

CURRICULUM WITH ASSESSMENT PROCEDURES: 2019-2020

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Note: Curriculum of the Certificate Courses/MOOCs is given to the students prior to the commencement of the course. The assessment procedure of each course (highlighted in yellow colour) is included in the curriculum. We hereby submit the curriculum and assessment procedure of each Certificate Course/MOOC for your kind perusal.



1. Certificate Course in Robotics

Syllabus

Course Name: Certificate Course in Robotics

Course Code: MTCRBT

(Credit 30 hours)

1. Introduction to Robotics (10 hours)

Types and components of a robot, Classification of robots, 1.2 Kinematics systems; Definition of mechanisms and manipulators, Degrees of Freedom

2. Robot Kinematics and Dynamics (10 hours)

Kinematic Modelling: Translation and Rotation Representation, Coordinate transformation, DH parameters, Forward and inverse kinematics, Jacobian, Singularity, and Statics 2.2 Dynamic Modelling: Forward and inverse dynamics, Equations of motion using Euler-Lagrange formulation, Newton Euler formulation

3. Sensors (10 hours)

Sensor: Contact and Proximity, Position, Velocity, Force, Tactile etc. 3.2 Introduction to Cameras, Camera calibration, 3.3 Geometry of Image formation, Euclidean/Similarity/Affine/Projective transformations 3.4 Vision applications in robotics.

Course Objective: The Objective of the Course is to impart knowledge about basic mathematics related to industrial robots and to control and design robots. Also to find their application in automation Industries.

Course Outcome: After the completion of this Course, the students will be able to:
Perform kinematic and dynamic analyses with simulation. · Design control laws for a simple robot. · Integrate mechanical and electrical hardware for a real prototype of a robotic device. · Select a robotic system for a given industrial application.

Assessment Procedure



Assessment of Course is done as per the following Scheme of distribution of marks. For each paper 30 marks are set apart for the evaluation. Total 50% marks should be secured for a pass in the course. Components of evaluation are

Paper	Marks
Test	10
Practical	10
Seminar/Viva Voce	10
Total	30

2. Certificate Course in Energy Efficient Devices

Syllabus

Course Name: Certificate Course in Energy Efficient Devices

Course Code: MTCEED

(Credit 30 hours)

Semiconductors: (8 hours)

Fundamentals of semiconducting materials, Band formation, Bonding, Forces, types of semiconductors, conductivity and resistivity, Intrinsic silicon, extrinsic n and p type silicon, mobility of carriers, carrier transport in semiconductors; p- n junctions diodes and other applications Semiconductor Materials.

Energy Efficient Technologies in Electrical Systems: (8 hours)

Maximum demand controllers, Automatic power factor controllers, Energy efficient motors, Soft starters with energy saver, Variable speed drives, Energy efficient transformers, Electronic ballast, Occupancy sensors, Energy efficient lighting controls, Energy saving potential of each technology Maximum demand controllers, Automatic power factor controllers, Energy efficient motors, Soft starters with energy saver, Variable speed drives, Energy efficient transformers, Electronic ballast, Occupancy sensors, Energy efficient lighting controls, Energy saving potential of each technology.

Light Emitting Diodes: (4 hours)

Light emitting diode symbol, working of light emitting diode, LED voltage and current, types of LED, characteristics of LEDs, advantages and disadvantages of LED, applications of light emitting diode.

Practical (10 hours)

LED bulb and star making

Course Objective is to get insight about major energy efficient devices, to learn theory of energy efficient energy devices, to learn energy saving mechanisms, Design and study LED bulbs, Stars etc.

Course Outcome is that after the completion of this Course, the students will be able to: Enhance their practical skills such as assembling of electronic circuits and easy mounting of LED's via simplified connections which lead them to make LED lights for their own household applications.



Assessment Procedure

Assessment of Course is done as per the following Scheme of distribution of marks. For each paper 30 marks are set apart for the evaluation. Total 50% marks should be secured for a pass in the course. Components of evaluation are

Paper	Marks
Test	10
Practical	10
Seminar/Viva Voce	10
Total	30

3. Diploma in Computer Application (DCA)

Syllabus



INSTITUTE OF HUMAN RESOURCES DEVELOPMENT DIPLOMA IN COMPUTER APPLICATIONS

(One Semester) (Scheme-2017)

Subject Code	Subject Name	No. of Hrs/ Week		Minimum Marks			Maximum Marks		
		T	P	W/ P	C E	T	W/ P	C E	T
DCA101	PC Hardware & Operating Systems	2	-	30	10	50	75	25	100
DCA102	Office Automation Packages	2	-	30	10	50	75	25	100
DCA103	Networking & Web Technology	2	-	30	10	50	75	25	100
DCA104	Lab Practice - 1 (Windows, Linux, PC Hardware)	-	3	30	10	50	75	25	100
DCA105	Lab Practice - 2 (Office Automation Packages, Data Entry)	-	3	30	10	50	75	25	100
DCA106	Lab Practice - 3 (Network, PC Skills, Internet)	-	3	30	10	50	75	25	100
Total Duration : 240 Hrs		6	9	Total Marks			450	150	600



* T- Theory P - Practical W - Written CE-
Continuous Evaluation T – Total



Duration: 40 Hrs.

DCA101 PC Hardware & Operating Systems

Module 1 – Computer Fundamentals (10 Hrs)

Introduction to Computer - Familiarity with the basic components of computers and computer terminology - Characteristics of computer, e- governance, multimedia etc.

Concept of Hardware and Software - Block diagram - functional units - Input, Output, Memory, CPU. (2 hrs)

IO-Devices - Familiarization of IO-Devices - Keyboard, mouse (optical, wireless), scanners – Monitor - Type of monitors(LED,TFT)-Pixel, Resolution - LCD projector – Printers -Type of printers - Dot matrix, Inkjet, Laser, Thermal. (4 hrs)
Memory - Primary memory - RAM, ROM, Flash memory - Secondary Storage - Hard disk - concept of track, sector, cylinder, Storage capacity, SMART(concept only), Hard disk types - SATA,SCSI, SAS - Optical storage devices - CD, DVD - Flash disk. (2 hrs)

CPU – Microprocessor - concept of ALU and control unit - familiarization of latest processors (Intel, AMD etc.), Multi core processors – Wordlength , Clock Speed,Concept of Cache memory.(2 hrs)

Module 2 - Windows (8 Hrs)

Introduction to GUI Based Operating System - GUI based operating system - File Management

Operating system Overview – Definition - Functions-as a resource manager, as an Interface - CUI,GUI - Structure of OS - Kernel, Shell - POST and Bootstrapping. (2hrs)

Windows - Shell commands - (DATE, TIME, DIR, COPY, REN, DEL,MD, CD, RD, TYPE),

Files and Folder manipulation - create, copy, move, rename, delete - Sharing of folder and printer - Managing user accounts. (6 hrs)

Module 3 –GNU/Linux (7 Hrs)

Concept of open source software –GNU/Linux – Different distribution of Linux - Features of Linux - login, Shell commands in linux(ls, date, cp, mv, rm, mkdir, rmdir, cd, cat, man, who) - Files and folder manipulation in Linux GUI - User



management - Concept of Linux directory structure. (5hrs)



Comparison of Windows and Linux operating systems. (2hrs)

Module 4 - PC Hardware (10Hrs)

Identification of Hardware components - motherboard, processor, memory (DDR3,DDR4), HDD, DVD writer, Graphic system(AGP,PCI Express) - SMPS - NIC (2hrs)

Ports - parallel, USB, PS/2, audio ports, Ethernet. (1hrs) Device Driver installation (Printers, scanners) (3 hrs)

Device connectivity - Ethernet, Bluetooth, wireless, mobile connectivity, modem. Sample system specification for home, office and special purpose computers. (4hrs)

Module 5 - OS Installation (5 Hrs)

Configuring system - Hard disk Partitioning – formatting - CMOS setup – Display and audio configuration. (2hrs) Case study of OS installation (windows, Ubuntu Linux) - Service pack - OS updation - concept of boot loader - software installation (3hrs)

Reference:

7. Computer Fundamentals - B RAM
8. Upgrading and repairing PC's – Que publications
9. <http://en.wikipedia.org/wiki/linux>



Duration: 40 Hrs.

DCA102 Office Automation Packages

Module 1 - Word Processing (10 Hrs)

Elements of Word Processing - Document creation saving, editing, insertion of tables etc. in document

Introduction – Menu – Tool bar – Document – creation, editing, saving, opening- Text – editing , deleting, inserting, selection, moving, copying, converting case, find & replace, redo/undo - Formatting document – paragraph formatting – applying styles , header and footer, bullets and numbering, format painter ,line spacing – page layout – numbering pages - inserting section break – spell check - news paper column - Printing Document - page setup, inserting picture Tables - creation, editing, formatting, insertion, merging, splitting rows and columns, document with tables. Mailmerge and template creation.

Malayalam computing -Familiarization of Malayalam fonts, Malayalam Transliteration, Enabling Malayalam in Windows and Linux.

Module 2 - Spreadsheets (13 Hrs)

Office Packages - Create, save, and effectively work with Spreadsheets including formulae and chart - Cell manipulation, Insertion and deletion of rows, columns, chart, graphs, function etc.

Electronic spreadsheet features, work book, work sheet, menu, cells - entering data, text, functions – selecting cell – ranges- saving work sheet- editing work sheet data – copying , cut & paste - inserting , deleting rows, columns, cell ranges- find and replace data – Formatting work sheet – Changing column width, row height , aligning data – controlling text within a cell - changing font size, style - applying border, pattern styles.

Charts - different types - titles and legend, saving , moving and copying between sheets.

Formulas, functions - entering formulas- cell references –functions (sum, average, if, count, max, min, sin, sumif, hyperlink) - working with range names

Printing – print preview - setting print area - headers and footers- inserting, removing page break - cell protection, freezing columns - data - auto filter, sorting - hiding and displaying data



Module 3 - Presentation Software (5Hrs)

Create, save and work on presentation software -Demonstrate Presentation Software like Power Point

Create presentation with back ground – inserting pictures and images - change position or lay out of pictures – Apply 3D effect, shadows, back ground fill colors, textures and pattern. – multimedia – insert sounds and movies - slide transition - introduce animated objects.

Slide show set up - insert navigation to slides- presentations and URL's – apply and edit timings – create a customized slide show.

Module 4 - DTP (6 Hrs)

Desktop publishing software and its functionality - working with publication, new publication, opening a publication, drawing tools- grouping and ungrouping, control palette, power pasting, paste multiple, Importing graphics, place commands, cropping tools, text tools – adding, changing and manipulating text – importing text– placing text, threaded text, master pages, character specification and paragraph specification.

Module 5 –Tally.ERP9 based Accounting (6Hrs)

Accounting basics-Familiarisation of tally menus- configuring tally – Ledger creation/editing – Voucher Entry – corrections –Voucher types – report generation - Printing - Bank reconciliation.

Introduction to Digital Financial Services - Introduction to Internet based financial services and awareness of various schemes of Govt. of India. Awareness of various Digital Financial services modes (like net banking, mobile banking etc.)

References:

9. Office 2016 All-In-One For Dummies - Peter Weverka
10. Office 2013 Library Excel 2013 Bible, Access 2013 Bible, PowerPoint 2013 Bible, Word 2013 Bible Lisa A. Bucki
11. Adobe PageMaker 7.0 Classroom in a Book
12. Teach Yourself Tally ERP 9 Mr. Niranjana Jha

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Duration: 40 Hrs.

DCA103 Networking & Web Technology Module 1.

Networking Concepts (10 Hrs)

Concepts of computer network - need and advantages -concept of LANs & WANs - serial & parallel data transmission – networking components- wired & wireless - Transmission media- bounded and unbounded media - UTP cables, fiber optic, microwave & satellite link -NIC cards, Ethernet port, switches, Modems – Concept of IP addresses , subnet mask.

Infrastructure - Awareness on LAN, WAN Infrastructure and its components

- Installation and configuration of peripherals such as printers, scanners, projectors etc. - Awareness on Installation of software, virus scan - Awareness on Data Centre, BCP, DR and its major components

Module 2. Internet (5 Hrs)

Introduction to Internet, WWW and Web browsers, searching content etc - Cookies, caches, history etc.

Internet Basics - URL, Domain - concept of DHCP, DNS, router & gateway. Internet Access methods (DSL, Cable, wireless[WiFi], FTTH) - WWW - Web protocols (HTTP, HTTPS, FTP) – Internet configuration – Linux & Windows - Concept of firewall, Proxy server, Web server. Introduction to Hyper Text Mark-up Language - Concepts of HTML, The structure of a HTML page.

Module 3. Email & Search Engines (8 Hrs)

Browsers - different browsers, managing web browser , Options and settings, plugins - Search engines - search techniques (site, type, date, range, domain, country etc) - downloading and saving web documents - download managers- Instant messengers - ftp client software(Cute FTP, FileZilla etc), Email - email id creation, compose, attach, send, inbox, spam, trash, CC, BCC, addressbook, reply & forward, searching - Blog creation, Introduction to Web Forms (Familiarisation of Online Forms like PSC application, E-grantz, Keralapsc.org, mvd.org)

Module 4.WEB Utilities& PC Skills (12 Hrs)

Communication and collaboration tools like Skype, Google docs/sheets etc. - Emails, messaging, Use of Calendars and meeting management using Calendars - Awareness on Cyber Security Act and IT Act



Font Installation in windows and Linux (including Malayalam) - Concept of Unicode, File formats (html, Jpeg, GIF, tiff, bmp, avi, mp3, mp4, 3gp, doc, zip, tar, swf, flv etc.) - File conversion utilities (eg:-DOC to PDF, HTML to DOC, RTF to PDF etc) - Web Documents – PDF document creation ,Google Docs, Video conferencing - WEB Cam & Microphone, Concept of Web Casting - Anti virus software - DVD Burning using software like Nero , CD/DVD creator in Linux etc. Concept of Cyber security (phishing, id theft, spoofing, Denial of Service etc) and Cyber laws. Image Editing - image resize, crop, rotate etc using paint/GIMP/Photoshop or any other software, Mobile Technology- Mobile Operating Systems-Android,ios,windows-Different versions, Mobile Apps Online Store- Google Play store, Apple play store, Microsoft store etc., Online Products- calendar, Docs, Drawings, Drive, Forms, Groups, Sheets, Slides

Module 5. Database Concepts (5Hrs)

Introduction to database, tables, data types, fields, rows, columns ,tuples, attributes– Introduction to mysql - creation of a database and tables - adding , editing, deleting and saving data , displaying data.

Project Management tools

References : https://www.tutorialspoint.com/internet_technologies/index.htm
https://www.webopedia.com/quick_ref/network-fundamentals-study-guide.html
<https://www.w3schools.in/sql/database-concepts/>



Duration: 40 Hrs.

DCA104 Lab Practice-1

*(Windows, Linux,
PC Hardware)*

Module 1 – Windows (10 Hrs)

Familiarization of windows Desktop, taskbar, icons, mouse operations, utilities - paint , notepad etc. Shell commands - DATE, TIME, DIR, COPY, REN, DEL, MD, CD, RD, TYPE etc. Files and Folder manipulation - create, copy, move, rename, delete, Windows explorer - control panel - recycle bin - Sharing of folder and printer – Managing user accounts - Desktop management - Searching files.

Module 2 – Linux (15 Hrs)

Shell commands in Ubuntu linux (ls, date, cp, mv, rm, mkdir, rmdir, cd, cat, man, who etc.), Files and folder manipulation in linux GUI - User management - Familiarisation of Linux file system - Mounting Windows partitions. Familiarisation of Linux utilities - Calculator, Text editor etc.

Module 3 – PC Hardware (10 Hrs)

Installation and configuration of peripherals such as printers, scanners, projectors etc.

Identification of Hardware components - motherboard, processor, memory(DDR3,DDR4), HDD, DVD writer, SMPS - NIC– UPS – online & offline. Identification of connectors and slots in motherboard. Ports - serial, parallel, USB, PS2, audio ports. Identifying configuration of a system (Through CMOS, Windows or any other software). Installing and connecting various Devices - Printers, scanners, Ethernet, Blue tooth, wireless, mobile, modem, projector
- Install printer cartridges.

Module 4 – OS Installation (5 Hrs)

Familiarizing Hard disk Partitioning – formatting - CMOS setup – Display and audio configuration. OS installation (windows & Linux).

Configuring Windows - Service pack installation - OS updation - software installation – network configuration. Configuring Linux system – creating user accounts – configuring networking.

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Duration: 40 Hrs.

Office Automation Packages, Data Entry Module 1: Word

Processing (Word/ Writer) (10Hrs)

Word processing packages – features – Menu – Tool bar – window parts , creating a document, saving, editing – formatting text – selection, copying, Moving, Deleting, Inserting , Undo, Redo, News paper column – Formatting paragraph – Margins and gutters, applying styles, Find & Replace, headers, footers, line spacing, page layout, page numbering, inserting section break – spell check, Tables – creation,merging,splitting rows and columns, formatting – Converting doc file to pdf format – Manipulating downloaded web documents using word processor-mailmerge– printing a document.

Practical/hands on sessions - Drafting/Noting using computer - Format documents

Module 2 : Spreadsheet (Excel / Calc) (8Hrs)

Electronic spread sheet, features, Menus, Cells, Rows, Columns, Saving worksheet, Workbook – selecting cells, entering, copying formula, Autosum, functions, Rearranging worksheet – moving, copying, deleting, filtering data , sorting – Formatting Cells & cell content, find & replace, spell check, insert

/ delete row, column, freezing , splitting, Hide / Unhide, cell protection – drawing graph, Title, legends, saving, if command, moving and copying between sheets-formula, functions (sum, average, if, count, max,min, sin, sumif, hyperlink) and macros – entering formula – cell reference — working with range names . Transferring spreadsheet information to a word document.Printing worksheet-setting Print area. Create a spreadsheet with data summarization and chart.

Module 3 : Presentation (Power Point/ Impress) (4Hrs)

Create presentations - Application of presentation -Demonstration of Presentation Software like Power PointStarting presentation software, menu bar, title bar, status bar, tool bar – creating new presentation by using blank presentation , by using template- viewing presentation – slide- insertion, deletion – enter, edit and create new text object – change and correct text, spell check- enhance a presentation – color, style, color schemes, add header and footer, add clipart picture , graphic objects, other objects, align objects – set transition , animate objects on a slide , add sound and movies, adding links to a slide. Printing slides.



Module 4 : Open source DTP software (10 Hrs)

Working with documents – new document – drawing tools – grouping and ungrouping, control palette, paste multiple – importing graphics , place commands , cropping tools, text tools- adding , changing and manipulating text – importing text- placing text, master pages-character specifications – paragraph specification – Column and page break – Spelling check – styles – paragraph styles. Printing - Create pdf

Module 5 : Introduction to Database (Access/ Base) (2 Hrs)

Creation of a database- adding , editing, deleting and saving data , displaying records.

Module 6 : Malayalam computing & Data Entry (6Hrs)

Practical/Hands on sessions - Transcription and typing of dictated passage in English and Malayalam Drafting/Noting using computer

Installation of Malayalam fonts like rachana, meera, kartika etc.- enabling Malayalam in windows and linux. – get phonetic keyboard using varamozhi in Windows and using swanalekhainlinux
English & Malayalam data entry practice

References:

5. <http://www.free-training-tutorial.com/>
6. <http://tools.malayalam.kerala.gov.in/>

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Duration :40 Hrs.

Network, PC Skills, Internet

Module 1. Networking Concepts (6Hrs)

Familiarisation of Network Components- cable, connector, switches, hub, access point, NIC Installation of network driver demo, Connecting a system to a network -Assignment of IP address and subnet mask, Gateway in Windows & Linux. Usage of trouble shooting commands (ping, ipconfig, ifconfig, traceroute, mii-tool) - File & Printer sharing

Module 2. Internet (6 Hrs)

Demonstration of Internet connection methods(DSL, Cable, Wireless) – Ubuntu Linux& Windows. Demonstration of Proxy server and firewall configuration, Demonstration of Webserver (Apache/IIS) installation & configuration.

Module 3. E-mail & Search Engines (10Hrs)

Browser settings - Plug-in installation -Searching - Google (Filetype, image, site, date, country, domain, range etc.), E-mail- email id creation, compose, attach, send, inbox, spam, trash, CC, BCC, address book, reply, forward & searching.- Blog creation, Familiarization of sites like www.IRCTC.com,www.Keralapsc.org,www.mvd.org,<http://civilsupplieskerala.gov.in>,<http://www.ceo.kerala.gov.in/eregistration.html>,<http://www.cyberkeralam.in> :8888/berker/ etc., Downloading and saving web documents - download managers - Instant messengers – ftp client software(Cute FTP, FileZilla etc)

Module 4. Tally.ERP9 based Accounting (10Hrs)

Accounting basics - Familiarisation of tally menus- configuring tally – Ledger creation/editing – Voucher Entry – corrections –Voucher types – report generation - Printing - Bank reconciliation.

Module 5. WEB Utilities & PC Skills (8Hrs)

Font Installation in windows and Linux (including Malayalam) - Enabling Unicode in Linux & Windows, File formats (html,Jpeg,GIF,tiff,bmp,avi,mp3,mp4,3gp,doc,zip,tar,swf,flv etc.) File conversion utilities (eg:- DOC to PDF, HTML to DOC, RTF to PDF etc), Web Documents – PDF document creation ,Google Docs. Video conferencing-WEB Cam & Microphone. Anti virus installation, DVD Burning using software like Nero , CD/DVD creator in Linux etc, Image Editing-image resize, crop, rotate etc using paint/GIMP/Photoshop or any other software.Image Scanning. Network Printing - Familiarization of online products



Course Objective: DCA, Diploma in Computer Applications, is a 6 month diploma Course in the field of Computer Applications which involves the study of numerous computer applications such as MS Office, Internet Applications, Operating System, Database Management System (DBMS), Tally, HTML among other subjects.

Course Outcomes: By completing a DCA Course, candidates will be able to:

- ☐ Acquire confidence in using computer techniques available to users.
- ☐ Understanding the basic components of computers and terminology.
- ☐ Understand data, information, and file management.
- ☐ Create documents using Word processor, Spreadsheet, and Presentation Software.
- ☐ Understanding computer networks, the Internet, and they will also learn about browsing the internet, content search, and email.
- ☐ Use a computer to improve existing skills and learn new skills.

Question paper pattern

Duration of Exam.: 3Hrs . Maximum Marks: 75.

Section A: Multiple Choice/Fill in the Blanks/One Word Type Questions

Section B: Short answer type questions with answer size up to ¼

pages per question Section C :Descriptive type questions with

answer size up to ½ page per question Section D :Descriptive type

questions with answer size up to 1 page per question.

Marks Distribution

Section	No of questions	Need to be answered	Marks/Question	Total
A	10	10	1	10
B	12	10	3	30
C	7	5	5	25
D	2	1	10	10



	Total		75
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Remarks:

1. Each part should cover questions from each module in the syllabus.

2. The level of difficulty shall be as follows

1. Easy Questions : 30% -40%
2. Intermediate level to difficult : 30% -40%
3. Difficult questions : 20% -30%

3. The question paper setters must prepare and submit the question papers as per the following guidelines.

- a. Question paper must be designed and prepared to fit in an A4 size paper with one inch margin on all four sides.
- b. Prepare the Question in MS-Word/Open office-Write document format. Use only "Times New Roman" font with size 10. Align text to both left and right margins.
- c. Please leave 5 cm. free area at the top of the front page of each question paper to place examination details/Question paper header by the examination department.
- d. Avoid placing 1 or 2 questions in the last part in a fresh page, unless it is absolutely necessary. In such case, try to accommodate above questions in the previous page(s) by adjusting top/bottom margins and line spacing, if possible. This will reduce printing expenses.
- e. Specify marks for each question/part clearly.
- f. Clearly specify the number of questions to be answered for each Part.
- g. Confirm that no questions in part B is repeated in Part C also.
- h. Avoid repeating questions in Part C from the immediate previous examination.
- i. Key for evaluation must be prepared and enclosed in a separate cover and should be submitted along with the question paper set. Key for evaluation must specify evaluation guidelines for each part in the question paper, otherwise the key prepared will be treated as incomplete.
- j. Submit Question paper in Laser print out form only. Hand written and printed in poor quality printers is not acceptable.



2. Scheme for Continuous Evaluation.

1. For Theory Papers : Weightage

- a). Average of minimum Two test papers : 30%
- b). Average of minimum Two Assignments : 30%
- c). Score for Class Attendance. : 20%
- d). Overall performance in the class. : 20%

2. For Practical Papers : Weightage

- a). Average of minimum Two Lab tests : 30%
- b). Average of minimum Two Lab Assignments : 30%
- c). Score for Lab Attendance. : 20%
- d). Overall performance in the Lab. : 20%

3. Teachers shall submit Mark list for Continuous Evaluation to the Head of Institution in the following format.

Subject:

Sl no	Regn o.	Na me	a.Te st	b.Assignme nt	c.Attendan ce	d.Performan ce	Tot al

4. Head of Institution/Co-ordinator shall forward Continuous evaluation marks to the Examination Department in the following format only.

Centre:



Sl no	Regno	Nam e	DCA10 1 25	DCA10 2 25	DCA10 3 25	DCA10 4 25	DCA10 5 25	DCA10 6 25

5. Continuous evaluation(CE) marks must be published in the notice board at least one week before the commencement of theory examinations after getting approval from the Head of Institution/Co-ordinator.



4. Certificate Course in Yoga

Syllabus

Course Name: Certificate Course in Yoga

Course Code: MTCYA

Module I (10 hours)

- ☐ Concepts of Yogic practices
- ☐ Principles of Yoga practice
- ☐ Introduction to Suryanamaskar

Module II (10 hours)

- ☐ Asanas – Meaning and Classification
- ☐ Asanas - Method of practice and Benefits

o (Sukhasana, Vajrasana, Ardhapadmasana, Padmasana, Savasana, Makrasana, Ardhanakathichakrasana, Padahasthasana, Dandasana, Paschimotanasana, Pawanamuktasana, Vakrasana, Gomukhasana, Bhujangasana, Naukasana, Sasankasana, Halasana, Dhanurasana)

Module III(10 hours)

- ☐ Pranayama – Meaning and Importance
- ☐ Pranayama – Kinds of Breathing, Techniques of Breathing exercises
- ☐ Meditation – Meaning, Guidelines and Benefits
- ☐ Meditation Technique – Yoga Nidra.

Course Objective: To manage stress.

Course Outcome: Yoga improves strength, balance and flexibility.

Assessment Procedure:

The assessment is practical based.



5. Certificate Course in Financial Management for Managers (NPTEL)

DURATION : 12 weeks

COURSE OUTLINE : Financial Management is an interesting area of learning for the management graduates, working professionals, chartered accountants and similar other professionals working in the related areas. Investment and financing decisions in the business are quite complex and risky and require detailed analysis and investigations before finalizing any investment proposal by any existing or a new business organization/firm. Further, it involves complex capital structure related decisions, working out cost of capital and ways and means about maximizing the value of the firm. In this course, I will discuss about the investment, financing and dividend decisions processes in business firms and the process of value maximization of any business firm.

COURSE PLAN :

Week 1 : Financial management-an overview, Financial decisions in the firms, the fundamental principles of finance, goals of financial management, building blocks of modern finance.

Week 2 : Risk-return trade off, Organization of finance functions, Emerging role of financial managers' in India, Over view of financial statements – Income statement, Balance Sheet, Cash flow statement, Analysis of financial statements

Week 3 : Financial Planning & forecasting, Tools & techniques of Financial Planning & Forecasting, Sources of finance.

Week 4 : Time Value of Money, Future value of a single amount, Present value of a single amount, Future value of Annuity, Present value of Annuity & Perpetuity

Week 5 : Capital Budgeting –Concept and overview, Capital budgeting process, Project classification, Techniques of capital budgeting, Investment criteria

Week 6 : Net present value, internal rate of return, Modified Internal rate of return, Benefit cost ratio, Payback period method

Week 7 : Accounting rate of return, Investment appraisal in practice, Estimation of project cash flows – overview, Estimation of project cash flows-tools & techniques, Estimation of project cash flows-tools & techniques

Week 8 : Accounting rate of return, Investment appraisal in practice, Estimation of project cash flows – overview, Estimation of project cash flows-tools & techniques, Estimation of project cash flows-tools & techniques

Week 9 : Break-even analysis, some other models and tools of risk analysis, Project selection under risk, cost of Capital-Overview, Cost of debt & preference capital. Week 10 : Cost of equity, Determining the proportions, WACC, WA Marginal cost of capital, Determining the optimum capital budget

Week 11 : Capital structure of firms-An overview, Net income approach, Net operating income approach, Traditional proposition, MM Proposition

Week 12 : Dividend decisions-An overview, Relevance of dividend, Dividend policy



formulation, Dimensions of divined policy, Legal & procedural aspects of dividend decisions

Legend:

AVERAGE ASSIGNMENT SCORE $\geq 10/25$ AND EXAM SCORE $\geq 30/75$ AND FINAL SCORE ≥ 40

BASED ON THE FINAL SCORE, Certificate criteria will be as below:

≥ 90 - Elite + Gold

75-89 -Elite + Silver

≥ 60 - Elite

40-59 - Successfully Completed

Final Score Calculation Logic:

- Assignment Score = Average of best 8 out of 12 assignments.
- Final Score(Score on Certificate)= 75% of Exam Score + 25% of Assignment Score



