmakal, Madurai witness as under:

a) To exchange information on local demand and Commercial opportunity and educational programmes.

b) To exchange information on teaching and learning materials relevant to their education and research programmes.

c) To jointly organize short-term training programmes on topics of mutual interest and to invite each other's faculty/ staff to participate therein.

d) To jointly organize seminars, conferences, or workshops on topics of mutual interest and to invite each other's faculty to participate therein.

e) To provide hands-on experience and internship training in Data Science for the students of The American College.

f) It would be agreed that selected students of the first party to do their internship in Premier Systems & Peripherals, second party venue and Selected students can work as a Data Analyst, Business Analyst, Digital Marketing Analyst, Data Survey Analyst and Project Analyst for Premier Systems & Peripherals and at the end of the internship, the student should submit the projects in the format of CD or Hard disc. The resources and the equipment of the first party shall be used for this purpose and the certificates of acknowledgement can be issued to the concerned students.

g) To provide placement opportunity for the students of The American College.

h) To invite the experts from Premier Systems & Peripherals, Madurai for delivering guest lectures and act as members of Board of Studies in Data Science.

Every year the partners will evaluate the number and extent of activities and, where it is considered necessary, agree on any adjustment that should be made in the subsequent year to redress any imbalance.

Student Exchanges

The American College and Premier Systems & Peripherals, Madurai agree that student's exchanges shall be confided to Diploma, undergraduate, post-graduate and research student exchanges between both the institutions for doing their internship, course-work and other research work as well as training.

Joint Conferences, Workshops, and short-term Courses

The American College and Premier Systems & Peripherals, Madurai agree to identify and invite faculty members from other institutions to participate in conferences, workshops and short-term courses. The terms and conditions for such participation will be worked out by mutual agreement between the invited faculty member(s) and the institutions extending such an invitation. When a faculty member visits the other institution on invitation or as part of such joint activity, then such a visit will be classified as such, and handled as per the rules of the respective institution.

Duration of the Agreement

This agreement will take effect from the date it is signed by representatives of the two institutions. It will remain valid for five years, and may be continued thereafter after suitable review and agreement.

Arbitration and Termination

In the event of any dispute, difference or disagreement arising out of or in connection with this agreement, the matter will be referred in the first instance to Premier Systems & Peripherals, Madurai and Principal & Secretary of The American College. They will endeavour to resolve the matter in a spirit of interdependence, mutual respect, and shared responsibility.

Either party may terminate the agreement by giving written notice of not less than 180 days notice to expire on the proposed termination date. Agreements for termination must include provision by Premier Systems & Peripherals, Madurai and The American College for continuing students to complete their studies and the period of notice should take account of any re-assessment requirements that may be outstanding.

Intellectual Property

The American College and Premier Systems & Peripherals, Madurai agree to respect each other's rights to Intellectual Property. Further, the intellectual property rights that arise as a result of young collaborative research or activity under this agreement will be worked out on a case-by-case basis, and will be consistent with officially laid down IPR policies of the two institutions.

Publicity Materials

Premier Systems & Peripherals, 153 1, North Veli Street, Simmakal, Madurai and The American College will not include the name, visual identity, crest or logo of the other institution in any advertising or publicity material without that institution's prior approval on a case-by-case basis. The format and style of any visual identity and logo, and advertising and publicity material relating to the Agreement and any guidelines for their use, and responsibility for funding such material must be agreed jointly by Premier Systems & Peripherals and Principal & Secretary, The American College prior to the appearance in the media.

The legal dispute of this Memorandum of Understanding will be at the jurisdiction of Tamilnadu.

Signed at _Madurai_ on the _17th_ day of _June_ in the year _2020_ .

Agreed on behalf of The American College, Madurai

Agreed on behalf of Premier Systems & Peripherals, Madurai

Dr. M. DAVAMANI CHRISTOBER
Principal & Secretary
The American College

Authorised Signatory

Seal:

Date: 17 June 2020

Authorised Signatory

Seal:

Date:

Witnesses:

1. C.D. Vel.

BURSAR
THE AMERICAN COLLEGE
MADURAI-625 002.

2. N. Shab

[Dr. N. Ravia Shabnam Parveen]
Assistant Professor,
The American College

Witnesses:

1.

Sales-manager
Premier systems & perph

2. Satt

Support Engineer
Premier Systems &
peripheral

INCOME AND EXPENDITURE

Year Ended March 31, 2018	EXPENDITURE	Year Ended March 31, 2019	Year Ended March 31,	INCOME	Year Ended March 31,
	TO			**BY**	
	EDUCATIONAL Expenses			**COURSE FEE RECEIVED**	
805,000	Affilliation Fee - Mku	300,000.00	14,748,141	Course Fees By challan	20,167,814.00
12,000	B.Sc., (Maths)	-	1,350,850	Sale of Application	1,758,200.00
-	Conference Exps.,	80,200.00			
-	Fees Refund	11,000.00		**OTHER INCOME**	
5,000	Maths Dept.,	-	34,636	Bank interest	154,128.00
36,000	MBA Expenses	-	21,320	Interest on FD	149,794.20
102,735	Physical Education -Expenses	149,900.00		Tennis ground Fee	56,000.00
5,000	Physics Dept.,	-		Conference-Emerging trends in	
			1,700,000	Multydisciplinery research	-
90,570	Printing & Stationery	58,105.00			
-	R.O.PlantExpenses	3,750.00			
7,500	Salary	10,594,328.00			
431,444	Vechicle Maintenance	69,620.00			
-	Audit Fees	150,000.00			
1,716	Bank Charges	3,300.49			
-	Books & Journals	9,000.00			
-	Cleaning Materials	11,565.00			
76,400	Computer Accesseries-Expenses	25,000.00			
15,117	DTH Maintenance	7,000.00			
200	Driver Batta	2,596.00			
-	Entrance Fee & Recognition Fee -2018-19	700,425.00			
-	Furniture Maintenance- General	8,858.00			
-	Gifts	123,621.00			
37,990	Insurance - TN59 BD 1881	36,241.00			
150,000	LegalExpenses	75,000.00			
59,000	Membership Subscription	29,500.00			
55,000	Misc.Expenses	35,388.00			
-	MomentoExpenses	15,678.00			
-	Postage Exps.,	10,000.00			
292,845	Refreshment Expenses	311,290.00			
-	Remuneration	2,000.00			
333,937	Repairs&Maintenance	-			
1,849,800	Retrent Expenses	6,560.00			
409,730	Retrent Expenses., Non-Teaching	-			
-	Transport Charges	220.00			
4,776,984	**Carried Over**	**12,830,145.49**	**17,854,947**	**Carried Over**	**22,285,936.20**

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st MARCH 2019

Year Ended March 31, 2018	EXPENDITURE	Year Ended March 31, 2019	Year Ended March 31,	INCOME	Year Ended March 31, 2019
4,776,984	Brought Forward	12,830,145.49	17,854,947	Brought Forward	22,285,936.20
198,242	Telephone Expenses	303,187.00			
159,329	Travelling Expenses	254,150.00			
-	University Expenses-MKU	200,000.00			
760,802	Advertisment Expenses	1,150,783.00			
301,979	Building Maintenance	2,217,243.00			
129,051	Electrical materials	-			
60,000	Fountain & Planting Exp	-			
35,000	Meeting Expenses	28,500.00			
43,850	Electrical Equipment Maintenance	-			
146,660	Garden Maintenance	-			
27,080	Souvenir Expenses	-			
101,200	Inspection Expenses - New Courses	15,000.00			
6,718	Xerox Expenses - Audit Report	-			
450	Short Credit in Bank Entry	-			
3,000	Food Science	-			
	Conference-Emerging trends in	-			
1,660,000	Multydisplinery research				
-	International Conference Exps.,	479,045.00			
1,814,141	To depreciation	1,615,926.66			
7,630,461	To Excess of Income over Expenditure	3,191,956.05			
17,854,947	TOTAL	22,285,936.20	17,854,947	TOTAL	22,285,936.20

PLACE : MADURAI
DATE : 27.09.2019

As per our Report of Even Date
For MANOHAR CHOWDHRY & ASSOCIATES
CHARTERED ACCOUNTANTS
Firm Registration No.001997S

Dr. M. DAVAMANI CHRISTOBER
PRINCIPAL & SECRETARY
The American College
Madurai - 625 002

Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

Partner
I Daniel Selvaraj
M.No:200322

I. DANIEL SELVARAJ
Partner
Membership No.200322

Year ended March 31, 2018	EXPENDITURE				BY EDUCATIONAL INCOME			Year ended
.	TO DEPARTMENTWISE EXPENSES	-		46,091,063	Course Fee by Challan			
27,800	Visual Communication	.			Salary Recovered			38,918.00
	Conference-Emerging Trends in Multidisciplinary	-		-				738,987.30
625,416	Research	-		60,071	Bank Interest			671,898.80
18,600	B.Com. (S.F)	-		251,792	FD Interest			256,350.00
35,400	Commerce Dept.	-		20,000	Retreat Recovery	-		-
-	MSW Dept.,	-		100	Contribution for Global Service -Sales			22,000.00
17,100	MSW Dept.,	-		30,700	X-Mas Dinner Contribution			27,372.00
19,000	M.Phil Tamil	-		-	Misc income			115,997.00
169,950	Remuneration (Teaching & Non Teaching)	104,233.00		-	Salary Recovered- LLP			
35,810,301	Salary A/c	40,818,918.00						
-	AICTE Exps.,	75,023.60						
4,091	Bank Charges	2,972.68						
891,576	E.B.Exps.,	6,214,896.00						
656,370	ESI - Penalty	601,537.00						
-	PF - Penalty	1,012,308.00						
-	Misc.Exps.,	100,422.80						
188,220	P.F.Admn.Charges	-						
3,489,135	P.F.(Employer Contribution)	-						
1,173,709	Security Exps.,(Outsourced)	1,001,714.00						
97,440	Building Maintainance	85,321.00						
7,830	Medical Staff	-						
-	Repairs and Maintainance	24,300.00						
745,306	Cleaning Charges - Toilet(Outsourced)	924,682.00						
60,000	Students Internship training	-						
-	Retreat recovery	105,918.00						
191,000	Staff welfare expenses	195,000.00						
916	Salary Recovered - LLP	-						
-	Driver batta	2,850.00						
-	Travel expenses	93,965.00						
610,602	To Depreciation	1,583,271.00						
1,643,964	To Excess of Income Over Expenditure	10,765,990.08						
				46,483,726	TOTAL			63,713,322.16
46,483,726	TOTAL	63,713,322.16						

PLACE : MADURAI
DATE : 27.09.2019

Dr. M. DAVAMANI CHRISTOBER
PRINCIPAL & SECRETARY
The American College
Madurai - 625 002

Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

As per our Report of Even Date
For MANOHAR CHOWDHRY & ASSOCIATES
CHARTERED ACCOUNTANTS
Firm Registration No.001997S

Partner
Daniel Selvaraj
M.No:200322

I. DANIEL SELVARAJ
Partner
Membership No.200322

Income and Expenditure Account for the year ended...

Year ended March 31, 2018	EXPENDITURE	Year ended March 31, 2019	Year ended March 31, 2018	INCOME	Year ended March 31, 2019
	To Educational Expenses			**To Educational Income**	
5,388,182	Salary	5,982,448.25	278,250	Bus Fees	1,598,000.00
677,567	Course Fee Refund	190,758.00	19,624,688	Course fees collected by challans	13,953,018.00
47,692	Honorarium	344,250.00	226,860	Course fees	285,828.00
-	EPF Expenses	639.00	-	Application fees	292,000.00
-	Student Subscription Fee (AIACHE)	20,651.00	-	Staff Retreat Adv Deduction	3,441,806.00
-	Affliation Fee -University	39,500.00	-		
63,520	Festival Expenses	124,405.00	400	Exam Fine Amount	-
370,000	Advertisement Expenses	251,213.00	-		
510,631	EB Charges	688,515.00	-	Other Income	2,500.00
125,067	Traveling	41,290.00	-	Tancet Admission Fee CBE16-17	-
53,628	Orientation Exp	57,900.00	-	Scrap Sales	3,358.00
67,930	Printing & Stationary Exp	84,177.00	95,900	Sale of Application Forms	-
182,000	Prize & Gift Expenses	22,650.00	6,000	Hall Booking	5,000.00
229,100	Remuneration	198,356.00	-		
459,492	Security Service Charges	494,700.00	67,000	Tancet Admission Fees CBE 16-17	-
-	Faculty Enrichment Programme	9,810.00			
-	Acedemic Council Expense	1,000.00	38,603	Bank Interest	58,754.00
10,560	AICTE Expense	75,023.60	8,000	Bus Rental Income	12,150.00
-	Application Fee Refund	30,073.00	21,283	FD Interest - Indian Bank	482,713.00
3,911	Bank Charges	8,173.15	166,886	FD Interest	-
-	Bus Fees Refund	25,000.00	64,800	Conference Deduction	49,500.00
-	Fuel Expenses -Bus	123,201.00	420	Exam External	-
185,160	Insurance-Bus	182,588.00			
223,643	Telephone & Internet Exp	-			
-	Tamilnadu Labour & Transport	9,918.00			
1,950	Property Tax	44,700.00			
45,949	Repair & Maintenance	146,655.00			
5,040	Award Committee Expenses	-			
	Cable Trench & Transformer				
3,139,188	Connection and electrical materials	489,690.00			
4,020	Contingency expense	7,000.00			
4,000	Dept Contingency Expense	2,000.00			
8,000	Exam Contingency Expense	6,000.00			
191,401	Telephone Expense	385,206.00			
17,140	Batta - Driver	57,718.00			
270,000	Caution Deposit Refund - MBA	-			
7,950	Chair Maintenance	55,525.00			
35,724	Chalk & Notice Board	-			
6,000	Christmas Gift - Staff	21,000.00			
5,004	College Maintenance	41,880.00			
19,350	Computer Consumables	51,345.00			
22,460	Computer Maintenance	-			
400	Conveyance	648.00			
4,971	Exam Refreshment Expenses	12,178.00			
2,400	Field trip bus exp	-			
8,500	Field trip bus RTO exp	-			
1,200	Fish Aquarium	-			
1,190,000	Fuel Expenses - Petro Card	1,586,199.00			
23,000	Honey bee -Box Expense	-			
50,879	Bus F C Expenses	119,335.00			
9,000	Field Trip Expenses	10,500.00			
270,583	Hostel Repairs & Maintenance	-			
155,478	Hostel - Telfer Mook Name Board	-			
5,175	Innaugral - Main Gate	-			
40,200	Main - Safety Certificate	-			
8,532	Newspaper & Periodicals	8,114.00			
6,600	Printer Maintenance	45,252.00			
2,000	Printing & Xerox	13,263.00			
69,410	Property tax	70,860.00			
89,723	Repairs & Maintenance	163,210.00			
356,088	Repairs & Maintenance -Main Building	161,736.00			
111,982	Repairs & Maintenance -Main	29,400.00			
14,785,160	**CARRIED OVER**	12,525,663.00	20,598,890	**CARRIED OVER**	20,184,627.00

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2019

Year ended March 31, 2018	EXPENDITURE	Year ended March 31, 2019	Year ended March 31, 2018	INCOME	Year ended March 31, 2019
14,785,160	BROUGHT FORWARD	12,525,663.00	20,598,890	BROUGHT FORWARD	20,184,627.00
2,459	Staff Refreshment	3,560.00			
13,395	Stationary	-			
1,350	Student welfare	-			
26,613	Subscription - Books (MBA)	-			
139,923	Paper & Printing	-			
320,129	Hospital Expenses	230,801.00			
9,250	UPS Maintenance	-			
65,250	Water Charges	71,000.00			
7,500	Admission Work Expenses	12,500.00			
-	Computer & Accessories	31,189.00			
-	Furniture Maintenance	7,800.00			
166,652	Vehicle Maintenance	471,661.00			
-	College Name Board	2,500.00			
266,318	Building Maintenance	578,917.00			
-	Other Expenditure	6,635.00			
582,042	Buil Main- Ryerson Gate - Main Gate	-			
-	Borewell Maintenance	42,052.00			
24,473	Cleaning material expenses	24,248.00			
-	Miscellaneous exp	23,500.00			
-	Incidental Charges	57,000.00			
1,200	Forwarding Charge	-			
23,950	Garden Maintenance	7,861.00			
-	Insurance Maruthi Omni TN59AD 941	7,484.00			
-	LTCT Cable Laying Exp	247,000.00			
22,000	Remuneration - Extra work	8,000.00			
49,450	Electrical Maintenance	55,250.00			
200	Travell Allowance	4,500.00			
-	Play Ground Sports & Material	23,908.00			
-	Printing A/c	27,794.00			
-	Projector Service	9,440.00			
-	Society Registration-Renewal	21,300.00			
-	Sports Material Purchase	7,616.00			
-	Staff Welfare	1,000.00			
3,096,250	To Depreciation	3,880,564.17			
1,015,326	To Excess of Income over Expenditure	1,793,883.83			
20,598,890	Total	20,184,627.00	20,598,890	Total	20,184,627.00

PLACE : MADURAI
Date : 27.09.2019

As per our report of even date
for MANOHAR CHOWDHRY & ASSOCIATES
CHARTERED ACCOUNTANTS
Firm Registration No.001997S

Dr. M. DAVAMANI CHRISTOBER
PRINCIPAL & SECRETARY
The American College
Madurai - 625 002

Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

Partner
I Daniel Selvaraj
M.No. 200322

I.DANIEL SELVARAJ
PARTNER
Membership No.200322

Year ended March 31, 2018	EXPENDITURE	Year ended March 31, 2019	Year ended March 31, 2018	INCOME	Year ended March 31, 2019
	To Educational Expenses			**By Educational Income**	
3,203,703	Building Maintenance	6,852,661.00	12,715,956	Fees collection	16,130,197.00
2,070	Bio-Chemistry Dept	-			
2,161,500	Building construction	15,493,180.00		**By Other Income**	
129,000	Cash Award to sports students	-	22,555	Bank Interest	108,265.00
293,150	Printing and stationery	605,433.00	-	FD Interest	648,821.00
735,294	Electric materials	-	-	Faculty Devlepment Programme	4,847.00
50,640	Water Charges	52,260.00	2,920	Sale of old news paper	-
	To Indirect Expenses		-	" Excess of Expenditure over income	11,320,209.80
402,187	Advt., Exps.,	-			
5,019	Bank Charges	3,086.00			
202,522	Calender2017-2018	-			
20,500	College day exp	-			
235,690	college Magazine	-			
24,620	Door mat &roll mat	-			
61,975	E.B.Exps.,	66,954.00			
-	Electrical Cable work	152,000.00			
369,592	Electrical Materials	181,234.00			
1,500	Faculty development programme	-			
78,172	Furniture Maintenance	57,280.00			
37,896	Furniture Materials	14,954.00			
319,464	Garden Maintenance	599,681.00			
17,418	Souvenir	-			
106,733	ID Card Holder with Rope	361,670.00			
19,426	Printing and stationary	-			
1,441	Refreshment exp	3,086.80			
225,873	Repairs&Maintenance	56,604.00			
14,500	Telephone Exp	-			
-	Lab consumables Food Science	239,300.00			
-	Meeting Expenses	10,000.00			
-	Misc.Exps.,	19,300.00			
-	Tnnor Refiling charges	2,250.00			
-	Donation to MR. School	500,000.00			
1,100	Travel Exps.,	15,510.00			
	To Physical Education				
158,872	A Zone inter Zone Tournament	142,835.00			
126,470	Hockey Tournament Exp	143,077.00			
99,370	Inter Collegiate Tournament	55,457.00			
62,950	Outstation Tournaments(DA & TA)	41,700.00			
10,800	Food ball tournaments	-			
-	Hand ball tournaments	13,300.00			
107,808	Uniform Exp	-			
101,986	Volley ball Tournament	120,838.00			
28,200	Atheletic MKU interzone	117,100.00			
114,038	Sports Day exp	152,202.00			
422,708	Sports materials	392,943.00			
30,320	Printing & Stationery	-			
7,800	Printer & Service	-			
385,850	Repairs & Maintenance	17,750.00			
2,091,854	To depreciation	2,228,694.00			
271,420	" Excess of Income Over Expenditure	-			
12,741,431	**TOTAL**	**28,712,339.80**	**12,741,431**	**TOTAL**	**28,712,339.80**

PLACE : MADURAI
DATE : 27.09.2019

As per our report of even date
for MANOHAR CHOWDHRY & ASSOCIATES
CHARTERED ACCOUNTANTS
Firm Registration No.0019975

O.D. Sheely.

Dr. M. DAVAMANI CHRISTOBER
PRINCIPAL & SECRETARY
The American College
Madurai - 625 002

Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

Partner
I Daniel Selvaraj
M.No.200322

I.DANIEL SELVARAJ
Partner
Membership No.200322

Year ended March 31, 2018	RECEIPTS	Amount	Year ended March 31, 2019	Year ended March 31, 2018	PAYMENTS	Amount	Year ended March 31, 2019
	To Opening Balance				By Educational Expenses		
94,255	HDFC A/c No.50100113750713	45,964.92	78,496.03	3,203,703	Building Maintenance	6,852,661.00	
11,003	Indian Bank A/c No.6733921789	124,461.00		2,070	Bio-Chemistry Dept	-	
				2,161,500	Building construction	15,493,580.00	
	To Educational Income			129,000	Cash Award to sports students	-	
13,715,956	Fees collection	16,130,197.00	16,130,197.00	205,150	Printing and stationary	805,433.00	
				735,294	Electric materials	-	
	To Other Income	108,265.00		50,640	Water Charges	57,560.00	23,003,534.00
23,555	Bank Interest	648,821.00					
-	FD Interest	4,847.00			By Indirect Expenses		
-	Faculty Devlopment Programme	-	761,933.00	432,187	Advt., Expn.,	-	
2,920	Sale of old news paper	-		5,019	Bank Charges	3,086.00	
				202,322	Calender 2017-2018	-	
	To Interests transfers	-		20,500	College day exp	-	
400,000	Satellite	4,000,000.00		233,690	college Magazine	-	
2,901,497	SF Spl Fees XVII	4,100,000.00		24,620	Floor mat & roll mat	-66,954.00	
3,200,000	SF XVIII	2,100,000.00		61,975	E.B.Exps.,	581,234.00	
-	SF Exam Fees	200,000.00		369,572	Electrical Materials	152,000.00	
-	Shops & Office	200,000.00			Electrical Cable work	-	
-	Grand in aid	300,000.00		1,500	Faculty development programme	57,280.00	
1,200,000	SF VIII	6,600,000.00		78,172	Furniture Maintenance	14,954.00	
2,100,000	Hostel	1,300,000.00	19,000,000.00	37,895	Furniture Materials	529,681.00	
66,608	Management			319,464	Garden Maintenance	-	
				17,418	Souvenir	361,670.00	
				106,753	ID Card Holder with Rope	-	
	To Loans and Advances	14,472,280.00		19,428	Printing and stationary	3,086.80	
2,032,478	Loan & Advances	162,468.00		1,441	Refreshment exp	16,604.00	
51,218	TDS deducted	-		233,573	Repairs&Maintenance	-	
912,523	Bills Receivable			14,500	Telephone Exp	239,300.00	
644,094	Sundry Creditors	495,000.00	15,129,748.00	-	Lab consumables Food Science	10,000.00	
				-	Meeting Expenses	19,200.00	
	To Fixed deposit			-	Misc.Exps.,	2,250.00	
	Fd renewal		5,000,000.00	-	Toner Refiling charges	500,000.00	
				-	Donation to MR School	15,510.00	2,282,908.80
				1,100	Travel Exps.,		
					By Physical Education		
				158,872	A'Zone Inter Zone Tournament	142,835.00	
				128,470	Hockey Tournament Exp	143,077.00	
				99,370	Inter Collegian Tournament	55,457.00	
				62,950	Outstation Tournament(DA & TA.)	41,700.00	
				50,800	Food ball tournaments	-	
				-	Hand ball tournaments	13,200.00	
				107,808	Uniform Exp	120,838.00	
				101,986	Volley ball Tournament	117,100.00	
				28,200	Athletic MKU Inter zone	152,202.00	
				114,039	Sports Day exp	292,943.00	
				422,708	Sports materials	-	
				35,320	Printing & Stationery	-	
				7,800	Printer & Service	17,750.00	1,197,202.00
				385,850	Repairs & Maintenance		
					By Loans and Advances		
				2,002,978	Loans & Advances	14,710,780.00	
				644,094	Sundry Creditors	330,000.00	
				50,461	TDS remittance	107,205.00	
				912,523	TDS receivable	34,955.00	15,202,940.00
					Bills Payable		
					By Inter Unit Transfer		
				-	Hostel A/c	1,500,000.00	
				-	Management II A/c	500,000.00	
				-	SF XVIII	500,000.00	
				-	SF Spl Fees A/c No.XVII	1,500,000.00	
				-	Satellite	500,000.00	
				-	SF VIII	100,000.00	4,600,000.00
					By Capital Expenses		
				6,369,754	Furniture and Fittings (Chairs and Tables)	2,150,000.00	
				690,311	New Infrastructure Creation	438,764.00	
				-	Computer & Accessories	136,500.00	
				111,750	CCTV camera	572,500.00	
				213,715	Electrical equipment	315,000.00	3,612,764.00
					To Investments		
				5,000,000	FD -Indian bank - renewal	5,613,856.00	5,613,856.00
					By Closing Balance		
				45,963	HDFC A/c No.50100113750712	488,015.12	
				124,461	Indian Bank A/c No.6335921789	57,849.00	430,166.12
26,355,227	TOTAL		55,943,381.91	26,355,227	TOTAL		55,943,381.91

26,355,227   TOTAL

PLACE : MADURAI
DATE : 27.09.2019

As per our report of even date
for MANOHAR CHOWDHRY & ASSOCIATES
CHARTERED ACCOUNTANTS
Firm Registration No.001997S

Dr. M. DAVAMANI CHRISTOPHER
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Madurai - 625 002

Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

Partner
i Daniel Selvaraj
M.No:200322

L.DANIEL SELVARAJ
Partner
Membership No.200322

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2020

PREVIOUS YEAR ENDED 31-03-2019	EXPENDITURE	FOR THE YEAR ENDED 31-03-2020	PREVIOUS YEAR ENDED 31-03-2019	INCOME	FOR THE YEAR ENDED 31-03-2020
	TO EDUCATIONAL EXPENSES			BY COURSE FEE RECEIVED	
3,00,000	Affilliation Fee - Mku	3,89,400.00	2,01,67,814	Course Fees By challan	2,20,17,479.00
80,200	Conference Exps.,	-	17,58,200	Sale of Application	-
11,000	Fees Refund	2,72,428.00			
-	ICTACT - Membership Fee	29,500.00		BY OTHER INCOME	
1,49,900	Physical Education -Expenses	2,60,095.00	1,54,128	Bank interest	15,389.00
58,105	Printing & Stationery	-	1,49,794	Interest on FD	1,38,896.00
3,750	R.O.PlantExpenses	-	56,000	Tennis ground Fee	-
1,05,94,328	Salary	2,19,43,439.00	-	International Conf. - Hindi Dept	28,900.00
69,620	Vechicle Maintenance	1,69,315.00	-	Regn. Fee	54,000.00
1,50,000	Audit Fees	-			
3,300	Bank Charges	1,184.46			
9,000	Books & Journals	-		By Excess of Expenditure	
11,565	Cleaning Materials	-		over income	79,41,124.42
25,000	Computer Accesseries-Expenses	10,000.00			
7,000	DTH Maintenance	19,613.00			
2,596	Driver Batta	-			
7,00,425	Entrance Fee & Recog. Fee -2019-20	8,12,445.00			
8,858	Furniture Maintenance- General	-			
1,23,621	Gifts	-			
36,241	Insurance - TN59 BD 1881	20,342.00			
75,000	LegalExpenses	55,000.00			
29,500	Membership Subscription	34,838.00			
35,388	Misc.Expenses	-			
15,678	MomentoExpenses	-			
10,000	Postage Exps.,	-			
3,11,290	Refreshment Expenses	2,29,701.00			
2,000	Remuneration	2,11,000.00			
-	Repairs&Maintenance	50,300.00			
6,560	Retreat Expenses	1,85,564.00			
-	Retreat Expenses., Non-Teaching	-			
220	Transport Charges	-			
-	Electrical Work Exps	10,33,500.00			
3,03,187	Telephone Expenses	60,272.00			
2,54,150	Travelling Expenses	28,200.00			
2,00,000	University Expenses-MKU	1,50,000.00			
1,35,87,482	Carried Over	2,59,66,136.46	2,22,85,936	Carried Over	3,01,95,788.42

Banner
Daniel Selvaraj
M.No: 200322

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2020

PREVIOUS YEAR ENDED 31-03-2019	EXPENDITURE	FOR THE YEAR ENDED 31-03-2020	PREVIOUS YEAR ENDED 31-03-2019	INCOME	FOR THE YEAR ENDED 31-03-2020
1,35,87,482	Brought Forward	2,59,66,136.46	2,22,85,936	Brought Forward	3,01,95,788.42
11,50,783	Advertisement Expenses	11,49,031.00			
22,17,243	Building Maintenance	8,48,668.00			
28,500	Meeting Expenses	6,825.00			
-	Garden Maintenance	10,000.00			
-	MKU Fees for new Courses	53,100.00			
15,000	Inspection Expenses - New Courses	-			
-	Medical coding course fee	75,000.00			
-	Medical Exps - Student	908.00			
-	Consortium Application Expenses	5,000.00			
4,79,045	International Conference Exps.,	-			
16,15,927	To depreciation	20,81,119.96			
31,91,956	To Excess of income over Expenditure	-			
2,22,85,936	TOTAL	3,01,95,788.42	2,22,85,936	TOTAL	3,01,95,788.42

PLACE : MADURAI
DATE : 22.12.2020
UDIN: 20200322AAAARR4702

Dr. M. DAVAMANI CHRISTOBER
PRINCIPAL & SECRETARY
The American College
Madurai - 625 002

Dr. C. DOROTHY SHEELA
BURSAR
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As per our Report of Even Date
For MANOHAR CHOWDHRY & ASSOCIATES
CHARTERED ACCOUNTANTS
Firm Registration No.001997S

Partner
1.Daniel Selvaraj
M.No: 200322

DANIEL SELVARAJ
Partner
Membership No.200322

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INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2020

PREVIOUS YEAR ENDED 31-03-2019	EXPENDITURE	FOR THE YEAR ENDED 31-03-2020	PREVIOUS YEAR ENDED 31-03-2019	INCOME	FOR THE YEAR ENDED 31-03-2020
1,35,87,482	Brought Forward	2,59,66,136.46	2,22,85,936	Brought Forward	3,01,95,788.42
11,50,783	Advertisment Expenses	11,49,031.00			
22,17,243	Building Maintenance	8,48,668.00			
28,500	Meeting Expenses	6,825.00			
-	Garden Maintenance	10,000.00			
-	MKU Fees for new Courses	53,100.00			
15,000	Inspection Expenses - New Courses	-			
-	Medical coding course fee	75,000.00			
-	Medical Exps - Student	908.00			
-	Consortium Application Expenses	5,000.00			
4,79,045	International Conference Exps.,	-			
16,15,927	To depreciation	20,81,119.96			
31,91,956	To Excess of income over Expenditure	- -			
2,22,85,936	TOTAL	3,01,95,788.42	2,22,85,936	TOTAL	3,01,95,788.42

PLACE : MADURAI
DATE : 22.12.2020
UDIN: 20200322AAAARR4702

As per our Report of Even Date
For MANOHAR CHOWDHRY & ASSOCIATES
CHARTERED ACCOUNTANTS
Firm Registration No.001997S

Dr. M. DAVAMANI CHRISTOBER
PRINCIPAL & SECRETARY
The American College
Madurai - 625 002

Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

Partner
1.Daniel Selvaraj
M.No: 200322

DANIEL SELVARAJ
Partner
Membership No.200322

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2020

PREVIOUS YEAR ENDED 31-03-2019	EXPENDITURE	FOR THE YEAR ENDED 31-03-2020	PREVIOUS YEAR ENDED 31-03-2019	INCOME	FOR THE YEAR ENDED 31-03-2020
	To Educational Expenses			**To Educational Income**	
13,220	B.A.Hindi	27,725.00	39,055,784	Course Fee	64,328,947.00
-	BBA	6,595.00			
3,500	BCA	9,950.00			
4,500	B.Com.,	25,912.00			
4,250	B.Com. IT	5,300.00		**To Direct Income**	
6,500	B.Com., (CA)	-	-	Sale of Tamil Books	229,840.00
374,137	B.Sc . Food Science	749,826.00	-	National Conference - Maths Dep	11,060.00
13,500	B.Sc., (Maths)	33,500.00			
36,680	B.Sc., Physics	79,670.00		**To Other Income**	
3,180	B.Sc.,(Cos)	100,885.00	140,367	Bank Interest	93,663.42
198,855	B.Sc.Chemistry	200,274.00	234,495	FD Interest	815,443.00
42,171	B.Sc.Information Technology	16,870.00	300,215	Sale of Indent Books (chemistry)	-
2,500	B.Sc.Microbiology	61,966.00	8,451	Sale of Scrap	19,730.00
104,573	Bio-Chemistry	8,689.00	90,000	Rent received	80,000.00
31,070	Bursar's Office	3,270.00			
3,000	Commerce	3,000.00			
19,150	Driver Batta	-			
14,500	English Dept.,	60,390.00			
2,901,231	Fees Refund	-			
51,000	French Dept.,	93,550.00			
66,300	M.Com.,	7,500.00			
6,483	M.Phil English	-			
	Tamil Dept	2,000.00			
54,132	M.Phil Chemistry	-			
44,580	M.Sc.physics	4,955.00			
58,653	M.Sc.Food Science	78,450.00			
47,179	MCA	24,384.00			
216,145	MIM Dept.,	186,163.00			
27,550	MSW	11,455.00			
197,947	Physical Education	3,860.00			
5,000	PG-English	3,180.00			
136,133	Psychology Dept.,	184,002.00			
11,710	Physics-PG	12,033.00			
53,092.00	Principal Office	17,078.00			
8,980	Visual Communication	2,050.00			
46,000	PG Maths	249,000.00			
41,000	B.com.(PA)	187,000.00			
5,800	Bank Charges	11,389.36			
4,528,971	Building Maintenance	1,145,987.00			
276,109	Computer Accessories	30,260.00			
-	Computer Lab Expenses	136,236.00			
31,500	Caution Deposit Refund	118,500.00			
-	Refund	3,483,520.00			
396,234	Electrical Materials & Inspection charges	299,994.00			
-	Printer Maintenance	3,880.00			
237,893	Printing & Stationery	373,754.00			
14,700	Refreshment Expenses	-			
2,284,331	Remuneration	1,715,056.00			
12,523,939	**Carried Over**	**9,779,055.36**	**39,829,311**	**Carried Over**	**45,578,683.42**

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2020

PREVIOUS YEAR ENDED 31-03-2019	EXPENDITURE	FOR THE YEAR ENDED 31-03-2020	PREVIOUS YEAR ENDED 31-03-2019	INCOME	FOR THE YEAR ENDED 31-03-2020
12,523,939	Brought Forward	9,779,058.36	39,829,311	Brought Forward	45,578,683.42
403,782	Repairs & Maintenance	388,547.00			
235,819	Repairs&Maintenance - Furniture	2,600.00			
-	Annual Member Subscription	960.00			
-	MOU Expenses	1,300.00			
72,759	Travelling Expenses	26,048.00			
72,233.00	Vehicle Maintenance	60,940.00			
-	Furniture Materials	87,116.00			
-	Furniture Maintenance	17,790.00			
1,600,500	Honorarium	2,332,161.00			
3,106,243	Internet Charges	-			
4,707	Internet Expenses	358,130.00			
-	Xmas Celebration expenses	42,600.00			
368,000	Amul Maintenance Charges	-			
9,000	PG Chemistry	-			
-	Seminar Hall - Maintenace	17,599.00			
-	M.Phil Maths	4,500.00			
-	RO Plant & Maintenance	39,283.00			
-	Drone Service Charges	12,046.00			
-	Workshop on Data Analysis	5,620.00			
-	NSS Office	1,050.00			
	PG English SF Expo	6,550.00			
	Laptop Maintenance	27,960.00			
	Solary Power Systems	566,500.00			
	TA & DA to chief Guest	8,000.00			
3,460,550	To Depreciation	3,646,152.80			
17,971,780	To Excess of Income over Expenditure	28,146,172.26			
39,829,311	TOTAL	45,578,683.42	39,829,311	TOTAL	45,578,683.42

PLACE: MADURAI
DATE: 22.12.2020
UDIN: 20200322AAAARR4702

As per our report of even date
for MANOHAR CHOWDHRY & ASSOCIATES
Chartered Accountants
Firm Registration No.001997S

Dr. M. DAVAMANI CHRISTOBER
PRINCIPAL & SECRETARY
The American College
Madurai - 625 002

Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

Partner
I.Daniel Selvaraj
M.No: 200322

I.DANIEL SELVARAJ
Partner
Membership No.200322

PREVIOUS YEAR ENED 31-03-2019	RECEIPTS	FOR THE YEAR ENDED 31-03-2020	PREVIOUS YEAR ENED 31-03-2019	PAYMENTS	FOR THE YEAR ENDED 31-03-2020
118,632,928	BROUGHT FORWARD	141,980,090.91	100,155,367	BROUGHT FORWARD	122,756,114.74
				BY INVESTMENTS	
			6,000,000	FD - 50300265803511 - HDFC	-
			6,000,000	FD -50300265802952 - HDFC Bank	-
			-	FD 50300354784968 HDFC	6,000,000.00
			-	FD 50300354785372 HDFC	6,000,000.00
			-	FD in Indian bank	6,000,000.00
				BY CLOSING BALANCE	
			(572,979)	Cash at Bank - Indian bank	(549,602.02)
			7,050,540	Cash at Bank - HDFC bank	1,773,578.19
118,632,928	**TOTAL**	141,980,090.91	118,632,928	**TOTAL**	141,980,090.91

PLACE : MADURAI
DATE : 22.12.2020
UDIN: 20200322AAAARR4702

As per our Report of Even Date
For MANOHAR CHOWDHRY & ASSOCIATES
CHARTERED ACCOUNTANTS
Firm Registration No.001997S

Dr. M. DAVAMANI CHRISTOBER
PRINCIPAL & SECRETARY
The American College
Madurai - 625 002

Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

Partner
L.Daniel Selvaraj
M.No: 200322

L. DANIEL SELVARAJ
Partner
Membership No.200322

PREVIOUS YEAR ENDED 31-03-2019	EXPENDITURE	FOR THE YEAR ENDED 31-03-2020	PREVIOUS YEAR ENDED 31-03-2019	INCOME	FOR THE YEAR ENDED 31-03-2020
	To Educational Expenses			By Educational Income	38,700.00
		9,141,134.00	1,598,000	Bus Fees	33,875,682.00
5,982,448	Salary	1,387,952.00	13,953,018	Course fees collected by challans	315,673.00
190,758	Course Fee Refund	770,248.00	285,828	Course fees	-
344,250	Honorarium	-	292,000	Application fees	-
639	EPF Administration Charges A/c	-	3,441,806	Staff Retreat Adv Deducation	2,920.00
20,651	Food & Safety Certificate	3,000.00	-	Exam Fine Amount	-
39,500	Remuneration to Staff	54,290.00	2,500	Other Income	13,040.00
114,405	Festival Expenses	251,213.00	3,358	Scrap Sales	-
251,213	Advertisement Expenses	871,200.00	5,000	Hall Booking	149,970.00
688,515	EB Charges	15,123.00	58,754	Bank Interest	-
41,290	Traveling	81,051.00	12,150	Bus Rental Income	20,175.00
57,900	Orientation Exp	-	482,713	FD Interest – Indian Bank	-
84,177	Printing & Stationary Exp	-	49,500	Conference Deduction	-
22,650	Prize & Gift Expnesis	53,200.00			
198,356	Remuneration	725,161.00			
494,700	Security Service Charges	-			
9,810	Book Binding Exp	-			
1,000	Cont Physical Education	-			
75,024	AICTE Expense	-			
8,000	Remuneration - Extra work	10,000.00			
12,500	Admission Work Exp	632,851.00			
55,250	Electrical Maintenance	7,650.00			
4,500	Travell Allowance	-			
30,073	Exam Fee Refund	4,599.10			
8,173	Bank Charges	-			
25,000	Bus Fees Refund	-			
123,201	Exam External	339,936.00			
182,588	Insurance-Bus	831,366.00			
-	Telephone & Internet Exp	-			
9,918	Tamilnad Labour Transport	-			
44,700	Repair & Maintenance - Satelite	3,286,814.00			
146,665	Repair & Maintenance	-			
578,917	Building Maintenance	-			
489,690	Cable Trench & Transformer	4,000.00			
7,000	Contingency expense	4,000.00			
2,000	Dept Contingency Expense	-			
6,000	Exam Contingengy Expense	-			
385,206	Telephone Expense	116,000.00			
57,718	Batta - Driver	337,761.00			
55,525	Chair Maintenance	167,792.00			
-	Chalk & Notice Board	-			
21,000	Christmas Gift - Staff	-			
41,880	College Maintenance	-			
51,345	Computer Consumables	16,154.00			
-	Curriculam Development - MBA	-			
648	Conveyance	11,705.00			
12,178	Exam Refreshment Expenses	13,000.00			
-	Field trip bus exp	1,394,026.00			
1,586,199	Fuel Expenses - Petro Card	220,395.00			
-	Bus Maintenance	-			
		20,751,621.10	20,184,627	CARRIED OVER	34,416,160.00
12,563,160	CARRIED OVER				

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2020

PREVIOUS YEAR ENDED 31-03-2019	EXPENDITURE	FOR THE YEAR ENDED 31-03-2020	PREVIOUS YEAR ENDED 31-03-2019	INCOME	FOR THE YEAR ENDED 31-03-2020
12,563,160	BROUGHT FORWARD	20,751,621.10	20,184,627	BROUGHT FORWARD	34,416,160.00
119,335	Bus F C Expenses				
10,500	Field Trip Expenses				
-	Carpenter Work Maintenance	5,975.00			
-	Affliation Fee - University	197,900.00			
8,114	Newspaper & Periodicals	8,631.00			
45,252	Printer Maintenance	10,940.00			
13,263	Printing & Xerox	-			
70,860	Property tax	69,410.00			
163,210	Repair & Maintenance	-			
161,736	Repairs & Maintenance -Main Building	-			
29,400	Repairs & Maintenance -Main Building	-			
3,560	Staff Refreshment	-			
-	Stationary	8,187.00			
230,801	Hostal Expenses	-			
-	UPS Maintenance	15,000.00			
71,000	Water Charges	17,500.00			
31,189	Refreshement Expense	55,556.00			
23,500	Miscellaneous Exp	212,043.00			
7,800	Genset Maintanance	237,500.00			
471,661	Vehicle Maintenance	64,365.00			
2,500	College Name Board	-			
42,052	Borewell Repairs & Maintenance	-			
57,000	Incidental Charge	27,325.00			
7,484	Insurance Maruthi Omni TN59AD 94	-			
247,000	LTCT Cable Laying Exp	-			
6,635	Other Expenditure	-			
23,908	Play Ground Sports & Material	64,736.00			
27,794	Printing A/c	100,569.00			
9,440	Projector Service	-			
21,300	Society Registration-Renewal	-			
7,616	Sports Material Purchase	-			
1,000	Staff Welfare	-			
-	Inaugration Expenses	214,955.00			
-	Inspection Expenses	25,040.00			
	Cleaning Charges	195,304.00			
	Faculty Meeting Expenses	9,500.00			
	FD Interest	43,205.00			
24,248	Cleaning material expenses	45,117.00			
7,861	Gneden Maintenance	-			
	Licenses Renewal	300,000.00			
		5,924,324.44			
3,880,564	To Depreciation	5,924,324.44			
1,793,884	To Excess of Income over Expenditure	5,811,456.46			
20,184,627	Total	34,416,160.00	20,184,627	Total	34,416,160.00

PLACE : MADURAI
DATE: 22.12.2020.
UDIN: 20200322AAAARR4702

As per our report of even date
for MANOHAR CHOWDHRY & ASSOCIATES
CHARTERED ACCOUNTANTS
Firm Registration No.0019975

Dr. M. DAVAMANI CHRISTOBER
PRINCIPAL & SECRETARY
The American College
Madurai - 625 002

Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

Partner
I.Daniel Selvaraj
M.No: 200322

I.DANIEL SELVARAJ
PARTNER
Membership No.200322

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2021

PREVIOUS YEAR ENDED 31-03-2020	EXPENDITURE	FOR THE YEAR ENDED 31-03-2021	PREVIOUS YEAR ENDED 31-03-2020	INCOME	FOR THE YEAR ENDED 31-03-2021
	To Educational Expenses			**By Educational Income**	
27,725	B.A.Hindi	2,000.00	4,43,28,947	Course Fee	5,31,02,734.00
6,595	BBA	2,500.00			
9,950	BCA	16,500.00		**By Direct Income**	
25,912	B.Com.,	14,080.00	2,29,840	Sale of Tamil Books	-
5,300	B.Com. IT	2,250.00	11,060	National Conference - Maths Dep	-
7,49,826	B.Sc . Food Science	88,304.00			
33,500	B.Sc., (Maths)	1,17,258.00		**By Other Income**	
79,670	B.Sc., Physics	48,018.00	93,663	Bank Interest	82,132.00
1,00,885	B.Sc.(Cos)	50,950.00	8,15,443	FD Interest	3,08,801.00
2,00,274	B.Sc.Chemistry	5,450.00	19,730	Sale of Scrap	700.00
16,870	B.Sc.Information Technology	7,869.00	80,000	Rent received	1,00,000.00
61,966	B.Sc.Microbiology	-			
8,689	Bio-Chemistry	44,846.00			
3,270	Bursar's Office	26,330.00			
-	Books and Journals	21,373.00			
3,000	Commerce	-			
60,390	English Dept.,	10,800.00			
93,550	French Dept.,	13,750.00			
7,500	M.Com.,	7,430.00			
-	M.Phil English	4,500.00			
2,000	Tamil Dept.	550.00			
4,955	M.Sc physics	13,600.00			
78,450	M.Sc.Food Science	2,500.00			
24,384	MCA	10,839.00			
1,86,163	MIM Dept.,	1,69,624.00			
11,455	MSW	450.00			
-	UG Economics	7,000.00			
3,860	Physical Education	1,47,678.00			
3,180	PG-English	2,500.00			
-	PG-Data Science	2,500.00			
1,84,002	Psychology Dept.,	5,470.00			
12,033	Physics-PG	660.00			
17,078	Principal Office	14,727.00			
2,050	Visual Communication	5,500.00			
2,49,000	PG Maths	1,56,500.00			
1,87,000	B.com.(PA)	2,60,500.00			
-	ACCIC	95,710.00			
11,389	Bank Charges	11,434.00			
11,45,987	Building Maintenance	8,49,993.00			
30,260	Computer Accessories	2,55,030.00			
-	Computer Centre	1,770.00			
1,36,236	Computer Lab Expenses	-			
1,18,500	Caution Deposit Refund	-			
-	Carpenter Expenses-DRDO	900.00			
-	Data Centre	1,22,620.00			
34,83,520	Refund	31,18,132.00			
2,99,994	Electrical Materials & Inspection charges	-			
-	Electrical Maintenance	2,48,987.00			
-	Green Audit	1,23,350.00			
-	Loading and Unloading Charges	1,330.00			
3,880	Printer Maintenance	-			
3,73,754	Printing & Stationery	25,054.00			
17,15,056	Remuneration	8,27,920.00			
97,29,058	**Carried Over**	**69,67,736.00**	**4,55,78,683**	**Carried Over**	**5,35,94,367.00**

THE AMERICAN COLLEGE, MADURAI-625 002.
SELF-FINANCE ACCOUNT - XVIII
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2021

PREVIOUS YEAR ENED 31-03-2020	EXPENDITURE	FOR THE YEAR ENDED 31-03-2021	PREVIOUS YEAR ENED 31-03-2020	INCOME	FOR THE YEAR ENDED 31-03-2021
-	TO DEPARTMENT WISE EXPENSES	-	-	BY EDUCATIONAL INCOME	-
2,359	Remuneration	-	7,44,77,376	Course Fee	8,15,41,956.00
2,88,41,724	Salary A/c	3,73,40,213.00	1,45,391	Bank Interest	1,22,858.00
	Guest Lecturer	23,000.00	7,69,072	FD Interest	4,39,282.00
2,35,047	AICTE Exps.,	-	16,85,388	Salary Recovery	-
1,086	Bank Charges	3,185.00	1,23,746	Salary Recovered- LLP	-
74,23,664	E.B.Exps.,	34,17,798.00			
-	ESI - Penalty	54,681.00			
-	Misc.Exps.,	2,000.00			
27,56,326	EPF	5,57,007.00			
11,23,945	Security Exps.,(Outsourced)	11,80,303.00			
-	Recognition Expenses	1,00,000.00			
-	Legal Exps.,	20,000.00			
18,49,222	Cleaning Charges - Toilet(Outsourced)	12,22,543.00			
-	Interest on Loan	2,66,057.00			
-	Staff welfare expenses	10,000.00			
2,150	Contribution to Global services - sales day	-			
4,23,000	AMC Charges - Winways Systems P Ltd.	10,57,870.00			
7,35,214	ESI	-			
3,920	Garden Maintenance	-			
10,58,533	To Depreciation	18,46,502.00			
3,27,44,783	To Excess of Income Over Expenditure	3,50,02,937.00			
7,72,00,973	TOTAL	8,21,04,096.00	7,72,00,973	TOTAL	8,21,04,096.00

PLACE : MADURAI
DATE : 20.11.2021
UDIN: 21200322AAAAUS3518

As per our Report of Even Date
For MANOHAR CHOWDHRY & ASSOCIATES
CHARTERED ACCOUNTANTS
Firm Registration No.0019975

Dr. M. DAVAMANI CHRISTOBER
PRINCIPAL & SECRETARY
The American College
Madurai - 625 002

Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

I. DANIEL SELVARAJ
Partner
Membership No.200322

THE AMERICAN COLLEGE, MADURAI
SATELLITE CAMPUS ACCOUNT NO. XIX
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2021

PREVIOUS YEAR ENDED 31-03-2020	EXPENDITURE	FOR THE YEAR ENDED 31-03-2021	PREVIOUS YEAR ENDED 31-03-2020	INCOME	FOR THE YEAR ENDED 31-03-2021
	To Educational Expenses			By Educational Income	
91,41,134	Salary	1,20,54,183.00	38,700	Bus Fees	4,02,86,581.15
13,87,952	Course Fee Refund	7,76,222.00	3,38,75,682	Course fees collected by challans	12,87,152.00
7,70,248	Honorarium	7,30,500.00	3,15,673	Course fees	-
-	Annual Fees for BMS Course	60,015.00	2,920	Exam Fine Amount	-
-	Catridge Refilling Toner	6,146.00	13,040	Scrap Sales	81,311.00
3,000	Remuneration to Staff	-	1,49,970	Bank Interest	100.00
54,290	Festival Expenses	39,850.00	-	Fees Structure	28,443.00
2,51,213	Advertisement Expenses	1,57,200.00	20,175	FD Interest - Indian Bank	2,700.00
8,71,200	EB Charges	6,76,565.00	-	Affiliation Fee	1,19,768.00
15,123	Traveling	765.00	-	Loss of Pay	
81,051	Orientation Exp	-			
-	Inauguration Function	6,200.00			
-	Collaboration fee	60,005.00			
53,300	Remuneration	42,240.00			
7,25,161	Security Service Charges	7,26,000.00			
-	Board of Studies Exp	5,000.00			
-	Entrance Recognition	1,46,175.00			
-	AICTE Expense	25,023.60			
10,000	Admission Work Exp	5,000.00			
6,32,851	Electrical Maintenance	1,52,163.00			
7,650	Travell Allowance	-			
4,599	Bank Charges	3,180.00			
-	Internet - Lease Line	4,24,800.00			
3,39,936	Insurance-Bus	68,972.00			
8,31,366	Telephone & Internet Exp	1,73,067.00			
-	Tamilnad Labour Transport	3,178.00			
-	AC Maintenance	32,144.00			
32,86,814	Repair & Maintenance	-			
-	Building Maintenance	24,58,586.00			
4,000	Contingency expense	23,313.00			
4,000	Dept Contingency Expense	-			
-	Lab Consumables	10,000.00			
-	MBA Student Assurance	5,082.00			
1,16,000	Batta - Driver	200.00			
3,37,761	Chair Maintenance	-			
1,67,792	Chalk & Notice Board	-			
-	Transport Exenses	13,800.00			
-	Computer Maintenance	7,500.00			
16,154	Curriculam Development	10,000.00			
11,705	Exam Refreshment Expenses	-			
13,000	Field trip bus exp	4,30,266.00			
13,94,026	Fuel Expenses - Pezo Card	36,222.00			
2,20,395.00	Bus Maintenance				
		1,93,67,562.60	3,44,16,160	CARRIED OVER	4,18,06,055.15
2,07,51,621	CARRIED OVER				

THE AMERICAN COLLEGE, MADURAI
SATELLITE CAMPUS ACCOUNT NO. XIX
INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2021

PREVIOUS YEAR ENDED 31-03-2020	EXPENDITURE	FOR THE YEAR ENDED 31-03-2021	PREVIOUS YEAR ENDED 31-03-2020	INCOME	FOR THE YEAR ENDED 31-03-2021
2,07,51,621	BROUGHT FORWARD	1,93,67,562.60	3,44,16,160	BROUGHT FORWARD	4,18,06,055.15
-	Insurance	1,92,583.00			
5,975	Carpenter Work Maintenance	-			
1,97,900	Affliation Fee - University	-			
8,651	Newspaper & Periodicals	-			
10,940	Printer Maintenance	-			
-	Printing & Xerox	1,050.00			
69,410	Property tax	69,410.00			
-	Repair & Maintenance	5,55,662.00			
-	Rain water Harvest	1,20,000.00			
8,187	Stationary	2,180.00			
15,000	UPS Maintenance	-			
17,500	Water Charges	-			
55,556	Refreshment Expense	5,170.00			
2,12,043	Miscellaneous Exp	11,347.00			
2,37,500	Genset Maintenance	23,056.00			
64,365	Vehicle Maintenance	1,05,108.00			
27,325	Incidental Charge	5,000.00			
-	Installation Charge	8,260.00			
64,736	Play Ground Sports & Material	-			
1,00,569	Printing A/c	47,262.00			
-	NSS Registration Fee	2,420.00			
-	OMNI Insurance	6,700.00			
-	Painting Work	8,74,974.00			
2,14,955	Inaugration Expenses	-			
25,040	Inspection Expenses	-			
1,95,304	Cleaning Charges	3,78,191.00			
9,500	Faculty Meeting Expenses	10,000.00			
43,205	FD Interest	-			
45,117	Cleaning material expenses	-			
-	Garden Maintenance	2,53,100.00			
3,00,000.00	Licenses Renewal	-			
77,20,108	To Depreciation	68,81,307.56			
40,15,673	To Excess of Income over Expenditure	1,28,85,711.99			
3,44,16,160	**Total**	4,18,06,055.15	3,44,16,160	**Total**	4,18,06,055.15

PLACE : MADURAI
DATE: 20.11.2021
UDIN: 21200322AAAAU53518

Dr. M. DAVAMANI CHRISTOBER
PRINCIPAL & SECRETARY
The American College
Madurai - 625 002

Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

As per our report of even date
for MANOHAR CHOWDHRY & ASSOCIATES
CHARTERED ACCOUNTANTS
Firm Registration No.001997S

I.DANIEL SELVARAJ
PARTNER
Membership No.200322

2020 -21

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2021

PREVIOUS YEAR ENDED 31-03-2020	EXPENDITURE	FOR THE YEAR ENDED 31-03-2021	PREVIOUS YEAR ENDED 31-03-2020	INCOME	FOR THE YEAR ENDED 31-03-2021
	TO EDUCATIONAL EXPENSES			BY COURSE FEE RECEIVED	
3,89,400	Affilliation Fee - Mku	8,31,900.00	2,20,17,479	Course Fees By challan	3,58,35,545.28
2,72,428	Fees Refund	26,450.00			
29,500	ICTACT - Membership Fee	82,600.00		BY OTHER INCOME	
2,60,095	Physical Education –Expenses	2,94,045.00	15,389	Bank interest	58,703.00
2,19,43,439	Salary	3,22,65,014.00	1,38,896	Interest on FD	3,78,395.00
1,69,315	Vechicle Maintenance	70,427.00	28,900	International Conf. - Hindi Dept	-
1,184	Bank Charges	1,141.85	54,000	Regn. Fee	-
10,000	Computer Accessories-Expenses	-			
19,613	DTH Maintenance	15,726.00			
8,12,445	Entrance Fee & Recog. Fee -2019-20	-		By Excess of Expenditure	
-	Entrance Fee & Recognition Fee -2020-	7,40,280.00	79,41,124	over income	21,19,188.64
-	Hand Sanitizer	950.00			
20,342	Insurance - TN59 BD 1881	14,326.00			
-	Insurance - TN59 CH 1881	49,345.00			
55,000	LegalExpenses	45,000.00			
-	MOU Collabration Fee to LSC	1,50,000.00			
-	NSS Iyear Registration Fee - MKU	12,240.00			
34,838	Membership Subscription	-			
2,29,701	Refreshment Expenses	2,54,167.00			
-	Research Centre Approval Fee - MKU	35,400.00			
-	Research Centre Renewal - MKU	1,06,200.00			
-	Software Exp., Zoom	1,33,056.00			
2,11,000	Remuneration	-			
50,300	Repairs&Maintenance	-			
1,85,564	Retreat Expenses	-			
10,33,500	Electrical Work Exps	-			
60,272	Telephone Expenses	38,760.00			
28,200	Travelling Expenses	50.00			
1,50,000	University Expenses-MKU	3,10,000.00			
11,49,031	Advertisment Expenses	6,34,979.00			
8,48,668	Building Maintenance	4,08,800.00			
6,825	Meeting Expenses	-			
10,000	Garden Maintenance	19,550.00			
53,100	MKU Fees for new Courses	-			
-	Inspection Expenses - New Courses	35,400.00			
75,000	Medical coding course fee	-			
908	Medical Exps - Student	-			
5,000	Consortium Application Expenses	-			
20,81,120	To depreciation	18,16,025.07			
3,01,95,788	TOTAL	3,83,91,831.92	3,01,95,788	TOTAL	3,83,91,831.92

PLACE : MADURAI
DATE : 20.11.2021
UDIN: 21200322AAAAUS3518

As per our Report of Even Date
For MANOHAR CHOWDHRY & ASSOCIATES
CHARTERED ACCOUNTANTS
Firm Registration No.001997S

Dr. M. DAVAMANI CHRISTOBER
PRINCIPAL & SECRETARY
The American College
Madurai - 625 002

C.D. Kuly

Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

L DANIEL SELVARAJ
Partner
Membership No. 200322

INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2021

PREVIOUS YEAR ENDED 31-03-2020	EXPENDITURE	FOR THE YEAR ENDED 31-03-2021	PREVIOUS YEAR ENDED 31-03-2020	INCOME	FOR THE YEAR ENDED 31-03-2021
	To Educational Expenses			By Educational Income	
27,725	B.A.Hindi	2,000.00	4,43,28,947	Course Fee	5,31,02,734.00
6,595	BBA	2,500.00			
9,950	BCA	16,500.00		By Direct Income	
25,912	B.Com.,	14,080.00	2,29,840	Sale of Tamil Books	:
5,300	B.Com. IT	2,250.00	11,060	National Conference – Maths Dep	-
7,49,826	B.Sc . Food Science	85,304.00			-
33,500	B.Sc., (Maths)	1,17,258.00		By Other Income	
79,670	B.Sc., Physics	48,018.00	93,663	Bank Interest	82,132.00
1,00,885	B.Sc. (Cos)	50,950.00	8,15,443	FD Interest	3,08,801.00
2,00,274	B.Sc.Chemistry	5,450.00	19,730	Sale of Scrap	700.00
16,870	B.Sc.Information Technology	7,869.00	80,000	Rent received	1,00,000.00
61,966	B.Sc.Microbiology	-			
8,689	Bio-Chemistry	44,846.00			
3,270	Bursar's Office	26,330.00			
-	Books and Journals	21,173.00			
3,000	Commerce	-			
60,390	English Dept,	10,500.00			
93,550	French Dept,	13,750.00			
7,500	M.Com.,	7,430.00			
-	M.Phil English	4,500.00			
2,000	Tamil Dept.	550.00			
4,955	M.Sc.physics	13,600.00			
78,450	M.Sc.Food Science	2,500.00			
24,384	MCA	16,839.00			
1,86,163	MIM Dept.,	1,69,624.00			
11,455	MSW	450.00			
-	UG Economics	7,000.00			
3,860	Physical Education	1,47,678.00			
3,180	PG-English	2,500.00			
-	PG-Data Science	2,500.00			
1,84,002	Psychology Dept.,	5,470.00			
12,033	Physics-PG	660.00			
17,078	Principal Office	14,727.00			
2,050	Visual Communication	5,500.00			
2,49,000	PG Maths	1,56,500.00			
1,87,000	B.com.(PA)	2,60,500.00			
-	ACCIC	96,710.00			
11,389	Bank Charges	11,434.00			
11,45,987	Building Maintenance	8,49,993.00			
30,260	Computer Accesories	2,55,030.00			
-	Computer Centre	1,770.00			
1,36,236	Computer Lab Expenses	-			
1,18,500	Caution Deposit Refund	-			
-	Coarpenter Expenses-DRDO	900.00			
-	Data Centre	1,22,620.00			
14,83,520	Refund	31,18,132.00			
2,99,994	Electrical Materials & Inspection charges	-			
-	Electrical Maintenance	2,48,987.00			
-	Green Audit	1,23,350.00			
-	Loading and Unloading Charges	1,330.00			
3,880	Printer Maintenance	-			
3,23,754	Printing & Stationery	25,054.00			
17,15,056	Remuneration	8,27,920.00			
97,79,058	Carried Over	69,67,736.00	4,55,78,683	Carried Over	5,35,94,367.00

PREVIOUS YEAR ENDED 31-03-2020	EXPENDITURE	FOR THE YEAR ENDED 31-03-2021	PREVIOUS YEAR ENDED 31-03-2020	INCOME	FOR THE YEAR ENDED 2021
		69,67,736.09	4,55,78,683	Brought Forward	5,35,94,367.00
97,79,058	Brought Forward				
3,88,547	Repairs & Maintenance	7,05,908.00			
2,600	Repairs&Maintenance - Furniture	-			
-	Recognition Exp.,	1,00,000.00			
-	Research Seed Money	20,033.00			
960	Annual Member Subscription	-			
1,300	MOU Expenses	-			
-	Museum	1,04,708.00			
26,048	Travelling Expenses	-			
60,940	Vehicle Maintenance	13,997.00			
87,116	Furniture Materials	-			
17,790	Furniture Maintenance	22,626.00			
23,32,161	Honorarium	25,08,500.00			
3,58,130	Internet Expenses	39,23,976.00			
42,600	Xmas Celebration expenses	-			
17,599	Seminar Hall - Maintenance	-			
4,500	M.Phil Maths	29,400.00			
39,283	RO Plant & Maintenance	-			
12,046	Drone Service Charges	-			
5,620	Workshop on Data Analysis	-			
-	Advertisement Expenses	13,020.00			
-	AMC Server	1,71,000.00			
-	Networking Service Charges	1,03,379.00			
-	Promotional Video Exp.,	2,00,000.00			
-	Salary	16,867.00			
-	Sanitizer	54,988.00			
-	SMPS Service Charges	5,310.00			
1,050	NSS Office	-			
6,550	PG English SF Exps	-			
27,960	Laptop Maintenance	-			
5,66,500	Solary Power Systems	-			
8,000	TA & DA to chief Guest	59,83,167.75			
36,46,153	To Depreciation	3,36,49,751.25			
2,81,46,172	To Excess of Income over Expenditure				
		5,35,94,367.00	4,55,78,683	TOTAL	5,35,94,367.00
4,55,78,683	TOTAL				

PLACE: MADURAI
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Dr. M. DAVAMANI CHRISTOBER
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Dr. C. DOROTHY SHEELA
BURSAR
The American College
Madurai - 625 002

As per our report of even date
for MANOHAR CHOWDHRY & ASSOCIATES
Chartered Accountants
Firm Registration No.0019975

I.DANIEL SELVARAJ
Partner
Membership No.200322

THE AMERICAN COLLEGE, MADURAI-625 002.
SELF-FINANCE ACCOUNT - XVIII
INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2021

PREVIOUS YEAR ENED 31-03-2020	EXPENDITURE	FOR THE YEAR ENDED 31-03-2021	PREVIOUS YEAR ENED 31-03-2020	INCOME	FOR THE YEAR ENDED 31-03-2021
-	TO DEPARTMENT WISE EXPENSES	-	-	BY EDUCATIONAL INCOME	-
2,359	Remuneration	-	7,44,77,376	Course Fee	8,15,41,956.00
2,88,41,724	Salary A/c	3,73,40,213.00	1,45,391	Bank Interest	1,22,858.00
	Guest Lecturer	23,000.00	7,69,072	FD Interest	4,39,282.00
2,35,047	AICTE Exps.,	-	16,85,388	Salary Recovery	-
1,086	Bank Charges	3,185.00	1,23,746	Salary Recovered- LLP	-
74,23,664	E.B.Exps.,	34,17,798.00			
-	ESI - Penalty	54,681.00			
-	Misc.Exps.,	2,000.00			
27,56,326	EPF	5,57,007.00			
11,23,945	Security Exps.,/(Outsourced)	11,80,303.00			
-	Recognition Expenses	1,00,000.00			
-	Legal Exps.,	20,000.00			
18,49,222	Cleaning Charges - Toilet(Outsourced)	12,22,543.00			
-	Interest on Loan	2,66,057.00			
-	Staff welfare expenses	10,000.00			
2,150	Contribution to Global services - sales day	-			
4,23,000	AMC Charges - Winways Systems P Ltd.	10,57,870.00			
7,35,214	ESI	-			
3,920	Garden Maintenance	-			
10,58,533	To Depreciation	18,46,502.00			
3,27,44,783	To Excess of Income Over Expenditure	3,50,02,937.00			
7,72,00,973	TOTAL	8,21,04,096.00	7,72,00,973	TOTAL	8,21,04,096.00

PLACE : MADURAI
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Dr. M. DAVAMANI CHRISTOBER
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Dr. C. DOROTHY SHEELA
BURSAR
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THE AMERICAN COLLEGE, MADURAI

SATELLITE CAMPUS ACCOUNT NO. XIX

INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31ST MARCH 2021

PREVIOUS YEAR ENDED 31-03-2020	EXPENDITURE	FOR THE YEAR ENDED 31-03-2021	PREVIOUS YEAR ENDED 31-03-2020	INCOME	FOR THE YEAR ENDED 31-03-2021
	To Educational Expenses			By Educational Income	
91,41,134	Salary	1,20,54,183.00	38,700	Bus Fees	4,02,86,581.15
13,87,952	Course Fee Refund	7,74,222.00	3,38,75,682	Course fees collected by challans	12,87,152.00
7,70,248	Honorarium	7,30,500.00	3,15,673	Course fees	-
-	Annual Fees for BMS Course	60,015.00	2,920	Exam Fine Amount	-
-	Catridge Refilling Toner	6,146.00	13,040	Scrap Sales	81,311.00
3,000	Remuneration to Staff	-	1,49,970	Bank Interest	100.00
54,290	Festival Expenses	39,850.00	-	Fees Structure	28,443.00
2,51,213	Advertisement Expenses	1,57,200.00	20,175	FD Interest - Indian Bank	2,700.00
8,71,200	EB Charges	6,76,565.00	-	Affiliation Fee	1,19,768.00
15,123	Traveling	765.00	-	Loss of Pay	
81,051	Orientation Exp	-			
-	Inauguration Function	6,200.00			
-	Collahoaration fee	60,005.00			
53,200	Remoneration	42,340.00			
7,25,161	Security Service Charges	7,26,000.00			
-	Board of Studies Exp	5,000.00			
-	Entrance Recognition	1,46,175.00			
-	AICTE Expense	25,023.60			
10,000	Admission Work Exp	5,000.00			
6,32,851	Electrical Maintenance	1,52,163.00			
7,650	Travell Allowance	-			
4,599	Bank Charges	3,180.00			
-	Internet - Lease Line	4,24,800.00			
3,39,936	Insurance-Bus	68,972.00			
8,31,366	Telephone & Internet Exp	1,73,067.00			
-	Tamilnad Labour Transport	3,178.00			
-	AC Maintenance	32,144.00			
32,86,814	Repair & Maintenance	-			
-	Building Maintenance	24,58,586.00			
4,000	Contingency expense	23,313.00			
4,000	Dept Contingency Expense	-			
-	Lab Consumables	10,000.00			
-	MBA Student Assurance	5,082.00			
1,16,000	Batta - Driver	200.00			
3,37,761	Chair Maintenance	-			
1,67,792	Chalk & Notice Board	-			
-	Transport Exenses	13,800.00			
-	Computer Maintenance	7,500.00			
16,154	Curriculam Development	10,000.00			
11,705	Exam Refreshment Expenses	-			
13,000	Field trip bus exp	-			
13,94,026	Fuel Expenses - Petro Card	4,30,266.00			
2,20,395.00	Bus Maintenance	36,222.00			
		1,93,67,562.60	3,44,16,160	CARRIED OVER	4,18,06,055.15
2,07,51,621	CARRIED OVER				

PREVIOUS YEAR ENDED 31-03-2020	EXPENDITURE	FOR THE YEAR ENDED 31-03-2021	PREVIOUS YEAR ENDED 31-03-2020	INCOME	FOR THE YEAR ENDED 31-03-2021
2,07,51,621	BROUGHT FORWARD	1,93,67,562.60	3,44,16,160	BROUGHT FORWARD	4,18,06,055.15
-	Insurance	1,92,583.00			
5,975	Carpenter Work Maintenance	-			
1,97,900	Affliation Fee - University	-			
8,631	Newspaper & Periodicals	-			
10,940	Printer Maintenance	-			
-	Printing & Xerox	1,050.00			
69,410	Property tax	69,410.00			
-	Repair & Maintenance	5,55,662.00			
-	Rain water Harvest	1,20,000.00			
8,187	Stationary	2,180.00			
15,000	UPS Maintenance	-			
17,500	Water Charges	-			
55,556	Refreshement Expense	5,170.00			
2,12,043	Miscellaneous Exp	11,347.00			
2,37,500	Genset Maintenance	23,056.00			
64,365	Vehicle Maintenance	1,05,108.00			
27,325	Incidental Charge	5,000.00			
-	Installation Charge	8,260.00			
64,736	Play Ground Sports & Material	-			
1,00,569	Printing A/c	47,262.00			
-	NSS Registration Fee	2,420.00			
-	OMNI Insurance	6,700.00			
-	Painting Work	8,74,974.00			
2,14,955	Inaugration Expenses	-			
25,040	Inspection Expenses	-			
1,95,304	Cleaning Charges	3,78,191.00			
9,500	Faculty Meeting Expenses	10,000.00			
43,205	FD Interest	-			
45,117	Cleaning material expenses	-			
-	Garden Maintenance	2,53,100.00			
3,00,000.00	Licenses Renewal	-			
77,20,108	To Depreciation	68,81,307.56			
40,15,673	To Excess of Income over Expenditure	1,28,85,711.99			
3,44,16,160	**Total**	4,18,06,055.15	3,44,16,160	**Total**	4,18,06,055.15

PLACE : MADURAI
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As per our report of even date
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