



MAR ATHANASIOS COLLEGE FOR ADVANCED STUDIES TIRUVALLA
(MACFAST)

Name of the students studied courses on experiential learning

MBA 2016-18 BATCH

SL.NO.	REG.NO:	NAME
1	84601	Aaron Thomas George
2	84602	Abhijith Babu
3	84603	Afra Azad
4	84604	Aju Varghese
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57	84657	Rahul S
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References

1. Van Horne James, *Financial Management Policy*, Prentice Hall India
2. I M Panday, *Financial Management*, Vikas Publications, New Delhi.
3. Prasanna Chandra, *Financial Management*, Tata Mc Graw Hill, New Delhi.
4. Khan M Y & Jain P K, *Financial Management*, Tata Mc Graw Hill, New Delhi.
5. Lawrence J Gitman, *Principles of Managerial Finance*, Pearson Education limited. New Delhi.
6. James C Vanhorne, John M Wachowicz Jr, *Fundamentals of Financial Management*, Pearson Education Limited, New Delhi.

CC10- MARKETING MANAGEMENT

Module I

Marketing – Nature and scope- Marketing as the central function of an organization- Evolution of Marketing- Marketing as Creating, Communicating and Delivering –Value- Value chain – Customer satisfaction as the end of the value chain- Marketing Environment – Internal and External environment- Marketing Research- Marketing Information System.

Module II

Strategic Marketing Planning-Elements of Marketing Plan- Buyer Behavior – Consumer buying decision process- Consumer adoption process- Organizational Buying – Process, Market segmentation- Targeting- Positioning- Identifying and analyzing competitors- Designing competitive strategies -for leaders, challengers, followers.

Module III

Concept of Product- Classification of products- Goods Vs Services- Major product decisions-Product line and Product mix- An overview of Brand Management- Packaging and Labeling- Product life cycle- New product development- Pricing- Factors affecting Price Determination- Pricing Policies and Strategies.

Module IV

Marketing Channels – Functions and Flows- Channel Design, Channel Management- Selection- Training- Motivation and Evaluation of channel members- Retailing and Wholesaling-Teleshopping – Shopping through Internet.
Integrated Marketing Communication Process and Mix-Advertising- Personal selling-



Direct Marketing- Sales Promotion, Publicity and Public Relations – Comparative advantages and disadvantages-Managing the Sales Force .

Module V

Marketing Controls – Tools and Techniques of Marketing Control- Marketing of Services-Industrial Marketing- Marketing Challenges in the Globalized era- Green Marketing- Consumerism- Rural Marketing in India- Recent trends – Mobile Marketing and other Digital forms like Video platforms, Review sites in Internet.

References

1. Kotler Philip & Keller Kevin, *Marketing Management*, Pearson Education, India
2. Czinkota Micheal. R & Ronkainen Ilkka. *International Marketing*, Cengage Learning.
3. Ramaswamy V.S & Namakumari. S *Marketing Management – Global Perspective, Indian Context*, , MacMillan.
4. Kotler Philip, Keller Kevin, Koshy Abraham & Jha Mithileshwar *Marketing Management – A South Asian Perspective*, Pearson Education.

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3. Mizra S. Saiyadain, *Human Resources Management*, 4th Ed, Tata McGraw Hill.

4. Raymond Noe, *Employee Training and Development*, Tata McGraw Hill.

5. K . Aswathappa, *Human Resource Management- Text & Cases*, Tata McGraw Hill.

6. Wayne Mondy, *Human Resource Management*, Pearson, India.

7. Joe Martocchio, *Strategic Compensation: A Human Resource Management Approach*, Pearson, India.

CC12- OPERATIONS MANAGEMENT

Module I

Introduction to Production and Operations Functions, Interaction of Operations Management with other functional areas of Management – Manufacturing and Non Manufacturing operations and their Classifications – Operations Strategy as a part of Corporate Strategy – Operations Planning and Control – Operations Forecasting: Forecasting methods.

Module II

Facility Locations – Cost competition and Hidden factors – Steps in location selection – Types of Manufacturing Systems and Layout – Facility Layouts – Layouts by Products and Process – Life balancing – Design of Operations Systems : Aggregate planning and Master Scheduling, MRP, CRP. Material Handling: Principles, Equipments for Materials Handling.

Module III

22

Work study, Time and Method study: Definition – Importance – Aims and Procedures – Implications on Productivity – Work measurement – Work sampling – Work environment – Industrial safety – Value analysis.

Module IV

Materials Management – Functions – Material planning and Budgeting – Value Analysis - Purchase functions and Procedure - Inventory control – Types of Inventory – Safety stock – Inventory Control Systems – Perpetual – Periodic – JIT – KANBAN.

Managing Vendors; Vendor Analysis, Rating and Selection – Procedure and Criteria.



Module V

Maintenance Management Function – Types of Maintenance – Total Productive Maintenance (TPM). Statistical Quality Control (SQC). Cost of Quality (COQ). ISO 9000 certification. Total Quality Management.

References

1. Everest E Adam, Ebert – *Production and Operations Management* – PHI – publication, India
2. Joseph G Monks – *Operations Management (Theory and Problems)* – McGraw Hill Intl.
3. Chase, Aquilano, Jacobs *Production and Operations Management*, Tata McGraw Hill.

CC13- ENVIRONMENTAL MANAGEMNT

Module I

Environment: Components of environment: Lithosphere, Hydrosphere, Atmosphere, Biosphere, Ecology, Eco- system : Components – Biotic and abiotic components, Biodiversity : Definition, Principles, Bio-diversity in India.

Module II

Natural resources and Energy management: Depletion of natural resources, Fossil fuels, Energy sources: Conventional sources, Renewable sources, Energy Management: Definition, Energy management techniques, Energy Audit, Population growth, Global Warming, Ozone depletion, Carbon credit, Climate change.

Module III

23

Implementation Impact of Industrial and Business activities on the Environment, Environmental Degradation, Industrial Pollution – Types and Impacts, Managing Industrial Pollution, Waste Management, Developing Recycling Technologies.

Module IV

Sustainable Development: Definition, Elements, Indicators, Principles, Guidelines for sustainable development, Concern for environment: Eco-friendly manufacturing, Packaging, Green marketing, Green funding, Institutional support for establishing and maintaining Environment Friendly Business.

Module V

Environment Impact Assessment, Environmental Audit, Environment Management



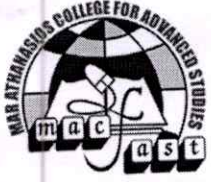
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LIST OF COURSES OF MBA PROGRAMME

LIST OF SUBJECTS

CC01	Principles of Management
CC02	Managerial Communication
CC03	Managerial Economics
CC04	Accounting for Management
CC05	Quantitative Methods for Management
CC06	Legal Environment of Business
CC07	Computer Application in Business
CC08	Organisational Behavior

CC01 PRINCIPLES OF MANAGEMENT

MODULE 1 : Introduction to Management Definitions - Managerial Effectiveness & Efficiency - Levels of Management and Skills – Managerial roles – Evolution of Management Thought – Functional Areas of Management – Management Process – Management and administration, Pedigree of Management, Management as a Profession.

MODULE II: Planning and Decision Making Nature & Importance of planning – Types of Planning – Steps in Planning with Illustration – Prerequisites of Planning - Limitations - MBO – Process, Hierarchy of Plans, Principles of Planning. Decision Making – Programmed & Non – Programmed Decisions – Decision Making Process, Techniques, forecasting, Conditions of Risk, Uncertainty – Group Decision Making.

MODULE III: Organising Organizing – Formal and Informal Organisation, Organising Process – Bases of Departmentation, Decentralisation – Span of management – Authority and Power – Delegation of Authority – Line and Staff Relationships, functional, Project and Matrix Structures – Centralization Vs Decentralization, Modern Organisations; Learning, Net working and Virtual Organisations – Principles in Organising.

MODULE IV: Staffing, Motivation, Leading & Communication An overview of Staffing Function – Staffing Process. Motivation – motives, motivators, Motivational Theories. Leadership – Elements of Leadership, Leadership Styles, Traditional and Modern theories. Communication – Communication process and barriers in Communication. Principles of Motivation, Leadership and Communication

MODULE V: Controlling, Co-ordination and Emerging Trends in Management

Controlling – Importance – Levels of Control – Control Process – Different types of Control – Effective Controlling – Control techniques – Co-ordination – Principles of Control and Co-ordination. Management



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1	A U ASHOK
2	ABHIJITH R NAIR
3	ABIN JOHN JACOB
4	AJISHA C S
5	AJITH KUMAR R
6	AJMAL SHAJAHAN
7	AKHIL GEORGE THOMAS
8	AKHILA R PILLAI
9	AKSHARA P
10	ALANA MARIAM ABRAHAM
11	ALLEN S ARUVICKEL
12	AMAL T JACOB
13	AMRUTHA U
14	ANAGHA S
15	ANANDHU ANIL
16	ANISH ABRAHAM
17	ANISH VARGHESE
18	ANJU RAJ
19	ANKHITHA VINOD
20	ANOOP M GOPI
21	ANSA ELSAN PHILIP
22	ANTU K GEORGE
23	ANUJ MATHEW GEORGE
24	ARATHY ROBERT
25	ARUN PHILIP
26	ARYA S NAIR
27	ASHIS ALEY CHACKO
28	ASWATHY S KUMAR
29	ATHIRA S
30	ATHIRA SUSEELAN
31	ATHIRA UNNIKRIISHNAN
32	AYLIN SUSAN SHAJI
33	BHAGYALAKSHMI .S
34	BRAHMU P.A
35	CHRISTO LORENCE
36	DERSHANA CHERIYAN





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37	DEVI JITH
38	ELDO VARGHESE PAUL
39	EMY ELSA SUNNY
40	FEBA JOSE
41	FOUAS MOHAMMAD
42	FOUSIYA SHAJAHAN
43	GINU PRASAD
44	HELENA THOMAS
45	JARIEN JOSE
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47	JEENA MARY
48	JEFFIN C THOMAS
49	JERIN MATHEW
50	JESNIN SALIM
51	JIBIN C MATHEW
52	JIBIN JOHN
53	JJI K JOY
54	JINCY THOMAS KUTTUMMEL
55	JITHIN J MATHEW
56	JOBIN JOY
57	JOEL SABU
58	JOFI PHILIP MATHEW
59	JOSEPH SIBY
60	JUBIN VARGHESE
61	JYOTHI VIJAYAN
62	KEERTHI SAJEEVLAL
63	KISHAN G MENON
64	KURIAN JACOB
65	LEKHA PRASAD
66	LEKSHMI T J
67	LEKSHMI VIJAYA KUAMAR
68	LIBIN BABU
69	LIJIMOL K JOSE
70	LINU CHACKO
71	MADHURI M
72	MAHA VISHNU DAS M A
73	MARIN ANNA JOHN
74	MATHEW JOSEPH





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75	MEENUMOLA B
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78	NEVIN REJI VARGHESE
79	NIJAMOL JOSEPH
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81	NIKHITHA ANI BABU
82	NITHIN RAJAGOPAL
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106	SANJITH SUNNY VARGHESE
107	SHABEJA ROSE SHAJI
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114	SISSI MARY SHIBU
115	SIYAMOL MATHEW
116	SNEHA SUSAN BABUJI
117	SONALI MATHEW
118	SONY JOY
119	SREERAJ NAMPOOTHIRI .S
120	STEPHY SUSAN GEORGE
121	SUJITH S
122	SUPARNA M
123	SURABHI R
124	SUSMITHA C
125	TIBIN JOSEPH
126	TINA JOHN
127	TOMINA THOMAS KOSHY
128	VIPIN RAJ



FOURTH SEMESTER

Course No	Title	Internal Evaluation Marks	External Evaluation Marks	Total Marks
CC21	Strategic Management	40	60	100
EC 1	ELECTIVE 7 (Major Specialization)	40	60	100
EC 2	ELECTIVE 8 (Major Specialization)	40	60	100
EC 3	ELECTIVE 9 (Minor Specialization)	40	60	100
CC22	Project & Comprehensive Viva Voce	-	200	200
	Total	160	440	600

CC21-STRATEGIC MANAGEMENT

Module I

Introduction to Strategic Management – Concept of Strategy, Process of Strategy, Strategic Framework; Vision, Mission, Objectives and Goals. Strategic Analysis – Environmental Analysis, Competitive forces, Internal analysis SWOT Analysis.

Module II

Business level strategies – Cost leadership, Differentiation, Focus. Corporate level strategies- Stability strategies, Expansion strategies – Intensification, Integration,

International expansion, Diversification strategies, Merger, Acquisitions, Strategic alliance, Turnaround strategies.

Module III

Implementation and Control –Leadership in Strategic Management; Portfolio Analysis, BCG Matrix, GEC Model, etc, Control Process Analysis and Follow-up Action for Control, Evaluation Strategy.

Module IV

Corporate Management; Corporate Policy, Corporate Governance, Top Management, Code and Laws of Corporate Management, Corporate Scenarios and Strategy; Strategies for Stable and Dynamic markets, Strategies for Global Markets.

Module V

IT and Strategy, R&D and Strategy, Knowledge Management – Knowledge Sources, Knowledge Creation, KM framework, Trends and Challenges in KM. Innovation and creativity, Innovation Culture. Building Creative Organization. Corporate Social Responsibility, Ethics and Values, Philanthropy.



References

1. Glueck, W F and Lavch, L. R *Business policy and Strategic Management*, McGraw Hill, New Delhi.
2. Porter, E, Michael *Competitive Advantage – Creating and sustaining Superior Performance*. Free press London.
3. Shrivastava, R.M.(1999) *Management Policy and Strategic Management* Himalaya Publishing House, Mumbai.
4. A.C.Hax and NS, *Strategic Management: An Integrative Perspective*, Prentice Hall, India.
5. Gregory G.Dess and Alex Miller, *Strategic Management*, McGraw Hill. India



MCA 406 Linux Lab

Installation of Linux, network based installation

Basic Overview of various commands- cal, pwd, cd, ls, mv, cp, rm, mkdir, rmdir, more, less, touch. Creating and viewing files using cat, file comparisons, disk related commands, checking disk free spaces. Batch commands, kill, ps, who, Printing commands, find, sort, touch, file, file processing commands- wc, cut, paste etc - mathematical commands - expr, factor etc. Filter commands- pr, head, tail, cut, sort, uniq, tr - Filter using regular expression grep, egrep, sed, awk Shell Programming -Shells, Scripting Rationale Creating a bash Script, bash Start up Files, A Script's Environment, Exporting Variables, Exit Status, Programming the Shell, Parameter Passing, Operators, looping, Input and Output.

Process Management with Linux, File System management, User Administration, Linux Start up and Shutdown, Software package Management

Network Administration

LAN Card configuration, Server Configuration- DHCP, DNS, FTP, Telnet, SSH, NFS, Web Server, SQUID Proxy server.

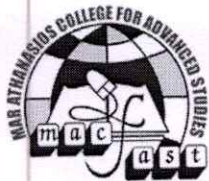
References

- Operating System - Linux, NUT Press, PHI Publisher, 2006 Edition
- Red Hat Linux Bible, Cristopher Negus, Wiley Dreamtech India
- UNIX Shell Programming by Yeswant Kanetkar, BPB
- Linux Administration Handbook, Evi Nemeth, Garth Snyder, Trent KHein -Pearson Education.
- Beginning Linux Programming by Neil Mathew & Richard Stones, Wiley Dreamtech India



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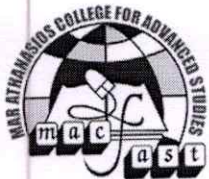
Thiruvalla - 689101

**DEPARTMENT OF COMPUTER APPLICATIONS
LIST OF STUDENTS STUDIED COURSES ON EXPERIENTIAL
LEARNING-MCA 2015-2018 (Regular)**

Sl No	Reg. No	Name of the Student
1	600238	Ansu Elsa Koshy
2	700341	Aghil Suku
3	700342	Akhil S Kumar
4	700343	Aneena Sara Varghese
5	700344	Anisha Sumila Joseph
6	700345	Ann Susan Alexander
7	700346	Anu Vijay
8	700347	Archana Mohanan
9	700348	Arjun T K
10	700349	Arun G
11	700350	Binsu Dan Varghese
12	700351	Bipin C Mathew
13	700352	Blessy Beena Sunny
14	700353	Blessy Elsa T. Damian
15	700354	Chinnu C Babu
16	700355	Delna Rodrigues
17	700356	Femy Rose Shibu
18	700357	Geethu Krishna C S
19	700358	George Panicker
20	700359	Gokul Krishnan
21	700360	Jasmin Sebastian
22	700361	Neethu Elsa Varghese
23	700362	Pearly Varghese
24	700363	Rajeshwari Rajendran
25	700364	Reshma Madhu
26	700365	Resmi Ramesh
27	700366	Rincy Susa Aniyon
28	700367	Rinirajan
29	700368	Saibi Samuel

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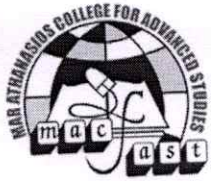
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Thiruvalla - 689101

30	700369	Samcy Merin Sam
31	700370	Shorn Chacko Rajan
32	700371	Silpa S Kurup
33	700372	Sreekuttan B
34	700373	Sreelekshmi R
35	700374	Sreelekshmi S
36	700375	Sruthi S Nair
37	700376	Stephy John
38	700377	Tinu M
39	700378	Tiya Mary Alex
40	700379	Vipin K Das


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**DEPARTMENT OF COMPUTER APPLICATIONS
LIST OF STUDENTS STUDIED COURSES ON EXPERIENTIAL
LEARNING-MCA 2016-2018 (L.E)**

Sl.No:	Reg.No:	Name of the student
1	702051	Aiswarya S
2	702052	Akhil Mohandas
3	702053	Akhil P C
4	702054	Akhil T S
5	702055	Akshara K
6	702056	Alwin Johns
7	702057	Amaljith M S
8	702058	Anju Gopi
9	702059	Annamma Joseph
10	702060	Anuja Omanakuttan
11	702061	Arathi Pradeep
12	702062	Archa Lal
13	702063	Arun D Nair
14	702064	Bhagyalakshmi Unnithan
15	702065	Bhavana Murali
16	702066	Dileep M Das
17	702067	Dilna Basheer
18	702068	Enet Mary Abraham
19	702069	Greeshma Raj S
20	702070	Greeshma Sajeevan
21	702071	Jagan thomas
22	702072	Jency James
23	702073	Joby Jose
24	702074	Joel V Samuel
25	702075	Krishna Veni V
26	702076	Linto Thomas
27	702077	Mahesh M


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Thiruvalla - 689101

28	702078	Manju Mohan
29	702079	Neeraja Rajendran
30	702080	Nithin Mathew
31	702081	Oby K.M
32	702082	Parvathy Rajesh
33	702083	Priyanka S
34	702084	R Surya Krishna
35	702085	Riswana Subier
36	702086	Roby Varghese
37	702087	Saranya B
38	702088	Shine Sebastian
39	702089	Shinu J Chacko
40	702090	Silu S
41	702091	Sneha Mol
42	702092	Sneha Thomas
43	702093	Sreelakshmi S
44	702094	Subin S
45	702095	Sunitha S
46	702096	Thejus Krishna J
47	702097	Tintu Martin
48	702098	Vignesh P Vijay



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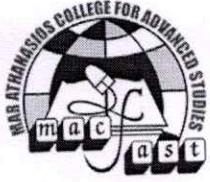
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47	702097	Tintu Martin
48	702098	Vignesh P Vijay



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Personal Website Development

Introduction to Web Technology	Introduction to HTML -HTML Tags, Document Heading, Page title, Page's content, Section heading, A paragraph. A link, inserting an image. Introduction to CSS -CSS Building blocks, Styling Text and CSS layouts.
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MCA 106P C PROGRAMMING- PRACTICALS

- Implementation of the various Data Types in C.
- Demonstration of Data type conversion (Hint: Usage of type casting).
- Implementation of various Storage Types.
- Demonstration of for loop.
- Demonstration of do...while loop.
- Demonstration of while loop.
- Demonstration of nested if (Hint: Use logical operators).
- Demonstration of switch... case structure.
- Implementation of arrays.
- Implementation of multidimensional arrays (Hint: implement matrix operation).
- Implementation of functions (Hint: Demonstrate call by value, call by schemes, passing of arrays).
- Demonstration of various string operations (Hint: Usage of user defined functions only allowed). Demonstration of pointer operations.
- Demonstration of recursion (Hint: GCD, factorial, Fibonacci series).
- Demonstration of Debugging a C program.

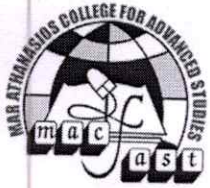
Section B (Min 20 Programs)

- Implementation of structures (Hint: simple structure operations, array of structures).
- Implementation of Union.
- Implementation of pointers to structures and unions.
- Demonstration of dynamic allocation of memory (Hint: malloc, calloc, realloc, free).
- Demonstration of sorting techniques (Hint: selection sort, bubble sort).
- Demonstration of searching techniques (Hint: linear search, binary search).
- Demonstration of bitwise operations.
- Demonstration of macro processing.
- Demonstration of various file operations. (Hint: Text file)
- Implementation of character counting, line counting and word counting for a file.
- Program to find the lengthiest line in a text file.



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**DEPARTMENT OF COMPUTER APPLICATIONS
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LEARNING-MCA 2016-2019 (Regular)**

Sl No	Register .No:	Name of the Student
1	800111	Ajith M Nair
2	800112	Ajo T Sam
3	800113	Archa S Madhu
4	800114	Archana P Anirudhan
5	800115	Arjun R Pillai
6	800116	Ashbin Shaji
7	800117	Athira P A
8	800118	Athira S
9	800119	Athira Sreekumar
10	800120	Edwin Varghese George
11	800121	Meera Rani Thomas
12	800122	Namiya Anna Saju
13	800123	Neethu Mariam Raju
14	800124	R. Sreeparvathy
15	800125	Sonu Varghese
16	800126	Sreenath K.P
17	800127	Suraj Kumar Nair
18	800128	Thushara S



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MCA 207 C++ Lab

1. Program to Implement Classes and Objects.
2. Program to Implement Constructors and Destructors with array of Objects.
3. Program to Implement Passing and returning parameters as objects by reference.
4. Program to demonstrate Function Overloading.
5. Program to overload different operators – incr & decr operators with post & pre forms; new, delete, [], () and arithmetic operators.
6. Program to perform pointer sort operation.
7. Program to demonstrate friend functions and friend classes.
8. Program using objects for String manipulation functions.
9. Program to implement different types of inheritances like Multiple, Multilevel and Hybrid.
10. Program to demonstrate the use of Virtual Functions.
11. Program to demonstrate the use of abstract classes.
12. Program to demonstrate I/O streams and functions.
13. Program to Overload << and >> operators as a member and as a non-member operator functions.
14. Program to create a file to store some records and search for a particular record and display it.
15. Program to demonstrate namespaces and Volatile member functions.
16. Program to perform all possible Type Conversions.
17. Program to create function Templates, and overload the function Templates.
18. Program to create a generic stack class and member functions to perform stack operations.
19. Program to implement Exception Handling with minimum 5 exception classes including two built-in exceptions.



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MCA 107 - PC HARDWARE LAB

1. Identification of PC Components and Assembling the PC
2. Installation of Operating Systems and formatting the Hard Disk
3. Replacing and fitting of Hard Disk and Floppy Disk on PC
4. Identification of different cards in the PC
5. Setting of jumpers for Interrupt Request on mother Board
6. PC Tools and its use
7. Disc Managers and it's use
8. Virus removal and disc scan
9. Connecting input devises and installing their driver software
10. Replacing and fitting Processors, Motherboards and Memory.

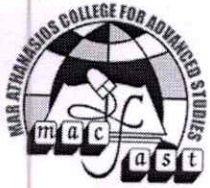
Text Book :

The Complete Reference – PC Hardware – Craig Zacker & John rourke, Edition 2001 Tata McGraw Hill



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SCHOOL OF BIOSCIENCES


Names of the students studied course on experiential learning (2016-17)

Programme: M.Sc. Biochemistry
Course: BCIMOOIPPI LABORATORY COURSE I

M.Sc. Biochemistry (2016-18 batch)

Sl.No.	REGISTER No.	NAME OF STUDENT
1.	160011011959	ANJALI S.
2.	160011011960	ANJU C. ANAND
3.	160011011961	BHAVYA XAVIER
4.	160011011962	BINSU BOSE
5.	160011011963	CHINJU VARGHESE
6.	160011011964	LEKSHMI DEVI J.C.
7.	160011011965	RAGIMOL M.R.
8.	160011011966	RAHUMATH A.S.
9.	160011011967	RESHMA SHAJI
10.	160011011968	RIA ELZA VARGHESE
11.	160011011969	SONIA PHILIP
12.	160011011970	SUJILA S.P.
13.	160011011971	VARSHA S.S.
14.	160011011972	VINITHA FRANCIS




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Mar Athanasios College for Advanced Studies
(MACFAST)
Tiruvalla-689 101
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BCIMOOIPPI-LABORATORY COURSE –I

Hours/week-10

Credits-4

Biochemistry: Number of Hours/Week:9**1. Preparation of Solutions:**

- Percentage solutions,
- Molar solutions,
- Normal solutions
- Dilution of Stock solutions

2. Preparation of buffers using the Henderson Hasselbach equation**3. Spectrophotometric experiments:**

- Determination of UV-Visible spectrum of compounds
- Determination of Concentration of molecules from Molar Extinction coefficient values.

Quantitative Analysis-Any five

- Quantitative estimation of reducing sugars by Dinitrosalicylic acid method
- Quantitative estimation of glucose by Nelsons Somogi method
- Quantitative estimation of glucose by orthotoluidine method
- Estimation of fructose by Roe and Papadopaulose method
- Estimation xylose by orcinol method
- Quantitative estimation of tyrosine by FolinSciocalteumethod
- Estimation of Cholesterol by Zak's method
- Estimation of protein by biuret method.
- Estimation of protein by Lowry's method



- Estimation of protein by BCG method
- Quantitative estimation of Methionine by Nitroprusside method
- Estimation of total aminoacids by Ninhydrin method
- Determination of Saponification value, acid value, iodine number of oils or fats.

4. Chromatographic techniques

- Separation of amino acids by Paper chromatography (Descending or Ascending)
- Separation of Plant pigments/lipids/sugars by Thin layer chromatography
- Separation of any biomolecule by column chromatography

5. Extraction of Polysaccharides (Starch, glycogen), Proteins from appropriate source:

Quantification of isolated polysaccharides (anthrone method), protein (Lowry's method) and lipids

6. Qualitative analysis of Carbohydrate mixtures (a combination of polysaccharide, disaccharide and monosaccharide) following systematic analysis. General reactions of amino acids, proteins and lipids.
7. Demonstration of stages of mitosis, meiosis and counting chromosome numbers

8. Physiology experiments

Determination of haemoglobin concentration

Determination of haematocrit

Enumeration of bloodcells:

Erythrocytes by haemocytometry,

Total leukocyte by haemocytometry





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SCHOOL OF BIOSCIENCES

Names of the students studied course on experiential learning (2016-17)

Programme: M. Sc. Bioinformatics
Course: BIF1M001PP1 Laboratory Course 1

M. Sc. Bioinformatics (2016-18 batch)

Sl.No.	REGISTER No.	NAME OF STUDENT
1.	160011011442	ABHIJITH M. ANANDAN
2.	160011011443	ANNU S. GEORGE
3.	160011011444	DALIYA SIMON
4.	160011011445	DILNA T.
5.	160011011446	KESIYA JOY
6.	160011011447	SAMUEL GRACE ANNA MATHAI



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BIF1M001PP1-Laboratory Course 1

I. Identification of Carbohydrates, Proteins and Lipids by Qualitative Analysis (Colour Reactions)

- * Identification of mixtures - Carbohydrates and Proteins
- * Carbohydrates - Monosaccharides, Disaccharides and Polysaccharides
- * Proteins - Albumin, Casein, Peptone
- * Lipids - Cholesterol

II. Quantitative Analysis of Biomolecules

- a) Glucose - Anthrone, DNSA Methods
- b) Protein - Lowry's Method, Biuret method
- c) Cholesterol - Zak's method
- d) DNA - Diphenyl Amine Method
- e) RNA - Orcinol Method

- ### III
- 1) Prepare reports in MS Word, MS Excel and Power point
 - 2) Various Linux Commands
 - 3) C Programs -10 Numerical analysis and 5 Biological analysis





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SCHOOL OF BIOSCIENCES

Names of the students studied course on experiential learning (2016-17)

Programme: M. Sc. Bioinformatics
Course: BIF4M004PD Project OR Dissertation

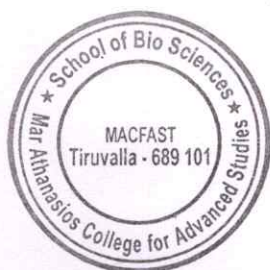
M.Sc. Bioinformatics (2015-17 batch)

Sl.No.	REGISTER No.	NAME OF STUDENT
1.	150011013819	ALUSHA SUSAN THOMAS
2.	150011013820	ANJU A
3.	150011013821	ASHA ANTONY




Head, School of Bio Sciences
Mar Athanasios College for Advanced Studies
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**REGULATIONS, SCHEME AND
SYLLABUS FOR
M.Sc. BIOINFORMATICS PROGRAMME
(UNDER CSS)
AT AFFILIATED COLLEGES OF
MAHATMA GANDHI UNIVERSITY
KOTTAYAM, KERALA
(W.E.F 2012-2013)**



SEMESTER	COURSE TITLE	HOURS/ WEEK	CREDIT	TOTAL CREDIT
I	BIF1M001PC1-Introduction to Cell Biology and Biomolecules	4	4	19
	BIF1M001PC2-Fundamentals of Applied Mathematics & Biostatistics	3	3	
	BIF1M001PC3-Genetics and Molecular Biology	4	4	
	BIF1M001PC4-Introduction to Computing and Bioinformatics	4	4	
	BIF1M001PP1-Laboratory Course 1	10	4	
II	BIF2M002PC5-Metabolism & Bioenergetics	4	4	19
	BIF2M002PC6 -General Microbiology	3	3	
	BIF2M002PC7 –Genomics	4	4	
	BIF2M002PC8 -Bioinformatics & PERL	4	4	
	BIF2M002PP2- Laboratory Course 2	10	4	
III	BIF3M003PC9 – Proteomics	4	4	19
	BIF3M003PC10- Immunology	4	4	
	BIF3M003PC11 –DBMS & Biological Databases	4	4	
	BIF3M003PC12- Bioinformatics in the future	3	3	
	BIF3M003PP3 - Laboratory Course 3	10	4	
IV	BIF4M004PE1 - Genetic Engineering & IPR	5	4	23
	BIF4M004PE2 - CADD & Molecular Modelling	5	4	
	BIF4M004PE3 - Bioprogramming & Soft Computing Techniques	5	4	
	BIF4M004PP4 - Laboratory Course 4	10	4	
	<u>BIF4M004PD - Project OR Dissertation</u>	-	4	
	VIVA-VOCE	-	3	
Additional Electives of Fourth Semester	BIF4M004PE4- IPR & Bioethics	5	4	
	BIF4M004PE5- Pharmaceutical Chemistry & Action of Selected Drugs	5	4	
	BIF4M004PE6- Basics of Nanotechnology	5	4	





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SCHOOL OF BIOSCIENCES

Names of the students studied course on experiential learning (2016-17)

Programme: M.Sc. Biotechnology
Course: BTPG10 LABORATORY COURSE II

M.Sc. Biotechnology (2016-18 batch)

SI.No.	REGISTER No.	NAME OF STUDENT
1.	160011012670	ANJUMOL K.P.
2.	160011012671	ELMA SUSAN REJI
3.	160011012672	GAYATHRI U.
4.	160011012673	LITTY THOMAS
5.	160011012674	MARIA JOY P.




Head, School of Bio Sciences
Mar Athanasios College for Advanced Studies
(MACFAST)
Tiruvalla-689 101
Kerala, India

BTPG10 Laboratory Course-II

Number of Hours / Week: 10

Credits: 4

Microbiology and Immunology

- Microscopic examination of bacteria in living conditions
- Testing of motility
- Staining procedures- simple stain, differential staining- Gram staining, flagellar staining
- Sterilisation methods
- Cultivation of bacteria and fungi
- Study of cultural characteristics and biochemical reaction of bacteria
- Testing of disinfectants
- Antibiotic sensitivity tests
- Immunodiffusion in gel
- Serological tests for the diagnosis of microbial infections-RPR, RF, ASO.
- Agglutination and precipitation tests
- ELISA

Metabolism and Enzymology

- Estimation of enzyme activity ALP , SGOT, SGPT
- Determination of K_m and V_{max}
- Effect of pH, Effect of temperature on enzyme activity
- Enzyme inhibition studies- estimation of K_I .
- Purification of the enzyme- Ammonium sulphate precipitation
A) Dialysis B)Gel Filtration C)Ion Exchange chromatography
D) PAGE/SDS - PAGE





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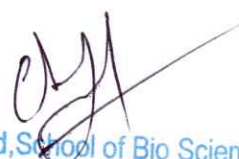
Names of the students studied course on experiential learning (2016-17)

Programme: M.Sc. Food Technology & Quality Assurance
Course: FT1MPP 705 Practical-Biochemistry

M.Sc. Food Technology & Quality Assurance (2016-18 batch)

Sl.No.	REGISTER No.	NAME OF STUDENT
1.	160011011579	ABHIRAMI S NAIR
2.	160011011580	AKHIL S
3.	160011011581	ALEENA T MATHEWS
4.	160011011582	AMBILI M THOMAS
5.	160011011583	ANSU MARY JOHN
6.	160011011584	ARATHI BEN
7.	160011011585	ARCHA U L
8.	160011011586	ASWIN SANJEEV
9.	160011011587	ATHIRA KRISHNAN. R
10.	160011011588	BHAGYA VIJAYAN
11.	160011011589	BINIL ALIAS
12.	160011011590	BOBY GEORGE
13.	160011011591	DENNA MARY TOM
14.	160011011592	DHANU S. LAKSHMI
15.	160011011593	FATHIMI SHAMNA N S
16.	160011011594	JAIN SARA JACOB
17.	160011011595	JESLA JOHN
18.	160011011596	MANIJA MADHU
19.	160011011597	MATHAI MATHEW
20.	160011011598	MERCY JOSE
21.	160011011599	MUHAMMAD JASIR M. T. K
22.	160011011600	NADIYA NAZER
23.	160011011601	NIKHIL A N
24.	160011011602	PRIYA ELIZABETH FRANCIS
25.	160011011603	RENU JOHN
26.	160011011604	SERA TREESA MATHEW
27.	160011011605	SIBIN BABU
28.	160011011606	TEENA JOSEPH
29.	160011011607	VISHNU C
30.	160011020738	AMMU BEJOE




Head, School of Bio Sciences
Mar Athanasios College for Advanced Studies
(MACFAST)
Thiruvalla-689 101
Kerala, India

FT1MPP 705: Practical- Biochemistry

Credits: 2

72 hours

OBJECTIVES

To provide a balanced introduction to laboratory techniques and principles that is important in the area of Biochemistry

- ❖ Qualitative tests for carbohydrates (10 hours)
- ❖ Qualitative tests for proteins: Millon's test, Nitroprusside test, Ninhydrin test. (6 hours)
- ❖ Biuret method for estimation of proteins (4 hours)
- ❖ Estimation of Protein by Lowry's method (4 hours)
- ❖ Estimation of Ascorbic acid (4 hours)
- ❖ Estimation of Protein by Micro Kjeldahl Method, (4 hours)
- ❖ Estimation of sugars by Anthrone method (4 hours)
- ❖ Estimation of sugar by phenol-sulphuric acid (4 hours)
- ❖ Estimation of cholesterol (4 hours)
- ❖ Estimation of thiamine (4 hours)
- ❖ Study of enzymes- lipases, amylases, proteases, invertases (10 hours)
- ❖ Chromatography : Paper and Thin layer (10 hours)
- ❖ Gas Chromatography (4 hours)

Reference:

- ❖ Sadasivam S, Manickam A (1996) Biochemical Methods, Second edition, New Age International Ltd, New Delhi.
- ❖ Plummer D T (1998) An Introduction to Practical Biochemistry, Third edition, Tata McGraw Hill, New Delhi





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Names of the students studied course on experiential learning (2016-17)


Programme: M.Sc. Food Technology & Quality Assurance

Course: FT2MPP 712 Practical- Food Analysis I

M.Sc. Food Technology & Quality Assurance (2016-18 batch)

Sl.No.	REGISTER No.	NAME OF STUDENT
1.	160011011579	ABHIRAMI S NAIR
2.	160011011580	AKHIL S
3.	160011011581	ALEENA T MATHEWS
4.	160011011582	AMBILI M THOMAS
5.	160011011583	ANSU MARY JOHN
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30.	160011020738	AMMU BEJOE




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Kerala, India

FT2MPP 712: Practical- Food Analysis I

Credits: 3

108 hours

OBJECTIVES

To provide a knowledge and training on principles and techniques for analysis of food composition.

Estimation of Carbohydrates	24 Hrs
<ul style="list-style-type: none">• Estimation of Glucose by Lane and Eynon's method.• Estimation of Sucrose by Lane and Eynon's method.• Estimation of Aldose by Wilstatter's Iodometric titration.• Estimation of Starch by Iodometric titration	
Estimation of Protein	10 Hrs
<ul style="list-style-type: none">• Micro-Kjeldhal's method	
Estimation of Lipids	14 Hrs
<ul style="list-style-type: none">• Determination of peroxide value• Determination of iodine value of an oil• Saponification value• Estimation of free fatty acids• Estimation of acid value	
Estimation of Vitamins	8 Hrs
<ul style="list-style-type: none">• Estimation of vitamin C by volumetric method• Estimation of vitamin C by spectrophotometric method	
Estimation of water hardness	4 Hrs
Estimation of crude fiber	6 Hrs
Estimation of titratable acidity in foods	4 Hrs
Estimation of moisture	10 Hrs
<ul style="list-style-type: none">• Oven dry method• Titration	
Estimation of salt content by Mohr method	4 Hrs
Estimation of total ash	4 Hrs
Sensory tests	10 Hrs
Detection of adulterants	10 Hrs

REFERENCES

- Sadasivam, S. Manickam, A. Biochemical Methods, 2nd edition. New Age International (P) Limited, New Delhi. 2001
- Nielsen, S.S. Introduction to the chemical analysis of foods. Jones and Bartlett Publishers, Boston, London 2003





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Names of the students studied course on experiential learning (2016-17)

Programme: M.Sc. Food Technology & Quality Assurance
Course: FT 3MPP 718 FT 3MPP 718 Practical- Processing Technology of Agro-foods

M.Sc. Food Technology & Quality Assurance (2015-17 batch)

Sl. No.	REGISTER No.	NAME OF STUDENT
1.	150011013947	AISWARYA VASANTH
2.	150011013948	ANJALI PRADEEP
3.	150011013949	ARCHANA KISHOR KUMAR
4.	150011013950	ASWATHY REMESH
5.	150011013951	ASWATHY S
6.	150011013952	ASWIN OMANAKUTTAN
7.	150011013953	DEEPTHI SLIZABETH JOHNS
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19.	150011013965	RAJENDRAPRASAD N V
20.	150011013966	RAJESH SHAM
21.	150011013967	RINSY MATHEW
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23.	150011013969	SHAFANA FARUK
24.	150011013970	SIMIMOL PHILIP
25.	150011013971	SIMI SATHAR
26.	150011013972	SIMON THOMAS
27.	150011013973	SINDOORA K UDAYAKUMAR
28.	150011013974	SUMAYYA ABDUL RAHIM
29.	150011013975	THEJAS ANIL
30.	150011013976	VIDHYALAKSHMI V




Head, School of Bio Sciences
Mar Athanasios College for Advanced Studies
(MACFAST)
Tiruvalla-689 101
Kerala, India

FT 3MPP 718: Practical- Processing Technology of Agro-foods

Credits 3

108 h

OBJECTIVES

To provide a balanced methodology to the principles and techniques that is important in the processing of food

Preparation of bakery products

34 h

- Preparation of bread
- Preparation of cake – sponge cake, plain cake, chocolate cake
- Preparation of biscuit
- Preparation of doughnut
- Preparation of fruit pie
- Preparation of nan katai

Preparation of confectionary

20 h

- Preparation of toffee
- Preparation of burfi
- Preparation of marmalade
- Preparation of Chikki
- Preparation of peanut butter

Preparation of fermented products

22 h

- Preparation of wine
- Preparation of cider
- Preparation of vinegar
- Preparation of chilli sauce

Preparation of indigenous foods

12 h

- Preparation of idli
- Preparation of dosa
- Preparation of steamed rice cakes

Preparation of dehydrated foods

10 h

- Preparation of Dehydrated shredded coconuts
- Preparation of Dehydrated vegetables

Preparation of osmotic dehydrated foods

10 h

- Preparation of Tuti fruti
- Preparation of Pineapple candy





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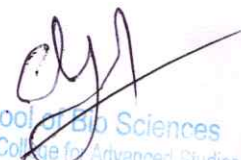
Names of the students studied course on experiential learning (2016-17)

Programme: M.Sc. Food Technology & Quality Assurance
Course: FT 4MPP 725 Practical: Food Processing

M.Sc. Food Technology & Quality Assurance (2015-17 batch)

Sl. No.	REGISTER No.	NAME OF STUDENT
1.	150011013947	AISWARYA VASANTH
2.	150011013948	ANJALI PRADEEP
3.	150011013949	ARCHANA KISHOR KUMAR
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5.	150011013951	ASWATHY S
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28.	150011013974	SUMAYYA ABDUL RAHIM
29.	150011013975	THEJAS ANIL
30.	150011013976	VIDHYALAKSHMI V




Head, School of Bio Sciences
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(MACFAST)
Tiruvalla-689 101
Kerala, India

FT 4MPP 725: Practical- Food Processing

Credits 3

108 h

OBJECTIVES

- To acquire technical and professional skills in processing aspects of different foods in Food industry

Processing of Agro based Foods

30 h

1. Coconut Products
 - Coconut burfi
 - Preparation of coconut chips
 - Nata de coco
2. Fruits and vegetable based products
 - Ginger candy
 - Sauerkraut
 - Mixed vegetable pickle
 - Dried pickles-mango, *Averrhoa bilimbi*, chilli, lemon
 - Quick freezing of vegetables

Processing of Confectionaries

30 h

- Marshmallows
- Milk chocolates
- Black forest
- Different stages of sugar cookery- thread, Soft Ball, Firm Ball, Hard Ball, soft Crack, Hard crack, Clear liquid and Brown Liquid

Processing of Animal Based Products

18 h

- Processing of milk-spray drying, drum drying, pasteurization
- Processing of fish- pickling, drying, canning & quick-freezing
- Processing of meat-meat pickles, dried meat in vaccum packing

Processing of Masala Powders

30 h

- Rasam mix
- Sambar powder
- Pickle powders
- Chicken masala mix
- Garam masala mix
- Chat masala mix

Reference

- Srivastava, R.PO and Kumar, S. Fruit and vegetable preservation, International Book distribution Company, Lucknow, 1994.

