ST. ALOYSIUS' COLLEGE

AUTONOMOUS
JABALPUR- 482001
MADHYA PRADESH, INDIA

8. Critical Thinking and Creativity

9. Lifelong Learning

4 QUALITY EDUCATION
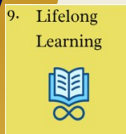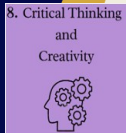
CRITERION-1

CURRICULAR ASPECTS

Key Indicator – 1.3

Curriculum Enrichment

Metric No.: 1.3.2

Number of certificate/value added courses/Diploma Programmes offered by the institutions and online courses of MOOCs, SWAYAM/e-PG Pathshala/ NPTEL and other recognized platforms where the students of the institution have enrolled and successfully completed during the last five years (without repeat count).

Document Name

Brochures with Course Modules of Value Added Programs

2023-24.

Certificate Course in Recent Techniques in Zoology
Brochure
&
Course Module

ST. ALOYSIUS' COLLEGE (AUTONOMUS) JABALPUR, (MADHYA PRADESH), INDIA
REACCREDITED 'A+' BY NAAC (CGPA 3.68/4.00)
COLLEGE WITH POTENTIAL FOR EXCELLENCE BY UGC
DST-FIST SUPPORTED & STAR COLLEGE SCHEME BY DBT

Session 2023- 24

Certificate Course in "Recent Techniques in Zoology"

Organized by Department of Zoology

Starting from
22nd February to 12th March 2024
Credits : 2 Duration : 30 Hours

Eligibility :
Candidates with 10+2 pass in any discipline or equivalent are eligible for pursuing the certificate course.

Beneficiary Name : Principal St. Aloysius College, Jabalpur
Credit Account No. : 5201214000008
IFSC Code : CNRB0005201
Bank Name : Canara Bank Branch : Gorakhpur Jabalpur
A/C Type : Current

Registration Link
https://forms.gle/fDnhrDdMaNbGSoP67

For any query contact or mail us
Dr. Priyanka Sinha - 9685620011
Dr. Runa Paul - 9893415069
zoo.sac@gmail.com

Registration Fees Rs 500/-

For more details please visit college website : staloysiuscollege.ac.in

St. Aloysius' College (Autonomous), Jabalpur

Departments of Zoology

Certificate Course in

"Recent Techniques in Zoology"

(Session 2023-24)

Course Objective

- The course provides students with basic knowledge of a wide range of approaches, such as haematology, morphology, taxonomy, chromatography, and physiological processes of animals.
- To impart theoretical as well as practical knowledge of various aspects of the applied zoological techniques in detail to the learners.
- This course is designed, basically, for students who are interested in learning about different zoological techniques of human relevance.
- To develop fundamental knowledge of IVF, Gene Bank and Germplasm Conservation.
- To understand the dry preservation of insect specimens

Course Outcome

The students are expected to acquire the knowledge of the following:

- Acquire knowledge of various aspects of the applied zoological techniques like gender discrimination of tigers, microscopic and morphometric measurements in detail.
- Develop an ability to analyze chromatography and its significance and study of PCR techniques
- It will also explain the blood physiology and adulterants found in milk samples.
- Importance of ocular micrometry and elementary ideas of basic museum keeping techniques.
- It will also explain the aquarium maintenance and breeding of aquarium fishes.
- Learning the causes of infertility and techniques like in vitro fertilization
- Develop an understanding of the significance of antibacterial properties of cow urine and rheological properties of food items in the current scenario.

- **Eligibility Criteria:** Candidates with UG & PG are eligible for pursuing the certificate course.
- **Duration of the Course:** The duration of the programme - (30 hrs and 2 credits)
- **Fee Structure:** Rs. 500/-
- **Evaluation-** Internal

Scheme of Examination

	Paper	Maximum Marks	Minimum Marks	Total Marks
I	Theory	50	25	
II	Practical	50	25	100

THEORY SYLLABUS

02 Credit   **30 Hours**

Unit I

1. Body mass index (BMI), or Quetelet index and its significance
2. Typical Truss Morphometric Network (TMN) of Fishes
3. Phase contrast microscope and its application
4. Thin Layer Chromatography principle and its application
5. HPLC Chromatography principle and its applications
6. Study of Soniferous fishes using acoustic techniques.

Unit II

1. Blood indices and their significance in clinical pathology.
2. Haemin crystals in human blood and its significance
3. Xenotransplantation.
4. Species translocation.
5. IVF and study of Animal Semen.

Unity III

1. Hair profile study.
2. Adulterants of milk samples
3. Gene Bank and Germplasm Conservation
4. Gender discrimination of tigers (Panthera tigris) using pugmarks
5. Tools & Techniques for Animal Rescue Unit.

Unit IV

1. Role of genetic engineering in Zoology.
2. Tools and techniques wsr Q-PCR thermocyclers
3. Gel electrophoresis/SDS-PAGE
4. Preparation and maintenance of Aquarium and Breeding of Aquarium Fishes

5. Ethno Zoology war study of human and animal interaction

Unit V

1. Ocular micrometry and its significance
2. Basic Museum keeping techniques wsr Dry and Wet Preservation of Zoological Specimens.
3. Rheological properties of food items.
4. Antibacterial properties of cow urine.
5. Camera Lucida and its application

PRACTICAL- SYLLABUS

1. Study of Rheological Properties of food items using Viscometer

2. Study of Antibacterial activity of Cow Urine.

3. Morphometric analysis of fish by Typical Truss Morphometric Network (TMN)

4. Comparative Hair profile study.

5. Preparation of Haemin Crystals in human blood

6. Testing of Adulterants of milk samples

7. Preparation and maintenance of Aquarium.

8. Gel electrophoresis/SDS-PAGE

9. TLC analysis of Components of Biological Samples

10. Hands on Training in Dry preservation of insect specimen

11. Preparation of permanent dry mount of fish skeleton

12. Identification of Pugmarks of different animals

13. Study of Principle and working of PCR

Diploma in Computer Application with Phyton Programming
Brochure
&
Course Module

St. Aloysius' College (Autonomous) Jabalpur (M.P.)

Scheme of Examination & Syllabus

Of

DCA with Python Programming

(Diploma in Computer Application)

UNDER

Department of Computer Science and Application

Session 2023-24

DCA I SEMESTER

Subject code	Subject Name	Credit	University Exam Marks	Internal Marks	Total Marks
DCA101	Fundamental of Computer and Office Automation	4	70	30	100
DCA102	Computer Network and Internet	4	70	30	100
DCA103	Programming Methodology using Python	4	70	30	100
DCA104	Practical Based on DCA101 and DCA 104	2	30	20	50
DCA105	Practical Based on DCA103	2	30	20	50
	Total	20	340	160	500

DCA II SEMESTER

Subject code	Subject Name	Credit	University Exam Marks	Internal Marks	Total Marks
DCA201	Web Page Programming using HTML	4	70	30	100
DCA202	Desktop Publishing	4	70	30	100
DCA203	Accounting and Tally Prime	4	70	30	100
DCA204	Project	4	70	30	100
DCA205	Practical Based on DCA201	2	30	20	50
DCA206	Practical Based on DCA203	2	30	20	50
	Total	20	340	160	500
	Grand Total(SEM I +SEM II)	40	680	320	1000

MODULE III AND IV

Course Outcome:

Upon completion of this course learners will

- Understand water quality criteria and standards, and their relation to public health and environmentL
- Learn how to run accurate water quality tests and to determine how the parameters relate to each other
- Be able to describe and apply different tools, criteria and assessment methods for successful monitoring of water.
- Develop skills to serve water industries and will be awarded with a Diploma in Water Quality Monitoring course.

Module 3

1 credits

Unit 1- Microbiology of water

8hrs.

- Microbial community of water: bacteria, fungi, algae and protozoans, zooplanktons and phytoplanktons, indicator microorganisms, pathogenic bacteria: *Vibrio, Salmonella, Shigella, Clostridium*; Yeast and moulds, Biological oxygen demand, self- purification of water. waste water treatment: Activated sludge and trickling filters.

Unit 2- Microbial Assessment of water quality

7hrs.

- Standard plate count, Most probable number test, total coliform count, faecal coliform count, microbial assessment of pathogens by culture methods.

Module 4:

1 credits

- Hands on water quality analysis: 20 hrs.
- Visit to water industry: 5 hrs.
- Project and Report submission: 5 hrs.
  Note: Total credits: 2(1 credit= 15 hrs.; one practical of 2 hrs.)

List of practical

1. Isolation of aquatic bacteria in selective media.
2. Isolation of aquatic fungi.
3. To perform MPN test.
4. To perform total coliform count.
5. To perform faecal coliform count.
6. To estimate BOD for given water sample.
7. Field survey of local water bodies.
8. Effect of UV radiation on microbial growth.
9. Assessment of Chlorine as disinfectant.
10. Demonstration of membrane filtration for water analysis.

MARKING SCHEME

MM: 100 Marks

4. **Theory examination:**   60 Marks

   Multiple choice questions (6X2= 12)

   Short answer type questions (3X6 = 18)

   Long answer type questions (15X2 = 30)

5. **Practical examination**   20 Marks

   Major experiment   (10)

   Minor experiment   (05)

   Viva voce   (05)

6. **Project**   20 Marks

4

DCA 101
Fundamentals of Computer and Office Automation

UNIT – I: Computer system concepts, characteristics, Capabilities and limitations, Types of computers Generations of computers. Basic Components of a computer system memory –Primary and Secondary, Hardware and Software with its types, Input/output Devices, Various Storage Devices - Magnetic Disks, Hard Disk , Optical Disks.

UNIT – II: MS. Word- Creating, editing, saving and printing text documents, Font and paragraph formatting, Simple character formatting, Inserting tables, smart art, page breaks, Using lists and styles, Working with images, Using Spelling and Grammar check, Understanding document properties, Mail Merge.

UNIT – III: MS. Excel- Spreadsheet basics, Creating, editing, saving and printing spreadsheets, Working with functions & formulas, Modifying worksheets with color & auto formats, Graphically representing data : Charts & Graphs.

UNIT – IV: MS. Power Point- Opening, viewing, creating, and printing slides, Applying auto layouts, Adding custom animation, Using slide transitions, graphically representing data: Charts & Graphs, Creating Professional Slide for Presentation.

Text Book:
- Anurag Seetha, "Introduction to Computers and Information Technology", Ram Prasad & Sons, Bhopal.
- S.K.Basandra, "Computers Today ", Galgotia Publications.
- Chetan Shrivastav "Fundamental of IT"
- P.K. Sinha," Fundamental of Computers"
- System Analysis and Design - Elias M. Awad.
- System Analysis and Design - Alan Dennis & Barbara Haley Wixo

ST. ALOYSIUS' COLLEGE

(AUTONOMOUS), JABALPUR(M.P.)

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DST-FIST Supported & Star College Scheme by DBT.

DCA 102
Computer Network and Internet

UNIT-I

Introduction to Networks. Types of Networks: LAN , MAN , WAN. Network Topology- Bus, Star, Ring, Mesh. Network Protocols. OSI, TCP/IP model, Comparison between OSI and TCP/IP Communication Media. Wired & Wireless Technology .

UNIT-II

Network Connectivity: Hubs, Bridges, Repeaters, Switches. Internet Connectivity: Routers, Gateways. Overview of Internet and TCP/IP: Internet addressing, Concepts of ISP, Concept of URL addresses, Internet protocols: FTP, NNTP. Email: SMTP, POP. Internet Security- Internet Security Issues, firewall, Data Encryption, Digital Signatures. Generations of Network 1G,2G,3G,4G,5G Technologies

UNIT – III

Introduction to Internet: :Evolution, Concepts, URL, WWW, and its applications- Web, email, Chat, VoIP, Web Browser, Search Engines : Concept of Search Engines, Search engines types, :Concepts of e-mailing, Basics of Sending & Receiving, E-mail Protocols.

Unit - I

Societal Impacts Digital footprint, net and communication etiquettes, data protection, intellectual property rights (IPR), plagiarism, licensing and copyright, free and open source software (FOSS), cybercrime and cyber laws, hacking, phishing, cyber bullying, overview of Indian IT Act.

TEXT BOOKS:

1.   A. S. Tanenbaum (2003), Computer Networks, 4th edition, Pearson Education/ PHI, New Delhi, India.

REFERENCE BOOKS:

1. Behrouz A. Forouzan (2006), Data communication and Networking, 4th Edition, Mc Graw-Hill, India.

2. Kurose, Ross (2010), Computer Networking: A top down approach, Pearson Education, India

DCA 103

Basics of Programming Methodologies using Python

UNIT I

Basics of Python programming, Python interpreter - interactive and script mode, the structure of a program, indentation, identifiers, keywords, constants, variables, types of operators, precedence of operators, data types. Control Statements: if-else, if-elif-else, while loop, for loop

UNIT II

Strings: introduction, string operations (concatenation, repetition, membership and slicing),

Tuples: introduction, indexing, tuple operations (concatenation, repetition, membership and slicing);

UNIT III

Lists: list operations - creating, initializing, traversing and manipulating lists.

Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements.

UNIT IV

Functions: types of function (built-in functions, functions defined in module, user defined functions), creating user defined function, arguments and parameters, default parameters,

Introduction to NumPy library, creation of NumPy arrays; indexing, slicing, concatenating and splitting array.

Reference Books:

1. Python Crash Course: A Hands-On, Project-Based Introduction to Programming Edition Eric Matthes.
2. The Python Language Reference Manual (version 3.2), Guido van Rossum, Drake, Jr. (Editor),ISBN: 1906966141,Network Theory Ltd, 120 pages

DCA 201
Web Page Programming using HTML

Unit I

WebPages; Hyper Text Transfer Protocol (HTTP); File Transfer Protocol (FTP) Domain Names; URL, Website, Web browser, Web Servers; Basic Tags of HTML: HTML, HEAD, TITLE, BODY, Heading tag (H1 to H6) and attributes,FONT tag and Attributes, P, BR, Comment in HTML (<! >) , Formatting Text (B, I, U, EM, BLOCKQUOTE,PREFORMATTED, SUB, SUP, STRIKE), Ordered List- OL Unordered List, ADDRESS Tag;

Unit II

Creating Links: Link to other HTML documents or data objects, Links to other places in the same HTML documents, Links to places in other HTML documents; Anchor Tag <A HREF> and <A NAME>, Inserting Images Image Link, Horizontal Rules <HR ALIGN, WIDTH, SIZE, NOSHADE> , Tables: Creating Tables, Border, TH, TR, TD, CELLSPACING, CELLPADDING, WIDTH,COLSPAN,CAPTION, ALIGN, CENTER;

Unit III

Frames: Percentage dimensions, Relative dimensions, Frame – Src, Frameborder, height and width, Creating two or more rows Frames <FRAMESET ROWS >, Creating two or more Page 3 Columns Frames <FRAMESET COLS >, <FRAME NAME SRC MARGINHEIGHT MARGINWIDTH SCROLLING AUTO NORESIZE>, <NOFRAMES>, </NOFRAMES>;

Forms: Definition, Form Tags: FORM,<SELECT NAME, SIZE, MULTIPLE / SINGLE><OPTION></SELECT>, <TEXTAREA NAME ROWS COLS > , </TEXTAREA>, METHOD,CHECKBOX, HIDDEN, IMAGE, RADIO, RESET, SUBMIT, INPUT<VALUE, SRC,CHECKED, SIZE, MAXLENGTH, ALIGN>;

Unit IV

CSS, the Benefits of CSS ,How CSS Works ,Rule Syntax ,Adding Styles to a Document ,Key Concepts,Specifying Values, Browser Support , Type (Element) Selector ,Font Family ,Font Size ,Other Font Settings,Text Transformation (Capitalization) Text Decoration, Line Height, Text Alignment Properties, Text Spacing, Text Direction, Margins, Borders, Padding, Foreground Color, Background Color, Background Images, working with tables

TEXT BOOK:

1. INTERNET TECHNOLOGY AND WEB DESIGN - Satish Jain, Shashank Jain, Shashi Singh, and M. Geetha Iyer. First Edition 2010, BPB Publications.

2. COMPUTERSAHEAD CBSE CLASS X, Rajiv Mathur, Orient BlackSwan.

SUGGESTED FURTHER READINGS:

1. HTML : A Beginner's Guide, Fourth Edition, Wendy Wilard, Mc Graw Hill.

2. Internet and Intranet Engineering – Daniel Minoli, Eight Reprint 2007, Tata McGraw-Hill.

3. Internet and Web Page Design – P.D. Murarka, BPB Publications.

4. HTML Right from the Start - A .Whyte, BPB Publications.

5. HTML 5 and CSS 3 Made Simple – Ivan Bayross, BPB Publications

DCA 202
Desktop Publishing

Unit–I

DTP, Introductions to Printing, Types of Printing, Offset Printing, Working of offset Printing, Transparent Printout, Negative & Positives for Plate were making, Use of Desk Top Publishing in Publications, Importance of D.T.P in Publication, Advantage of D.T.P in Publication, Mixing of graphics & Image in a single page production, Laser printers - Use, Types, Advantage of laser printer in publication.

Unit –II

Introductions To Page Maker, Page Maker Icon and help, Tool Box, Styles, Menus etc., Different screen Views, Importing text/Pictures, Auto Flow, Columns, **Page Layout** Different page format / Layouts, Newspaper page format, Page orientations, Columns & Gutters, Printing in reduced sizes.

Unit –III

Master Pages and Stories, Story Editor, Menu Commands and short-cut commands, Spell check, Find & Replace, Import Export etc., Fonts, Points Sizes, Spacing etc., Installing Printers, Scaling (Percentages), Printer setup, Use of D.T.P. in Advertisements, Books & Magazines, News Paper, Table.

Unit –IV

Introduction to Adobe Photoshop & Documents, Various Graphic Files and Extensions, Vector Image and Raster Images, Various Colour Modes and Models
Introduction to Screen and Work Area, Photoshop Tools & Palettes ,Use of Layers & Filters, Working with Images.

TEXT & REFERENCE BOOKS:
1. PAGE MAKER 4.0 & 5.0 BY B.P.B. PUBLICATIONS.
2. PRAKHAR COMPLETE COURSE FOR DTP (CORELDRAW, PAGEMAKER, PHOTOSHOP)

DCA 203
ACCOUNTING & TALLY PRIME

Unit I

Fundamentals of Accounting Introduction, Accounting Terms, Accounting Assumptions, Concepts and Principles, Double Entry System of Accounting, Types of Accounts, Golden Rules of Accounting, Source Documents for Accounting, Allocation of Expenses and Incomes Using Cost Centres, Recording of Stock Transfers with Godown Details, Activating Batch-wise Details, Price Level and Price Lists.

Unit II

Introduction to Tally Prime, Company Creation, Getting Started with Tally Prime, Shut a Company, Select a Company, Alter Company Details, Company Features and Configurations, Cheque Management & Printing, Manual Bank Reconcillation.

Unit III

Migration Tally, ERP 9 Data to Tally Prime Chart of Accounts Creating Inventory Masters, Migration Tally ERP9 Data to Tally Prime, Chart of Accounts, Ledger Creation, Group Creation, Deletion of Ledgers and Group, Creating Inventory Masters, Creation of Stock Group, Creation of Units of Measure, Creation of Stock Item, Creation of Godown, Stock Category

Unit IV

Recording Accounting Vouchers with bill-wise details in Tally Prime, Enabling GST and Recording GST Transaction in Tally Prime, Creation of Accounting Masters, Creation of Inventory Masters, Recording GST complaint transactions, Generating GST Returns in Tally, Creation of Accounting Masters, Creation of Inventory Masters, Hierarchy of Applying Tax Rate Details, Recording GST compliant transactions, Generating GST Returns

Unit V

Enabling TDS and Recording TDS Transactions, Creation of TDS Masters and Recording /transactions, Order Processing and Recording of Inventory Vouchers, Purchase Order Processing, Sales Order Processing, Activating Credit Limit and Exceeding the Credit Limit, Activating the Credit Limit, Exceeding the Credit Limit, Backup of Data, Restoring Data From Backup File, Export and Import of Data, Exporting of Data in Other Available formats.

Text Book

1.   Learn Tally Prime with GST Book by Gaurav Agrawal

2.   TALLY PRIME 2.0 (Paperback, V MISHRA)

French Learning Program
Brochure
&
Course Module

ST. ALOYSIUS COLLEGE, JABALPUR

FRENCH LEARNING PROGRAM

HIGHLIGHTS
- Olympiads
- Exams related to the French embassy (DELF,DALF)

FEATURES OF THE COURSE

- Introduction to the French language at various levels
  BASIC (2 months)
    - A1 and A2 level (Price: Rs.1000 -Student studying in St. Aloysius
      Rs.1200- external)
    - B1 and B2 level(Price:Rs.1500- student studying in St Aloysius
      Rs.1700- external)
- Introduction to French culture and classic literature
- Outreach of French as a global language of choice for business activities.
- Opportunities for higher studies in France, Canada and other French-speaking geographies.
- Audio-visual features in interactive mode between students, instructors and possibly the French-speaking population.

- DR. NIHARIKA SINGH (Co-ordinator)
  Contact: eng.sac@gmail.com
           9424940670
- MRS. SONAL CHATURVEDI (instructor)
  Contact: sonalchaturvedi76@gmail.com(personal)
           9200720230

LANGUAGE LAB

1, Ahilya Bai Marg, Pentinaka Chowk, Sadar, Cantt, Jabalpur, Madhya Pradesh, INDIA 482001
+917612620738   info@staloysiuscollege.ac.in

Page 20

St. Aloysius College (Autonomous), Jabalpur (M.P)
French Learning Program
Session 2023-24
A1 level: Syllabus

1-Vowels, Articles, Pronoun, Conjugation (ir and er ending regular verbs)" (avoir, aller, etre faire)

2-Tense-Present

       Present Progressive

3- Accents

4- Rules

5-Greetings

6-Days of the week

7-Months

8-Numbers 1-100

9-Basic translation of mathematical calculation

10-Sentences regarding"je suis " and "j'ai)

11-Preposition

12-Adjectif demonstratif

13-La forme negation

14-La forme interrogative

15-Possesive adjective

16-Time

17- Nationalities and preposition used with nationalite

18-Vocabulaire

19-Article contracted and partirif

20-Presentez moi

21-Ma famille

22- Oral , video and audio activities connecte to these topics

Total Hours: 60 hours

Credits: 04

ST. ALOYSIUS' COLLEGE
(AUTONOMOUS), JABALPUR(M.P.)
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College with Potential for Excellence (CPE) by UGC
DST-FIST Supported & Star College Scheme by DBT.

VIRTUS IN ARDUIS

A2 level: Syllabus

1-La forme interrogative-inversion

        Intonation

        Est-ce que

2-Passe compose

3-Le passe recent

4-Preposition

5-Passe compose (negative ,positive sentences)

6-lL'expression de la quantite

7-l'imperatif

8-Oui, Non, Si

9-Invitation , Refuse

10-Aimer, Adorer,Détester

11-Imparfait

12-Future simple , Future proche

13- Oral , Video and Audio activities connected to these topics

Written Examination for both levels (A 1and A2)+oral and group activity

Total Hours: 60 hours

Credits: 04

Dr. Neelanjana Pathak
Head, Department of English
St. Aloysius College (Auto.)
Jabalpur (M.P.)

****

Diploma Course in Water Quality Monitoring
Brochure &
Course Module

ST. ALOYSIUS' COLLEGE
(AUTONOMOUS), JABALPUR (M.P.)
Reaccredited 'A+' Grade by NAAC (CGPA 3.68/4.00)
College with Potential for Excellence (CPE) by UGC
DST-FIST Supported, STAR college scheme by DBT

SOCIETY

LAB

Department of Botany and Microbiology
(Excellence through perseverance)

Diploma course in

WATER
QUALITY MONITORING

2023-24

EVERY DROP COUNTS

ABOUT THE CERTIFICATE COURSE

Duration of course: 30 hrs (inclusive of theory and practical)
Credit: 02
Commencement of Course: second week on November 2023
Course fees: Rs. 500
Eligibility criteria:
12th pass candidate with Science background.

ABOUT THE DIPLOMA COURSE

Duration of course: 30 hrs (inclusive of theory and practical)
Commencement of Course: 1st March 2024
Course fees: Rs. 500
Eligibility criteria:
Candidate with Certificate in water quality monitoring.

Contact

Mrs. Roshni Choubey, Course coordinator, Dept. of Botany and Microbiology, SAC, JBP. (Email: bot.sac@gmail.com)

St. Aloysius' College (Autonomous), Jabalpur, M.P.
Reaccredited A$^+$ by NAAC with CGPA (3.68/4.0),
College with Potential for Excellence by UGC
DST –FIST supported and STAR College scheme by DBT
Department of Botany and Microbiology

DIPLOMA COURSE IN WATER QUALITY MONITORING
Session 2023-24
Syllabus

Course Outcome:

Upon completion of this course learners will
- Acquire knowledge about Water resources and pollution.
- Be able to summarize the major properties of water.
- Be able to describe and apply different tools, criteria and assessment methods for successful monitoring of water.
- Develop skills to serve water industries.
  and will be awarded with a certificate in Water Quality Monitoring Certificate course.

MODULE I AND II

Module 1   1 credits

Unit 1- Hydrology   8hrs.

1.1: Resources of water (Global and Indian), Fresh and marine water, Hydrological cycle, General properties of water: Physical: odor, taste, pH, color and turbidity; Chemical: acidity, alkalinity, hardness, TDS

1.2: Water pollution and management, Water quality and surveillance programme, Water quality: Guidelines and standards (as per BIS norms), Status of water quality in India

1.3: Water ecosystem, Aquatic flora and fauna, Biological methods of Zonation- Microbial load and Aquatic biota.

Unit 2- Assessment of water quality   7hrs.

2. 1: Water Composition analysis: - Hardness testing, Chromatographic analysis, pH – Salinity testing, Ionic composition, Minerals, Pollutants, Nutrient Parameters, Potability of Water.

2. 2 Toxicology: Toxicity Testing, Dose and toxicity, *In-vitro* Toxicology, Toxicogenomics

2.3: Water and health hazards: Water borne illness, major pathogens.

Module 2:   1 credits

- Hands on water quality analysis: 20 hrs.
- Visit to packaged water industry: 5 hrs.
- Project and Report submission: 5 hrs.
- *Note: Total credits: 2(1 credit= 15 hrs.; one practical of 2 hrs.)*

1

- *Techniques used as per BIS and APHA*

MARKING SCHEME   **MM: 100 Marks**

1. **Theory examination:**   **60 Marks**

   Multiple choice questions (6X2= 12)

   Short answer type questions (3X6 = 18)

   Long answer type questions (15X2 = 30)

2. **Practical examination**   **20 Marks**

   Major experiment   (10)

   Minor experiment   (05)

   Viva voce   (05)

3. **Project**   **20 Marks**

List of practical

1. To study the color / turbidity of given water sample using spectrophotometer.
2. To study the pH of given water sample using pH meter.
3. Detection of chloride in given water sample by titration method.
4. To study the role of sedimentation in water purification.
5. To calculate TDS of given water sample.
6. Detection of ions in water through flame photometer.
7. Detection of dissolved oxygen in given water sample.
8. Detection of COD for given water sample.
9. Methods of water sampling.
10. Demonstration of portable water testing kit.

2

MODULE III AND IV

Course Outcome:

Upon completion of this course learners will

- Understand water quality criteria and standards, and their relation to public health and environmentL
- Learn how to run accurate water quality tests and to determine how the parameters relate to each other
- Be able to describe and apply different tools, criteria and assessment methods for successful monitoring of water.
- Develop skills to serve water industries and will be awarded with a Diploma in Water Quality Monitoring course.

Module 3

1 credits

Unit 1- Microbiology of water

8hrs.

- Microbial community of water: bacteria, fungi, algae and protozoans, zooplanktons and phytoplanktons, indicator microorganisms, pathogenic bacteria: *Vibrio, Salmonella, Shigella, Clostridium*; Yeast and moulds, Biological oxygen demand, self- purification of water. waste water treatment: Activated sludge and trickling filters.

Unit 2- Microbial Assessment of water quality

7hrs.

- Standard plate count, Most probable number test, total coliform count, faecal coliform count, microbial assessment of pathogens by culture methods.

Module 4:

1 credits

- Hands on water quality analysis: 20 hrs.
- Visit to water industry: 5 hrs.
- Project and Report submission: 5 hrs.
  Note: Total credits: 2(1 credit= 15 hrs.; one practical of 2 hrs.)

Mushroom Cultivation Fundamental to Advance Techniques
Brochure &
Course Module

Department of Botany & Microbiology

Certificate Course
Mushroom Cultivation: Fundamental to Advanced Techniques

2023-2024

OBJECTIVES

To learn -
- Cultivation process
- Spawn development technique
- Marketing, startup and entrepreneurship strategies

To create –
- Awareness on nutritional and medicinal values of mushrooms
- Conciseness on value added products of mushrooms

https://docs.google.com/forms/d/e/
1FAIpQLSf-y29-
BFcLiC_MoIOIgKe5prkFskI4oIJpmIZL
IVOqTI5bxA/viewform

CLICK THE LINK TO REGISTER

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+917612620738   info@staloysiuscollege.ac.in

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ST. ALOYSIUS' COLLEGE
(AUTONOMOUS), JABALPUR(M.P.)

Department of Botany & Microbiology

Certificate Course

Mushroom Cultivation: Fundamental to Advanced Techniques

Session 2023-24

(2 Credits)

Course Learning Outcomes: By the conclusion of this course, the students-

Outcome 1. Have developed a very good understanding of nutritional aspects and commercial use of mushrooms and its products for human consumption.

Outcome 2. Have developed a very good understanding of cultivation of mushrooms, management of diseases affecting mushrooms, mushroom harvesting and various avenues for using it into an entrepreneurship.

Module I:Theory — 1 Credit

Unit – 1	**Introduction:** Morphology, Edible & non-edible/poisonous mushrooms. Nutritional and Medicinal value of mushroom, Scope of mushroom cultivation.	2 Hours
Unit – 2	**Edible Mushrooms:** Button mushroom (*Agaricus bisporus*), Milky mushroom (*Calocybe indica*), Oyster mushroom (*Pleurotus sajor caju*) and paddy straw mushroom (*Volvariella volvaceae*).	3 Hours
Unit – 3	**Principles & Requisites:** Sterilization, Pasteurization and disinfections of substrates, Spawn production and their maintenance.	3 Hours
Unit – 4	**Techniques of Cultivation:** Structure and construction of mushroom house, Multiplication of spawn, Composting, bed and polythene bag preparation, spawning - casing - cropping.	4 Hours

Unit – 5	Cultivation management: Insect pests, fungal competitors and other important diseases, Pest management; Harvest and Post-harvest technology, Packaging and Marketing strategy, Value added products, Startups and entrepreneurship. Innovations in mushroom cultivation technologies.	3 Hours
Total theory hours		**15 Hour**

Module II: Practical		1 Credits
1.	Preparation of mother culture/ Spawn	2 Hour
2.	To study structure of mushrooms.	3 Hour
3.	Sterilization of substrates	2 Hour
4.	Spore printing technique	2 Hour
5.	Composting	2 Hour
6.	Cultivation of oyster mushroom	3 Hours
7.	Cultivation of button mushroom	3 Hours
8.	Visit to mushroom cultivation unit	5 Hours
9.	Project	8 Hours
Total practical hours		**30 Hour**

Course Duration (Hours/ Month): 30 Hours
Credits: 2

Reference Books

1. Handbook on Mushrooms by Bahl N.

2. Benjamin Hirst Mushrooms: A Beginners Guide to Home Cultivation Paperback (20150)

3. V. N. Pathak. Mushroom Production and Processing Technology IST Edition Hardcover – 2011

4. Eiri Staff Hand Book of Mushroom Cultivation, Processing and Packaging Paperback – Import, 2007

5. R. C. Dubey and D. K. Maheshwari. PracticalMicrobiology, 2009. S. Chand and Com. Ltd. ISBN 81219-2153-8. 8 (4)

Marking Scheme

MARKING SCHEME

Module I: Theory   **MM: 100 Marks**

   1. **Theory examination:**   **50 Marks**

      Multiple choice questions   (5X1 = 05)

      Short answer type questions   (3X5 = 15)

      Long answer type questions   (10X3 = 30)

Module II: Practical

   2. **Practical examination**   **25 Marks**

      Major experiment   (10)

      Minor experiment   (05)

      Comment upon   (05)

      Viva voce   (05)

   3. **Project**   **25 Marks**

Basics of Mathematics for Computation
Brochure &
Course Module

St. Aloysius' College (Autonomous),

JABALPUR, MADHYA PRADESH, INDIA

Reaccredited 'A+' Grade by NAAC (CGPA 3.68/4.00)
College with Potential for Excellence by UGC
DST-FIST Supported & Star College Scheme by DBT

Certificate Course
Basics of Mathematics for Computation

Organized by

Department of Mathematics

Date:

01 March -05 April 2024

CONTACT DETAILS:

7879153453, 9424605390

DURATION : 30 HOURS

REGISTRATION FEES : 500

ST. ALOYSIUS (AUTO) COLLEGE, JABALPUR

DEPARTMENT OF MATHEMATICS

CERTIFICATE COURSE

Basics of Mathematics for Computation

Time: 2 hour

Maximum Marks: 100

Minimum Marks: 40

MODULE I: System of Linear Equations in two unknowns, word problems, Solution by Substitution, Elimination and Cross Multiplication Method.

MODULE II: Introduction to Matrices, Equal and Equivalent Matrices, Elementary transformation on Matrices, Matrix representation of a system of Linear Equations of n unknowns and solution by Matrix method. ($n \leq 5$).

MODULE III: Logarithm and Antilogarithm, Characteristic, Mantissa. Log & Antilog tables

REFERENCES:-

1. Business Mathematics: by Dr. Alok Gupta, SBPD publications.
2. Algebra and Trigonometry by Dr. H.K. Pathak, Sahitya Prakashan.

Sambhashad Kaushal
Brochure &
Course Module

संत अलॉयसियस स्वशासी महाविद्यालय

Reaccredited 'A+' by NAAC (CGPA 3.68/4.00)
College with Potential for Excellence by UGC
DST-FIST Supported & Star College Scheme by DBT
Jabalpur, Madhya Pradesh, India

हिन्दी विभाग

प्रमाण–पत्र पाठ्यक्रम 2023–2024

संभाषण कौशल

प्रारंभ   – 25 सितंबर 2023
समय   – 12.15 से 1.00 बजे
पंजीयन शुल्क
महाविद्यालयी विद्यार्थी–500 रु.,
अन्य विद्यार्थी   – 700 रु.,
पंजीयन लिंक –
https://forms.gle/1e8Hv87DD3NMFMCe8

मुख्याकर्षण
जन संबोधन
जन संपर्क
मंच संचालन
उद्घोषणा
परिचर्चा
संवाद कला
साक्षात्कार

Bank Details:
Beneficiary Name- Principal,
St. Aloysius' College, Jabalpur
Credit Account No.
5201214000008
IFSC Code: CNRB0005201
Bank Name: Canara Bank
Branch: Gorakhpur, Jabalpur
Account Type: Current

संपर्क :   डॉ. रामेन्द्र प्रसाद ओझा   डॉ. कैरोलिन सैनी,   डॉ. रीना थॉमस
मोबाईल नं. :   9827751341   8319964503   9926621551

संत अलॉयसियस स्वशासी महाविद्यालय जबलपुर, म.प्र. ,

हिंदी विभाग

प्रमाण पत्र पाठ्यक्रम

संभाषण कौशल

2023.2024

इकाई . 1

- ➤ संभाषण कौशल - संभाषण अर्थ एवं स्वरूप
- ➤ जन संबोधन
- ➤ जन संपर्क
- ➤ आंखों देखा हाल
- ➤ मंच संचालन
- ➤ काव्यपाठ
- ➤ कथा वाचन

इकाई . 2

- ➤ उद्घोषणा
- ➤ समाचार वाचन
- ➤ परिचर्चा
- ➤ वार्तालाप
- ➤ व्यावसायिक क्षेत्र में संवाद कला
- ➤ प्रशासन में संवाद कला
- ➤ साक्षात्कार

इकाई . 3

- ➤ संभाषण कौशल के प्रमुख तत्त्व
- ➤ भाषिक क्षमता
- ➤ मानक उच्चारण
- ➤ आरोह-अवरोह
- ➤ अंतराल
- ➤ वेग
- ➤ बलाघात
- ➤ तथ्यात्मकता
- ➤ भाव मुद्रा

पाठ्यक्रम योजना

1. पाठ्यकम 2 क्रेडिट (30 घंटे) का होगा।
2. 15 सैध्दांतिक कक्षाएँ (1 घंटा प्रति कक्षा) एवं 15 प्रायोगिक कक्षा (2 घंटे प्रति कक्षा) आयोजित की जाएगी।
   (सैद्धांतिक 1 क्रेडिट = 15 घंटे, प्रायोगिक 1 क्रेडिट = 30 घंटे)

मूल्यांकन

सैद्धांतिक - 50 अंक	वस्तुनिष्ठ - 05 अंक 1x5 = 5 अंक लघुउत्तरीय - 15 अंक 6x2.5 = 15 अंक दीर्घउत्तरीय - 30 अंक 6x5 = 30 अंक
प्रायोगिक - 50 अंक	(साक्षात्कार एवं प्रदर्शन)

1, Ahilya Bai Marg, Pentinaka Chowk, Sadar, Cantt, Jabalpur, Madhya Pradesh, INDIA 482001
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Fundamental and Technical Analysis for Stock Trading
Brochure &
Course Module

St. Aloysius' College (Autonomous), Jabalpur
Re-Accredited 'A+' Grade By NAAC
College with Potential for Excellence

OPTUS ED TECH SOLUTIONS

Department of Commerce .

Hands-On Training on "Fundamental & Trend Analysis for Stock Trading ". (20 Days)

Sheerish Jain CFA

C.A SUPREET AGRAWAL Trainer for CA ,ACCA & IIM Indore

Introduction to Technical Analysis
✓ Reading Charts
✓ Support& Resistance
✓ Moving Averages
✓ Technical Indicators
✓ Practical Exposure toward live trading
✓ Demat Account Opening

Introduction to Fundamental Analysis
✓ Understanding and Analyzing of Balance Sheet, income statement ,Cash flow Statement
✓ How to do Business & Sector Analysis
✓ Financial Modelling using Excel
✓ How to value businesses
✓ Stock Screeners
✓ How to write research report

Fees and Registration
Training Fee Rs 500 /- (Limited Seats)
(Contact :- Dr .Priya Sahni Comm. Dept. 8109151645

Registration Link
https://docs.google.com/forms/d/e/1FAIpQLSd4YudprQclJFB7pjAiswG6k0qyskOWRu3JHyHIMN_fP_5zGA/viewform?usp=sharing

Details of Online Fees Submission for RTGS
Beneficiary Name :- Principal ,St.Aloysius College
Credit Account No. :- 5201214000008
IFSC Code : CNRB0005201
Bank Name : Canara Bank
Branch : Gorakhpur Jabalpur
Account Type : Current

St. Aloysius College (Autonomous)

Reaccredited 'A+' by NAAC (CGPA 3.68/4.00)
College with Potential for Excellence by UGC
DST-FIST Supported & Star College Scheme by DBT
Jabalpur, Madhya Pradesh, India

Department of Commerce
Fundamental & Trend Analysis for Stock Trading

Course Objective

- Aims to provide a better trading strategy especially in the current market conditions. This course will explore various ways how to combine fundamental and technical analysis using practical examples

Module I

Introduction to Fundamental Analysis

- Understanding and Analyzing of Balance Sheet, income statement ,Cash flow Statement .
- How to do Business & Sector Analysis .
- Financial Modelling using Excel.
- How to value businesses .
- Stock Screeners .
- How to write research report.

Module II.

Introduction to Technical Analysis

- Reading Charts .
- Support& Resistance .
- Moving Averages .
- Technical Indicators .
- Practical Exposure toward live trading .
- Demat Account Opening .

Fun and Facts with food
Brochure &
Course Module

ST. ALOYSIUS' COLLEGE (AUTONOMOUS)
REACCREDITED 'A+' BY NAAC (CGPA -3.68/4.00)
COLLEGE WITH POTENTIAL FOR EXCELLENCE BY UGC DST-FIST SUPPORTED & STAR COLLEGE SCHEME BY DBT JABALPUR, (MADHYA PRADESH),INDIA

CERTIFICATE COURSE ON :
Fun and facts with food
ORGANIZED BY: DEPARTMENT OF CHEMISTRY
Commencing from: - 4th March 2024

Eligibility - :
UG and PG Student of any discipline
Credits-2 Duration: 30hrs

Chief Patron:
Rev. Dr. G. Vazhan Arasu
(Principal)

Chairperson:
Dr. Anjali D'souza
(Vice Principal)

Convener-:
Dr. Smarika Lawrance
(Head Department Of Chemistry)

Course Coordinator:

Course Modules
Module I:
Weight Management: Beyond Balancing Calories
Module-II
Fermented foods –Importance of fermented food in diet
Module-III
Utility of salads Appetizers and soups for healthy body weight
Module-IV
Fruit Juice and smoothies
Modules-V
Food Processing and preservation
Practical Module
Preparation of
Soup
Salads
Bakery
Fermented food

Resource Persons

Dr. Anjali D'souza

Dr. Smarika Lawrance

Dr. Sutapa Roy

Dr. Sweta Likhitkar

Dr. Amita Chhatri

DEPARTMENT OF CHEMISTRY

Details of Value Added Course

Course Name:-"*Fun and facts with food*"

Eligibility Criterion:- Open for all

Duration: - 30 hours (2 credits)

Proposed Date: - January 2024

No. of Seats: - 30

Mark Scheme: - 100 marks (Theory 50 & Practical 50)

There will be **5 (five)** modules in this course which are as follows:-

Module I: Weight Management: Beyond Balancing Calories:

Balanced Diet: Food group and food pyramids. Food additives- colorants-types and effects, (**cereals and beans**).

Module–II Fermented foods with–Importance of fermented food in diet Idli, Beer, wine, Cheese, Breads

Modules-III Utility of salads Appetizers and soups for healthy body weight Salads- Base body, garnish and dressing, **Soup**- Thick, clear and National

Modules-IV Fruit Juice and smoothies- Fruit vegetables and their importance in vitamin mineral and roughage

Modules-V Food Processing and preservation: Food preservation by drying /dehydrating / freezing. Fluid pasteurization, Case study of some commonly available preserved products Essential of Jam, Sauces, Jellies and its preservation

Practical Module-

Contents: Preparation of

Soup: Veg Soup

Salads: Green Salad, Fruit salads, Pasta Salad

Bakery: Biscuits, Breads and Cake

Fermented food: Idli, Beer, Cultured milk

Juices: Vegetable Juices, Fruit Juices and Different type of coffee

Tally for Non - Finance Professionals
Brochure &
Course Module

ST. ALOYSIUS' COLLEGE (AUTONOMOUS), JABALPUR(M.P.)

TALLY FOR NON-FINANCE PROFESSIONALS

DEPARTMENT OF COMMERCE

Date - To be Announced Soon
Time -
Ist Batch- 2:00PM to 3:PM
IInd Batch - 4:45PM to 5:45PM

Career Opportunities
- Accounting Executive
- Tax Accountant

COURSE DURATION – 30 HOURS
(FACE TO FACE)

COURSE FEE – 500/-

MODULES
- Introdution to Tally
- Recording Transactions
- Inventory Management
- Bank Reconciliation and Cash Flow
- Taxation and GST Compliance
- Financial Statements

Course Instructor
CA Supreet Agrawal
(Ex-EY India, Ex-KPMG Bahrain,
India Book of Records Holder,
Trainer for CA, ACCA & IIM Indore)

DATE - 12TH SEPTEMBER 2022, TIME- 4:45 TO 5:45 PM

Hands-on Practice and Real-Life Scenarios

For more information contact -
DR. SARITA GOEL - 9425801879

St. Aloysius' College (Autonomous), Jabalpur (M.P.)
Reaccredited 'A+' by NAAC (CGPA: 3.68/4.00)
College with Potential for Excellence
DST-FIST Supported & Star College Scheme by DBT
Certificate Course
2023-2024
Department of Commerce
Tally for Non-Finance Professionals
Part : I

Module Name	Description of the Content	Duration in Hours
Module I	Basics about Tally Prime, Difference between Tally ERP vs Tally Prime, Key terminologies used in Tally Prime , Basic buttons used in Tally Prime, Company Creation.	10
Module II	Understanding Gateway of Tally, Creating the first group, Creating the first ledger ,Examples of creation of groups & ledgers.	10
Module III	Basics about GST & TDS in Tally Prime, Alternation of Masters.	10
TOTAL		30

Part : II

Module Name	Description of the Content	Duration in Hours
Module I	Understanding Gateway of Tally, Examples of creation of groups & ledgers, Creation of stock group with examples, Creation of stock category with examples, Creation of stock item with examples.	10
Module II	Creating vouchers, Understanding Day Book Making changes to vouchers.	10
Module III	Understanding Reports - Balance Sheet, Statement of Profit & Loss, Stock Summary , Ratio Analysis , Display more reports , Summary & Completion	10
TOTAL		30

Assessment & Evaluation: Part I and Part II		
Maximum Marks: 200 **Continuous Comprehensive Evaluation (CCE):50 Marks** **External Exam: 150 marks**		
Internal Assessment: Continuous Comprehensive Evaluation (CCE):30+20 Marks	Part – I Marks - 50	Part – II Marks -50
	Class Test- Assignment/ Presentations Practical on Tally (Lab)	Class Test and Practical on Tally (Lab)
External Assessment: 50+100 marks Time: 2:00 hours	Part – I Marks - 150	Part – II Marks -150
	Theory 50 Marks Practical- 100 Marks	Theory 50 Marks Practical- 100 Marks

Certificate Course in Microtomy
Brochure &
Course Module

ST. ALOYSIUS' COLLEGE (AUTONOMOUS) JABALPUR, (MADHYA PRADESH), INDIA
REACCREDITED 'A+' BY NAAC (CGPA 3.68/4.00)
COLLEGE WITH POTENTIAL FOR EXCELLENCE BY UGC
DST-FIST SUPPORTED & STAR COLLEGE SCHEME BY DBT

Session 2023-24

Certificate Course in "Microtomy"

Organized by Department of Zoology

Starting from 14th - 28th September 2023
Credits -2,   Duration- 30 Hours

Registration FeeRs. 500/-
Registration link:

https://forms.gle/3MWZCHr9xLHJRYXq9

Eligibility Criteria-:
All Biosciences Students pursuing
UG & PG

Course Objectives:
The course provides students with basic knowledge
and principles of microtomes andtheir application.
To getdetailed information about tissue sectioning
using a microtome

Learning Outcomes:
The technique of tissue sectioning
Preparation of permanent slides of tissues
for microscopic examination of internal

Beneficiary Name :
Principal, St. Aloysius
College, Jabalpur
Credit Account No. :
5201214000008
IFSC Code : CNRB0005201
Bank Name : Canara Bank
Branch : Gorakhpur Jabalpur
A/C Type : Current

For any query contact or mail-us
Dr. Priyanka Sinha 9685620011
Dr. Runa Paul – 9893415069
Contact: - zoo.sac@gmail.com

Microtomy
Hybrid Mode
Google Meet joining
info Video call
link: https://meet.googl
e.com/nyx-yryu-kuo

Please visit
http://staloysiuscollege.ac.in/en-in/
for more details.

ST. ALOYSIUS COLLEGE (AUTONOMOUS), JABALPUR

Department of Zoology
Certificate Course
In
"Microtomy"
(Session 2023-2024)

Credits: 2

Duration: 30 hrs.

Course Objectives:

- The course provides students with basic knowledge and principle of microtome and their application
- To get detailed information about tissue sectioning using a microtome
- To provide a basic idea about the microscopic analysis of internal structure
- To understand the techniques involved in the process of microtomy.
- To develop fundamental knowledge of histological details of the organs and tissues

Learning Outcomes:

The students are expected to acquire the knowledge of the following:

- Types of microtome and their application

- The technique of tissue sectioning

- Preparation of permanent slides of tissues for microscopic examination of internal structure.

- Histological details of the organs and tissues

Eligibility Criteria-:

1. Candidate with 10+2 pass in any discipline or equivalent are eligible for pursuing the certificate course
2. Duration & Credits of the Course -: 30 hrs & 2 Credits
3. Fee Structure: Rs. 500/-
4. Internal Evaluation

Scheme of Examination

	Paper	Maximum Marks	Minimum Marks	Total Marks
I	Theory	50	25	
II	Practical	50	25	100

Paper -I   Theory

Course Content   **Credit - 1**

Unit I – Introduction of the course, history & scope

1. Define Microtome

2. History of Microtomy

3. Microtome – Scope & Applications
   Traditional Histology Technique
   Cryosectioning Technique
   Electron Microscopy Technique

Unit II – Histology

1. Cell & Tissue
2. Different types of tissues
3. Structure & function of tissues
   Epithelial Tissue
   Connective Tissue
   Nervous Tissue
   Muscle Tissue

Unit III – Types of microtomes - Principle, working & application

1. Hand Microtome

2. Rotary microtome

3. Base sledge microtome

4. Cryomicrotome

5. Ultra microtome

6. Microtome knife and its types.
   Advantages
   Disadvantages

Unit IV – Process of Microtomy (Part I)

1. Preparation of the material & fixation
2. Washing
3. Dehydration
4. Clearing of the tissue
5. Preparation of the tissue for embedding
6. Paraffin Infiltration and embedding

Unit V - Process of Microtomy (Part II)

1. Block Making and orientation
2. Trimming of block
3. Cutting Sections
4. Mounting on microscope slides
5. Clearing and Staining
6. Preparation of permanent mounts

Paper II – Practical

Course Content   Credit - 1

1. **Different steps of tissue processing and staining for paraffin sections**

   o   Preparation of the material & fixation

   o   Washing

   o   Dehydration

   o   Clearing of the tissue

   o   Preparation of the tissue for embedding

   o   Paraffin Infiltration and embedding

   o   Block Making and orientation

   o   Trimming of block

   o   Cutting Sections

   o   Mounting on microscope slides

   o   Clearing and Staining

   o   Drying of the slides

   o   Preparation of permanent mounts

Indian History Chronology from Ancient India to Medieval India
Brochure &
Course Module

ST. ALOYSIUS' COLLEGE
(AUTONOMOUS), JABALPUR(M.P.)
Reaccredited ' A+ ' Grade by NAAC (CGPA 3.68/4.00)
College with Potential for Excellence (CPE) by UGC
DST-FIST Supported & Star College Scheme by DBT.

SAC

ONLINE CERTIFICATE COURSE
ON
INDIAN HISTORY CHRONOLOGY
FROM ANCIENT INDIA TO MEDEIVAL INDIA

ORGANIZED BY:DEPARTMENT OF HISTORY
SESSION :2023–2024

PATRON
Rev.Dr. G. Vazhan Arasu
COORDINATOR
Dr. Manju Maria Solomon
Head, Department of History

COURSE FEES: 600RS

Beneficiary Name: Principal,
St. Aloysius college, Jabalpur.
Credit A/C No:5201214000008
IFSC CODE:CNRB0005201
BANK NAME:
Canara Bank Branch:
Gorakhpur
Jabalpur A/C type Current

FOR:
. HUMANITIES STUDENTS
. IAS ASPIRANTS
. ANYONE INTRESTED IN LEARNING

For Queries Contact: his.sac@gmail.com
Dr. Manju Maria Solomon: 9826751607
Dr. Adarsh Kumar Mishra :6393633001

SYLLABUS-2023-24

ONLINE CERTIFICATE COURSE
Indian History Chronology (From Ancient India to Medieval India)
DEPARTMENT OF HISTORY

Module I :   Ancient Indian History –Part- 1

1. Pre Historic Age
2. Indus Valley Civilization
3. Early vedic Age
4. later vedic Age
3 Bhuddhism
4 Janism

Module II: Ancient Indian History –Part – II

1. Mauryan Empire
2. Chandra Gupta Maurya
3. Bindussaar
4. Ashoka

Module III: Post Mauryan Period

1 Gupta Empire –Chandra Gupta – I
2 Samudra Gupta andChandra Gupta II

Module IV: Sultnate Period

1. Qutub –din-Aibak
2. Iltutmish and Raziya Sultan
3. Balban
4. Khilgi Dynasty

Module V :   Tuglaq Dynasty

1. Giyasudin Tuglaq, Mohmmad –bin-Tuglaq and Firoz shah Tuglaq

Module VI: Mughal Empire

1-Babur ,-Humayun -Akbar
2-Jahangir ,Sahanjahan
3-Chatrapati Shivaji and Aurangjeb

Certificate Course on Right to Information and Filing RTI
Brochure &
Course Module

1, Ahilya Bai Marg, Pentinaka Chowk, Sadar, Cantt, Jabalpur, Madhya Pradesh, INDIA 482001
+917612620738   info@staloysiuscollege.ac.in

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ST. ALOYSIUS' COLLEGE
(AUTONOMOUS), JABALPUR(M.P.)
Reaccredited ' A+ ' Grade by NAAC (CGPA 3.68/4.00)
College with Potential for Excellence (CPE) by UGC
DST-FIST Supported & Star College Scheme by DBT.

ST. ALOYSIUS COLLEGE (AUTONOMOUS)

Reaccredited 'A+' by NAAC (CGPA 3.68/4.00) College with Potential for Excellence by UGC DST-FIST Supported & Star College Scheme by DBT Jabalpur, Madhya Pradesh, India

Department of Political Science

CERTIFICATE COURSE IN RIGHT TO INFORMATION AND FILING RTI

Course Fee: 500/-

Bank Details:
Beneficiary Name: Principal,
St. Aloysius College Autonomous Jabalpur
Credit Account No. : 5201214000008
IFSC Code: CNRB0005201
Bank Name: Canara Bank
Branch: Gorakhpur, Jabalpur
Account Type: Current

Date of Commencement: 8th January 2024
Eligibility: Minimum 10+2
Timing: 1:30-2:00 PM

For Queries Contact: 889436653, 9424086040, 7999709082, 9691854069

Email: poli.sac@gmail.com

St. Aloysius College (Autonomous)

Reaccredited 'A+' by NAAC (CGPA 3.68/4.00)
College with Potential for Excellence by UGC
DST-FIST Supported & Star College Scheme by DBT
Jabalpur, Madhya Pradesh, India

Department of Political Science

Certificate Course on Right to Information and Filing RTI

(02 Credits)

Module 1:

    a. Overview of Right to Information

    b. Scope of Right to Information Act, 2005

Module 2:

    a. Using the RTI Act to get "Information"- The Filing of the Request for obtaining Information

    b. What is covered under RTI Act

    c. Fees under RTI Act

Module 3:

    a. Disposal of the Request and the time limits for Compliance with the Request

    b. Penalty Provisions under RTI Act

    c. Compensation Provisions under RTI Act

Module 4:

    a. RTI Online Filing procedure

    b. RTI Offline Filing procedure

ST. ALOYSIUS' COLLEGE

(AUTONOMOUS), JABALPUR(M.P.)

Reaccredited ' A+ ' Grade by NAAC (CGPA 3.68/4.00)
College with Potential for Excellence (CPE) by UGC
DST-FIST Supported & Star College Scheme by DBT.

Certificate course in Human Rights
Brochure &
Course Module

 1, Ahilya Bai Marg, Pentinaka Chowk, Sadar, Cantt, Jabalpur, Madhya Pradesh, INDIA 482001
 +917612620738 **info@staloysiuscollege.ac.in**

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ST. ALOYSIUS COLLEGE (AUTONOMOUS)

Reaccredited 'A+' by NAAC (CGPA 3.68/4.00) College with Potential for Excellence by UGC DST-FIST Supported & Star College Scheme by DBT Jabalpur, Madhya Pradesh, India

Department of Political Science

CERTIFICATE COURSE IN HUMAN RIGHTS

Course Fee: 500/-

Bank Details:
Beneficiary Name: Principal,
St. Aloysius College Autonomous Jabalpur
Credit Account No. : 5201214000008
IFSC Code: CNRB0005201
Bank Name: Canara Bank
Branch: Gorakhpur, Jabalpur
Account Type: Current

Date of Commencement: 2nd September 2023

Eligibility: Minimum 10+2

Timing: 1:30-2:00 PM

For Queries Contact: 889436653, 9424086040, 7999709082, 9691854069

Email: poli.sac@gmail.com

St. Aloysius' College Autonomous Jabalpur
Reaccredited 'A+' by NAAC (CGPA 3.68/4.00)
College with Potential for Excellence by UGC
DST-FIST Supported & Star College Scheme by DBT
Jabalpur, Madhya Pradesh, India

Department of Political Science

Certificate course in Human Rights

Syllabus

(02 Credits)

Module I :   **Concept of Human Rights and Duties**

1. Historical Development of Concept of Human Rights
2. Nature and Classification of Human Rights

Module II: **United Nations and Human Rights**

1. Universal Declaration of Human Rights 1948
2. Universal Declaration of Human Responsibilities 1997
3. UN bodies involved in protection of Human Rights – General Assembly, S.C, UNICEF, WHO, ILO, Economic and Social Council, U.N. Commission on Human Rights

Module III: **Human Rights in India: Constitutional Framework**

1. Fundamental Rights
2. Fundamental Duties

Module IV: **Protection of Human Rights**

1. Role of Judiciary in protection of human rights and duties
2. Role of NGO's , media and educational institutions in protection of human Rights.
3. Human Rights Commission and Protection of Human Rights in India

Module V :   **Human Rights of Special Category and Marginal Groups**
1. Rights of the Women,
2. Rights of the Children
3. Rights of the Dalit and Tribes
4. Rights of Minorities
5. Rights of Old and Disabled

Advertisement and Sales Promotion
Brochure &
Course Module

ST. ALOYSIUS' COLLEGE
(AUTONOMOUS), JABALPUR(M.P.)
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ST. ALOYSIUS COLLEGE, (AUTONOMOUS)
Jabalpur, Madhya Pradesh,
Reaccredited 'A+ 'by NAAC (CGPA– 3.68/4.00),
College with Potential for Excellence by UGC,
DST FIST Supported & Star College Scheme by DBT.

Certificate Course
On
"Advertisement and Sales Promotion"
Date: 11th September – 17th October, 2023

Time: 12:30pm – 1:30pm

Highlight:

✓ Registration fees- 500/-

✓ Internship with the Advertisement Agency

✓ Certificate will be provided to all participants

✓ Internship certificate will be provided separately

Course Modules:

✓ Advertisement

✓ Sales promotion

✓ Communication skill

✓ Tools of Marketing

✓ Marketing Strategies

✓ Product Pricing

✓ Advertising Budget

✓ Advertising media

LINK FOR REGISTRATION https://forms.gle/B4BZZQhxVbmkxBzx7

For Enquiries Contact:

Bank Detail:-Beneficiary Name -: Principal, St.
Aloysius, College Autonomous Jabalpur
Current Account Number –: 5201214000008
IFSC Code - : CNRB0005201 Bank Name -: Canara
Bank Branch:Gorakhpur, Jabalpur

Dr. Reeta Chouhan	9770727827
Dr. Anthonima Robin	7898865525
Dr. Renu Markande	7470965809
Dr. Deeksha Jain	9582453237

Certificate Course on

Advertisement and Sales Promotion

2023-24

UNIT- I

Advertisement: meaning, importance and objectives, Classification of advertisement: on basis of area, product and service, Effects of advertisement on sales promotion.

UNIT- II

Marketing: functions of marketing and importance of communication management, Tools of Marketing: Communication, Advertisement, Sales Promotion and Salesmanship,

UNIT- III

Advertising budget: meaning, factors affecting advertising budget, Role of advertising agencies.

UNIT- IV

Advertisement illustration: sub and main illustration, Slogan, Logo, Trademark, Layout Construction, Effects of Colors in Advertisement.

UNIT- V

Constructing commodity, Service advertisement, Analysis of advertisement, Pre-launch advertising, Determination of target audience, Advertising media and their choice. Advertising Message: Preparing an effective advertising.

CPBFI Certified Program in Banking Finance and Insurance
Brochure &
Course Module

What our partner colleges and their alumni are saying...

"The programme and the efforts made by Bajaj Finserv on placements led to over 400 of our students finding jobs in good, national financial institutions."

Mr. Sanjay Bhargava,
Chairman & Trustee, Shiksha Mandal, Wardha

"The various constituents of the programme like the industry relevant curriculum, HR workshop and Swaroop certainly promote holistic development of young graduates."

Dr. G. Vazhan Arasu,
Principal, St. Aloysius College of Commerce, Jabalpur

"The CPBFI classes are most sought-after by our students. It has helped them enhance their placement opportunities."

Dr G Sahaya Baskaran,
Professor of Physics and Coordinator,
Employability Skills Centre, Andhra Loyola College, Vijayawada

"Before I joined the course I was rejected by three companies and after CPBFI, I gave two interviews and was shortlisted for both. I have had a great leap of confidence after CPBFI. Today I am a better version of myself."

Afhna Shaik
Alumni of Rosary College of Commerce & Arts, Navelim, Goa

"CPBFI infuses professionalism in students, caters to our learning and bridges the college-industry gap. Trainers provide their best and ensure the concepts are understood by the students. This is one of the best programmes I have done."

Vaibhav Bansode
Alumni of SBES College of Arts & Commerce, Aurangabad

"We are looking for partners, such as your institute, to reach and train young graduates and prepare them for corporate roles, especially in financial services. Our certificate programme, designed by the industry, for the industry, will develop them into confident professionals. Let us join hands to unlock the potential of your students and build a talent pool for a resurgent India!"

Sanjiv Bajaj,
Chairman and Managing Director,
Bajaj Finserv Limited

The CPBFI Network

Reach	2018-19	2019-20	Since inception
States	4	7	8
Towns	15	39	53
Partner colleges	27	99	152
Active centres	22	90	124
Batches	30	100	#240
Student enrolments	1,022	3,809	#10,000

#estimated up to March 2021

The reasons to partner Bajaj Finserv

Produce graduates that are ready for the industry

Attract top recruiters for placements

Improve NAAC/NIRF Ratings and Ranking among the Best Colleges

Attract top students from the city

About CPBFI

CPBFI is a customised training programme conducted by Bajaj Finserv for graduates, especially the first-generation graduates, across India. CPBFI aims to make these graduates employable for the Banking, Financial Services and Insurance (BFSI) sector. As per industry estimates, less than 50% of the graduates passing out of the colleges are ready for corporate roles. This poses challenges for graduates aspiring for a successful career and for industry looking for skilled employees. CPBFI aims to solve this dual challenge.

CPBFI is a 100-hour training programme designed by Bajaj Finserv in collaboration with industry experts, educational institutes and a leading mental health institute. CPBFI equips participants with the right attitude, skills and industry knowledge, thereby going beyond a typical skill development programme. Successful participants can apply for different roles in banks, finance companies and insurance companies. CPBFI prepares participants for the challenging customer-facing roles in sales, service and operations which offer maximum career opportunities and excellent growth prospects.

CPBFI is conducted by a pool of trainers with extensive industry and training experience. The courses are delivered using an experiential-learning approach based on adult-learning principles. Student are able to participate in the discussions, role plays and other group activities where they can sharpen their own skills and knowledge. CPBFI is short, practical and affordable which makes it accessible to every student. This unique combination of content and pedagogy makes CPBFI one of the best extra-curricular programmes that a college can offer its students.

The data, from the assessments by external recruiters and outcome of the 2 CPBFI Job Fairs, suggests that the CPBFI students are twice as likely to get a role in a corporate, compared to their peers. Bajaj Finserv is continuously working to take this number even higher. The Bajaj Finserv team is currently working towards setting up a placement division that can support the CPBFI participants' access to top recruiters through job fairs, walk-in drives and campus placements.

By partnering with Bajaj Finserv, colleges can not only enhance the career opportunities of the students, but also attract top companies to recruit from the college. An industry partnership can benefit the college by improving its NIRF and NAAC rating and its rank in the Best College Rankings by the different agencies. CPBFI is exclusively available to students and alumni of Bajaj Finserv's partner colleges.

How to become a Bajaj Finserv CPBFI partner

1. Meeting between college officials and Bajaj Finserv representative
2. College decides to partner with Bajaj Finserv
3. Inform Bajaj Finserv, submit required college data electronically
4. Bajaj Finserv HO team meets college officials – physically or virtually
5. Bajaj Finserv decides to partner with the college
6. Bajaj Finserv and College agree on partnership terms and draft an MoU
7. College mobilises the first CPBFI Batch
8. Bajaj Finserv and College enter into partnership by signing the MoU
9. All CPBFI participants appear for online Pre-CPBFI Quiz and/or Interview
10. Launch of CPBFI at the college at a formal launch ceremony

CPBFI student profile

By gender

34% Male

66% Female

By parent education

16% Both parents graduates

19% One-parent graduate

65% No parent graduate

By social categories

50% Others

50% Socially-weaker sections

By stream

7.1% Others

19.3% Management

73.6% Commerce
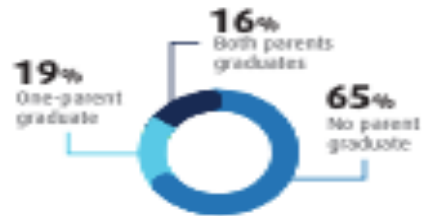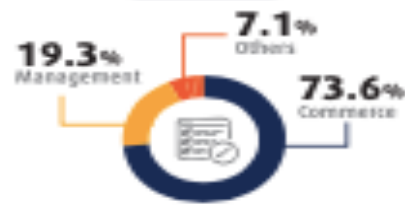
Employability of students

2018-19

42%

2019-20

55%

2020-21

63%
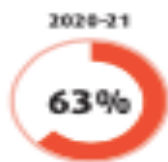
Employability is measured based on results of interviews by corporate recruiters

Student satisfaction scores

	2018-19	2019-20	2020-21
My confidence has improved	84%	95%	95%
My communication skill has improved	91%	95%	95%
My industry knowledge has improved	86%	93%	94%
CPBFI was the right decision for my career	91%	94%	95%
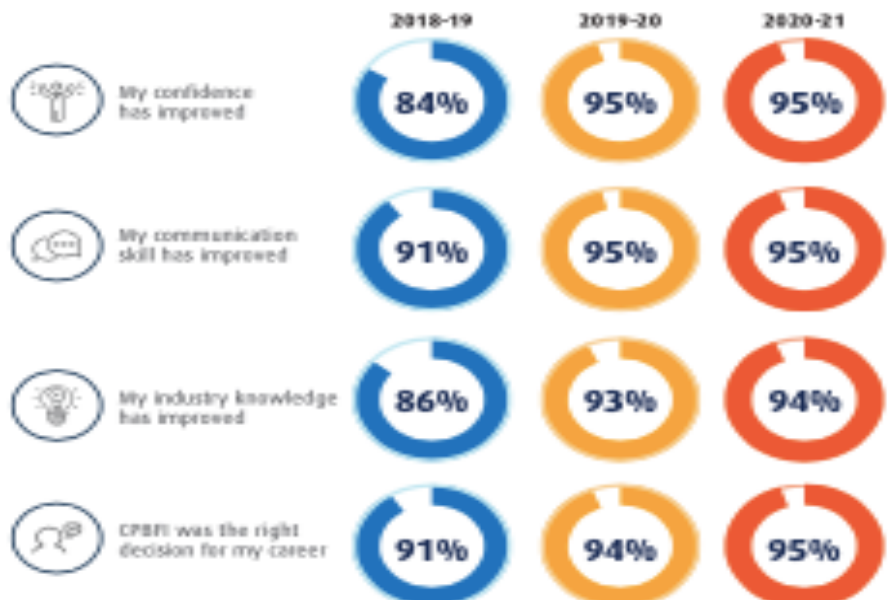
Numbers indicate % of students agreeing with the statement

CERTIFICATE PROGRAMME IN BANKING, FINANCE AND INSURANCE

Where Potential Meets Opportunity

Our journey so far...

	2016	2017	2018	2019	2020	2021
	CPBFI launched in partnership with Symbiosis International University in Pune	First 2 college partnerships at Wardha and Nagpur	CPBFI enrolment crosses 500	CPBFI Enters Goa, Madhya Pradesh and Karnataka. Enrolment over 1,000. First job fair at Ratnagiri	CPBFI enters Tamil Nadu, Andhra Pradesh, Telangana. 100th batch at Nagpur. 100 batches in 2020. 2nd job fair at Nagpur	CPBFI goes online during Covid-19 pandemic. Regains momentum in October 2020
College Partners	1	5	7	22	90	152
Students Enrolled	36	166	406	1,022	3,809	#4,500

Accumulated up to March 2021

Current
New

CPBFI Courses and Structure

ATTITUDE

Course 1:
Managing Self – Swaroop

SwaRoop orientation
My Self
Self-belief – staying assertive
Mind-body connections and Self-talk
What are emotions
Regulating emotions
What is belief
ABC Principle of REBT
Rational and irrational beliefs
Decision making
Daily challenges

SKILLS

Course 2:
Communication and Workplace Skills

What is communication
Goals and barriers in communication
Modes of communication
Listening skills and empathy
Non-verbal expression skills
Summarisation skills
Effective communication
Use of language in communication
Spoken communication
Telephonic communication
Written communication
Giving and receiving feedback
Saying and taking NO
Persuasion and influencing skills
Working in teams
Group discussion skills
Goals and targets at workplace
Representing self
Job interview techniques
Job interview demonstration

KNOWLEDGE

Course 3:
Overview of Retail Banking

Introduction to Banking
Introduction to Branch Banking
Customers and Their Needs
Overview of Banking Products
Liability Products
Asset Products
Third Party and Fee-based Products
Business Development
Transaction Processing
Customer Service
Compliance and Ethics
Future of Banking
Inclusive Banking
Introduction to NBFCs
Overview of Corporate Banking
Banking and Me

KNOWLEDGE

Course 4:
Overview of Insurance

Need for Insurance
Evolution of Insurance
Overview of an Insurance Company
Overview of Retail Insurance Products
Overview of the Companion Products
Overview of Insurance Distribution Channels
Selling Insurance
Insurance Operations
Customer Service
Ethics and Compliance in Insurance
Future of Insurance
Inclusive Insurance
Profitability Drivers for Insurance

Mock interviews by corporate recruiters

Classroom Only

Banking
24 hours
8 days

Insurance
24 hours
8 days

Communication
36 hours
12 days

Managing Self
12 hours
2 days

96 hrs over 30 days

Online Only

Banking
24 hours
12 days

Insurance
24 hours
12 days

Communication
36 hours
18 days

Managing Self
12 hours
4 days

96 hrs over 46 days

Our partners

Centre for Investment Education and Learning (CIEL)

WalchandPlus a Division of Walchand PeopleFirst Limited (WPFL)

Centum Learning Limited.

BAJAJ FINSERV

Bajaj Finserv Limited, 6th Floor, Bajaj Finserv Corporate Office,
Off Pune-Ahmednagar Road, Viman Nagar, Pune - 411 014, Maharashtra, India
Tel: +91 20 30405700 - Fax: +91 20 30405792

Follow us on LinkedIn
https://www.linkedin.com/showcase/finservgbfi

CPBFI Courses and Structure

ATTITUDE

Course 1:
Managing Self - SwaRoop

- SwaRoop orientation
- My Self
- Self-belief – staying assertive
- Mind-body connections and Self-talk
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- Regulating emotions
- What is belief
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- Rational and irrational beliefs
- Decision making
- Daily challenges

SKILLS

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Communication and Workplace Skills

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- Written communication
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- Saying and taking NO
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- Working in teams
- Group discussion skills
- Goals and targets at workplace
- Representing self
- Job interview techniques
- Job interview demonstration

KNOWLEDGE

Course 3:
Overview of Retail Banking

- Introduction to Banking
- Introduction to Branch Banking
- Customers and Their Needs
- Overview of Banking Products
- Liability Products
- Asset Products
- Third Party and Fee-based Products
- Business Development
- Transaction Processing
- Customer Service
- Compliance and Ethics
- Future of Banking
- Inclusive Banking
- Introduction to NBFCs
- Overview of Corporate Banking
- Banking and Me

KNOWLEDGE

Course 4:
Overview of Insurance

- Need for Insurance
- Evolution of Insurance
- Overview of an Insurance Company
- Overview of Retail Insurance Products
- Overview of the Companion Products
- Overview of Insurance Distribution Channels
- Selling Insurance
- Insurance Operations
- Customer Service
- Ethics and Compliance in Insurance
- Future of Insurance
- Inclusive Insurance
- Profitability Drivers for Insurance

Mock interviews by corporate recruiters

Classroom Only

Banking
24 hours
8 days

Insurance
24 hours
8 days

Communication
36 hours
12 days

Managing Self
12 hours
2 days

96 hrs over 30 days

Online Only

Banking
24 hours
12 days

Insurance
24 hours
12 days

Communication
36 hours
18 days

Managing Self
12 hours
4 days

96 hrs over 46 days

Certified Management Accountant CMA US
Brochure &
Course Module

Be future-ready!

Miles Education

ST. ALOYSIUS' COLLEGE
(AUTONOMOUS), JABALPUR(M.P.)

B.Com with US CMA

The CMA® (Certified Management Accountant) offered by IMA, US, is a global benchmark for financial professionals. Why? Because CMA's can explain the "why" behind numbers, not just the "what". CMA can give you greater credibility, higher earning potential, and ultimately a seat at the leadership table.

Semester 1-4

- CMA curriculum integrated in Sem 1-4
- CMA is offered by the IMA (Institute of Management Accountants), US
- Learn using official Miles CMA Learning System powered by Hock International

Semester 5-6

- Take the 2-part CMA exam:
  - Part 1: Financial Planning, Performance and Analytics
  - Part 2: Strategic Financial Management
- Get placed with MNCs including Fortune 500 companies

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Did you know that you can clear the 2-part CMA exam even before graduation ?

CMAs of all ages earn more than non-CMA accounting professionals. CMAs between the ages of 30-39 can earn 63% more in total compensation than their non-CMA peers. Over a lifetime, this can add up to more than $500,000.

CMAs have greater earning power

63%

Non-certified Accounting Professionals

CMA Accounting Professionals

Ages 30-39

www.imanet.org/cma

Careers @ MNCs & Fortune 500 companies

Deloitte. EY KPMG pwc hp

accenture Microsoft 3M wipro AMERICAN EXPRESS

genpact FLEXTRONICS Honeywell BOEING Infosys

CATERPILLAR MAERSK verizon IBM at&t

Cognizant JPMorganChase xerox vmware P&G

Capgemini BANK OF AMERICA TATA Johnson&Johnson NORTHERN TRUST

and many more...

For more info & enrollment, contact:

ST. ALOYSIUS' COLLEGE

(AUTONOMOUS), JABALPUR(M.P.)

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College with Potential for Excellence (CPE) by UGC
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B.Com with US CMA

Part -1. (Course Structure)

- Financial Planning , Performance and Analytics

- Overlap with Curriculum of Management Accounting (Plus Financial Accounting)

- 4-hour Exam (75% multiple choices & 25% essays)

Content Covers

- External Financial Reporting
- Planning and Budgeting
- Performance Management
- Cost Management
- Internal Controls
- Technology and Analytics

Diploma In Business Analytics
Brochure &
Course Module

Department of Management

Diploma in Business Analytics

MOST IN-DEMAND COURSE OF THE CENTURY | APPLY NOW

ST. ALOYSIUS' COLLEGE (AUTONOMOUS)
CENTRE OF VALUE ADDED COURSES

About Course

Create your next opportunity by learning how to apply basic statistics to real business problems and strengthen your analytical skills.

Data analytics can help an organization with everything from personalizing a marketing pitch for an individual customer to identifying and mitigating risks to its business.

Course Price: Rs. 15000

Payment of Course Amount is available as installments.

Registration Price: Rs. 500*

*REGISTRATION AMOUNT IS NON-REFUNDABLE

Contact Department of Management and Department of Computer Science for further Information.

Teachers Incharge:
- Mrs. Sukhvinder Kaur Walia   +91 9425157667
- Mrs. Rashmi A. Patras   +91 6267298860
- Mrs. Shraddha Shrivastava   +91 8461914924

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Proposed Diploma Course in Business Analytics

Department of Management
&
Department of Computer Science

Course Details

Course Title	Business Analytics
Course Type	Diploma
Credit Value of course	48 credits
Duration of Course	1 Year
Total Fees	Rs 15000/-
Total Students	30
Eligibility Criteria	12th Pass With minimum 50% marks.

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Course Objective

- Enable the learners to recognize, understand and apply the language, theory and models of the field of business analytics.

- Foster an ability to critically analyze, synthesize and solve complex unstructured business problems.

- Enable learners an aptitude for business management, innovation and entrepreneurial action.

- Encourage the sharing of experiences to enhance the benefits of collaborative learning an

- This course stresses the factors that impact the performance of business decision-makers and the data analysis and management methods that have value to them.

Course Format

Semester 1	July to December
Examination	December
Semester 2	January to June
Examination	June
Internship/ Major Project	May – June
Total Number of Paper Semester 1	4
Total Papers Semester II	3 Paper and 1 Major Project
Marks per Paper	100 marks
Internal Marks	40 marks
	Includes Presentation, Attendance, Written-test, Case Study Assessment and lab Assignments

Semester I Details

Paper Code	Paper Title	Credit Value
DBA 101	Management Concepts & Organizational Behaviour	6 credit
DBA 102	Business Statistics & Analysis	6 credit
DBA 103	Introduction to Business Analytics & Predic Bold odeling	6 credits
DBA 104	Programming using „R"	6 Credits
	Total Credit	**24 credit**

Semester II Details

Paper Code	Paper Title	Credit Value
DBA 201	Marketing Management	6 credit
DBA 202	Data Visualization And Descriptive Analysis	6 credit
DBA 203	Programming Using Python	6 credits
DBA 204	Major Project Work	6 Credits
	Total Credit	**24 credit**

SEMESTER I

DBA 101– Management Concepts & Organizational Behaviour

Course Credit: 6 credits

Course Objectives:

- To provide basic understandings of management processes and behavioural aspects of organizations.

- To apply the concepts of management and organizational behaviors in real world situations.

- Familiarizing the students with the contemporary issues in management and with techniques to handle them.

- Developing managerial and interpersonal skills among students needed for their professional growth.

DBA 101– Management Concepts & Organizational Behaviour

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- Developing managerial and interpersonal skills among students needed for their professional growth.

UNIT I

- Definition and Meaning of Management, Functions and Responsibilities of Management, Role of Manager, Principles of Management, School & Thoughts of Management, Functional Areas of Management: Production & Operations management, HRM, Financial Management & Marketing Management, E–Business. Case Studies

UNIT II

- Planning: Process, types and Significance, Planning vs. Forecasting, Objective, Strategies and Policies, MBO, Decision making: Process & Significance. Direction: Principles & Techniques, Motivation: Types & Significance,Maslow"s Need Hierarchy, Theory X & Y of Motivation, Leadership: Styles and Importance. Case Studies

Unit III

- Concept of Organisational Behaviour, Contributing Disciplines to Organisational Behaviour; Background/ Historical perspective and Framework of OB, Challenges to the field of OB in Global and Digital Era.

Unit IV

- Individual Behaviour, Personality, Perception– Perceptual selectivity,Perceptual organisation, Social Perception and Impression Management, Attitude and Values, Learning and Re–enforcement.

Unit V

- International Dimensions of Organisational Behaviour, Equal Employment Opportunities, Orgnisational Culture, Managing Cultural Diversity, Learning Organisation.

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DBA 101– Management Concepts & Organizational Behaviour

Course Credit: 6 credits

Course Objectives:

- To provide basic understandings of management processes and behavioural aspects of organizations.

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- Familiarizing the students with the contemporary issues in management and with techniques to handle them.

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UNIT I

- Definition and Meaning of Management, Functions and Responsibilities of Management, Role of Manager, Principles of Management, School & Thoughts of Management, Functional Areas of Management: Production & Operations management, HRM, Financial Management & Marketing Management, E–Business. Case Studies

UNIT II

- Planning: Process, types and Significance, Planning vs. Forecasting, Objective, Strategies and Policies, MBO, Decision making: Process & Significance. Direction: Principles & Techniques, Motivation: Types & Significance, Maslow"s Need Hierarchy, Theory X & Y of Motivation, Leadership: Styles and Importance. Case Studies

Unit III

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DBA 102– Business Statistics & Analysis

Course Credit: 6 credits

Course Objective

➢ Understand the fundamentals of business statistics.

➢ Understand the importance of measures of Descriptive statistics and their implication on Business performance.

➢ Understand the concept of Correlation & Regression and its usage in various business applications.

➢ Understand the practical application of Descriptive and Inferential Statistics concepts and their uses for Business Analytics.

Unit I
Descriptive Statistics Meaning, Scope, types, functions and limitations of statistics, Measures of Central tendency – Mean, Median, Mode.

Unit II
Measures of Dispersion – Quartiles,– Range, Inter quartile range, Mean deviation, Standard deviation, Variance, Coefficient of Variation, Skewness.

Unit III:
Correlation & Regression Analysis, Correlation Analysis: Rank Method & Karl Pearson's Coefficient of Correlation and Properties of Correlation. Regression Analysis: Fitting of a Regression Line (Univariate Regression analysis) and Interpretation of Results, Properties of Regression Coefficients and Relationship between Regression and Correlation.

Unit IV
Time series analysis: Concept, Additive and Multiplicative models, Components of time series, Trend analysis: Least Square method – Linear and Non– Linear equations, Applications in business decision–making.

Unit V
Hypothesis Testing – Hypothesis Testing: Null and Alternative Hypotheses;TypeIandTypeIIerrors;TestingofHypothesis:LargeSampleTests , Small Sample test, (t, F, Z Test and Chi Square Test)

DBA –103 – INTRODUCTION TO BUSINESS ANALYTICS AND PREDICTIVE MODILITY

Course Credit: 2

Course Objective:

- To think critically in making decisions based on data and deep analytics.
- Course Outcomes:
- Use technical skills in predicative and prescriptive modeling to support business decision–making.
- To translate data into clear and actionable insights.

Unit 1

Introduction to Business Analytics – Evolution, Architecture, Benefits and Future; Overview of analytics process – problem definition, data profiling, modeling, evaluation of results; Data profiling – Data preparation, exploration and visualization.

Unit-II

Data Modeling: Relational data modeling – Logical, Physical and Conceptual data models, Need for multidimensional data models in present business context; Star, Snowflake and Fact Constellation Schemas; OLTP – Introduction, Characteristics, Models; OLAP – Introduction, benefits and architecture, ETL concepts, Data warehousing

Unit III

Descriptive analytics: KPI – characteristics, process of defining KPIs, KPI basedbalanced scorecard; Dashboards – Features of good dashboards, dashboard design; Reports, Querying

Unit-IV:

Optimizing business functions using Business Analytics applications Marketing and retail analytics, Financial analytics HR analytics Web analytics Big data analytics Unstructured analytics

Unit-V:

Case Studies

DBA 104
PROGRAMMING USING R

Course Credit: 2

Course Objectives

- To provide basic knowledge of R Syntax
- To provide practical experience of Data analysis using R
- To provide practical in sight of using R to calculate descriptive statistics

---

- Learn the basics of R Syntax
- Learn how to organize and modify data in R using data frame sand dplyr
- Learn how to prepare data for analysis in R using dplyr and tidyr.
- Learn the basics of how to create visualizations using the popular R package gg plot2
- Learn the basics of aggregate functions in R with dplyr, which let us calculate quantities that describe groups of data
- Learn the basics of joining tables together in R with dplyr
- Learn to use R or manually calculate the mean, median, and mode of real-world datasets
- Learn how to quantify the spread of the data set by calculating the variance and standard deviation in R
- Learn how to calculate three important descriptive statistics— Quartiles, Quantiles, and Interquartile range that describe the spread of the data
- Learn about the statistics used to run hypothesis tests and use R to run different t-tests that compared is dtributions.

SEMESTER II

DBA –201 –MARKETINGMANAGEMENT

COURSECREDIT: 2

Course Objectives

- Assess market opportunities by analyzing customers, competitors, collaborators, context, and the strengths and weaknesses of a company.

- Understand consumers' requirements and their behaviors.

- Develop effective marketing strategies to achieve organizational objectives.

- Communicate and defend your recommendations and critically examine and build upon the recommendations of your classmates both quantitatively and qualitatively.

- Develop the understanding the current global and digital aspect of marketing.

Unit 1

Introduction: Nature and scope of marketing, Various marketing orientations, Need, Want, Demand, Elements of Marketing mix, customer value and the value delivery process. Understanding Consumer Behavior: Buying motives, factors influencing buying behavior, buying habits, stages in consumer buying decision process, types of consumer buying decisions.

Unit2

Market segmentation, Targeting and Positioning: Meaning, Factors influencing segmentation, Market Aggregation, Basis for segmentation, Segmentation of Consumer. Targeting: Meaning, Basis for identifyingtarget customers, Target Market Strategies. Positioning: Meaning, product differentiation strategies, tasks involved in positioning. Branding: Concept of Branding, Brand Types, Brand equity, Branding Positioning.

Unit 3

Product Decisions: Concept, product hierarchy, new product development, diffusion process, Product Life cycle, Product mix strategies. Packaging / Labeling: Packaging as a marketing tool, requirementofgoodpackaging,Roleoflabelinginpackaging.PricingDecisions:Pricingconceptsforestablishing value, Pricing Strategies–Value based, Cost based, Market based, Competitor based, New product pricing– PriceSkimming & Penetration pricing

Unit4

Place Decision: Meaning, Purpose, Channel alternatives, Factors affecting channel choice, ChanneldesignandChannelmanagementdecisions,Channelconflict,Retailing&TypesofRetailers.Advertising: Advertising Objectives, Advertising Budget, Advertising Copy, AIDA model, Public Relation: Meaning, Objectives, Types, and Functions of Public Relations. Sales Promotion: SalesPromotionMix,Kindsofpromotion,ToolsandTechniquesofsalespromotion,Push–pullstrategiesof promotion, Personal Selling: Concept, Features, Functions, Steps/process involved in Personal Selling, Direct Marketing: Meaning, Features, Functions, Growth and benefits of direct marketing ,different forms.

Unit5

CRM:Meaning,RelationshipMarketingVs.RelationshipManagement,TypesofRelationshipManagement,Significanceo fCustomerRelationshipManagement.GlobalMarketing:currentscenario, Global Marketing environment, Entry strategies, Global P's of Marketing., Recent trends and Innovation in Marketing–Green Marketing, Agile Marketing

DBA- 202 – DATA VISUALIZATION AND DISCRIPTIVE ANALYSIS

COURSECREDIT: 2

Objectives of the Course:

➢ To describe the concept of Data Mining & its attributes.

Course Outcome:

➢ CO1: Application of the concept of data mining components and techniques in designing data mining systems.
➢ CO2: Solving basic Statistical calculations on Data
➢ CO4: Describing the aspect of data pre-processing
➢ CO5: To explain the concept of Data Cleaning & Integration

📍 **1, Ahilya Bai Marg, Pentinaka Chowk, Sadar, Cantt, Jabalpur, Madhya Pradesh, INDIA 482001**
📞 **+917612620738**   ✉ **info@staloysiuscollege.ac.in**

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UNIT-I

Introduction to Data Mining: basic concepts in data mining, machine learning, scientific methods, theoretical basis of data mining process, data measurement, exploratory data analysis, data visualization, measurement of data similarity and dissimilarity.

Unit-II

Data Pre-processing: overview, data cleaning, data integration, data reduction, data transformation and data discretisation. Data Warehouse and Online Analytics Processing: data warehouse, data cube and OLAP, data warehouse design and usage; Data Cube Technology– data cube computation, and its methods.

Unit-III:

Pattern Discovery using Data Mining: Association rule mining, Aprori Algorithm, Improved Efficiency of Aprori Algorithm, Principles Predictive modeling– classification and regression, model fitting as optimization, evaluation of predictive performance, over fitting, regularization; clustering and pattern detection. Clustering – Hierarchical and K means, cluster evaluation, cluster profiling,Time series analysis.

Unit-IV:

Basics of Data Management with "R": Learn the basics of R Syntax . Learn how to organize and modify data in R using data frames and dplyr .Learn how to prepare data for analysis in R using dplyr and tidyr, create visualizations using the popular R package ggplot2 , Learn the basics of aggregate functions in R with dplyr, which let us calculate quantities that describe groups of data

Unit V:

Learn the basics of joining tables together in R with dplyr. Learn to use R or manually calculate the mean, median, and mode of real-world datasets . Learn how to quantify the spread of the dataset by calculating the variance and standard deviation in R . Learn how to calculate three important descriptivestatistics- Quartiles, Quantiles, and Interquartile range that describe the spread of the data . Learn about the statistics used to run hypothesis tests and use R to run different t-tests that compare distributions.

Diploma in International Business
Brochure &
Course Module

Department of Management
Diploma in
International Business

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About Course

Create your next opportunity by learning how to apply basic statistics to real business problems and strengthen your analytical skills.

International Business concentration is designed for students pursuing a career in global business management in a variety of settings.

Course Fees: Rs. 8000
Payment of Course Amount is available as installments.

Registration Price: Rs. 500*

*REGISTRATION AMOUNT IS NON-REFUNDABLE

Contact Department of Management for further Information.

Teachers Incharge:

- Dr. Rashmi A. Patras   +91 6267298860
- Dr. Shraddha Shrivastava   +91 8461914924

Department of Management Studies

Diploma in International Business
(1 year programme)

Department of Management Studies
Diploma in International Business
(1 year programme)

Course Focus:

This course focuses on the "Context" aspect of strategy, where the context here happens to be internationalization/globalization. Through discussing various case studies that involve International issues arising out of working in a different country, culture and a diverse workforce, the course seeks to develop the much required skills in budding Business Managers to manage such situations, both in India and abroad.

Course Format:

- July – December : Semester I
- Examinations : December
- January – June : Semester II
- Internship :May- June
- Examination: June
- Each paper of 100 Marks maximum.
- Internal Marks: 60 each.
- Includes : Presentation, Attendance, Written test and Assignments.
- Timings: Monday to Saturday 12:00to 1:00pm.

Course Content:

Semester I
- Principles & Practices of Management
- International Business Environment
- Global Culture and Business Ethics
- International Marketing Management

Semester II
- Global Strategic Management & Case Dynamics
- International Financial Management
- Internship / Project Work

Course Pedagogy

The course is almost completely Case based. The focus is on in-class participation. The objective is to make better managers of the students by putting them in situations that involve taking decisions on matters of International management.

Since the focus is on class preparation and participation, students are rewarded for both preparation and participation.

- **Course structure and positioning**

    The course assumes knowledge of all the basic concepts of management on the part of the students. However lack of sufficient knowledge of International management or cross cultural management will not be a handicap in comprehending this course.

Regulations of Diploma in International Business

1. The one year Diploma course will run according to semester system as per regulations.
2. The diploma course will have 2 semesters.
3. The intake and fees will be regulated by the college's decision from time to time.
4. Admission under the course will be made on the basis of merit or through the entrance test.
5. The eligibility to admission will be 12* pass in any stream with minimum 50% .
6. The course will include the internship/project work and examination.
7. Each student will have to appear in the examination of theory, internship/project work and internal assessment necessarily.
8. The candidate is required to complete the entire course within a maximum period of 2 years from the session of the first admission necessarily.
9. The student will be eligible to appear for the final examination only when he/she has secured 75% attendance.
10. The internal examination will be based on the case study, assignment, written test and presentations.
11. The internal examination carries 60% of the total marks. 40% passing in internals is necessary to appear in the final examination.
12. Internship/Project work will be conducted under the guidance of the faculty. The Internship/project work will comprise of 40 marks and project report will be of 35 marks and project viva of 35 marks. Project report will be assessed by the external examiner and thereafter Viva examination will be conducted by the external examiner which will comprise of 35 marks each. The passing marks will be 40% of each component. That is Internship/project work will have minimum passing marks as 16. Project report will have 14 marks as minimum passing and also project viva. The internship/Project work will be undertaken for a minimum period of two months in any institution/business house which deals with international business.
13. A candidate who fails in the internal examination will cease to be a student in the course and will be ineligible to appear in the final examination.

14. If the candidate fails in one subject in any one semester but clears in the remaining subjects of that examination , he/she will be "Allowed to keep the Term" i.e. ATKT and will be promoted to the next semester. He/she shall be eligible to carry the backlog of one subject of each semester examination but in no case he/she shall be permitted to carry backlog of more than one subject at a time. In case of ATKT examination an additional fee for examination will be paid by the candidate as per the norms of college.

15. Provided further that if a candidate fails in some subject of earlier semester but gets passing marks in internal examination, he/she may be allowed to appear as an ex-student in the next examination of the same semester.

16. Provided further that if a candidate fails in some subject earlier semester and clears the final/second semester, his/her results will be withheld. He/she will be awarded diploma only in the year in which he/she clears the papers. In such a situation, mark-sheet for each semester will be issued together in the second semester, once he/she clears all the subjects.

17. There will be no provision of revaluation. However the candidate can apply for re-totalling in one subject per semester as per the norms of college.

18. No candidate will be permitted to appear in the semester examination unless one has:
   - Attended at least 75% of the lectures
   - Appeared for all the internal assessments and cleared them
   - Paid all the fees due
   - Submitted the job internship certificate and project report in the final semester.

19.   The division shall be awarded on the basis of total marks obtained in the internals assessment and external examination taken together.
a.   60% or above as first division
b.   50% to 59 % as second division
c.   Less than 49% as third division.

20.   In case of any dispute/ambiguity the ruling of the Principal shall be final and binding.

****

Scheme of Examination

Paper	Subject	Total Marks		Internal		External	
		Max.	Min.	Max.	Min.	Max.	Min.
DIB 101	International Management- Principles & Practices	100	40	60	24	40	16
DIB 102	International Business Environment	100	40	60	24	40	16
DIB 103	Global Business and Business Ethics	100	40	60	24	40	16

DIB 104	International Marketing Management	100	40	60	24	40	16
DIB 201	Global Strategic Management and Case Dynamics	100	40	60	24	40	16
DIB 202	International Financial Management	100	40	60	24	40	16
DIB 203	Internship/Project work: a. Internship/Project b. Project Report c. Project Viva	100 40 35 35	40 16 14 14			100	40

Model Question Paper

St. Aloysius College (Autonomous), Jabalpur

Department of Management Studies

Diploma in International Management

Paper:

Max. Marks: 40

Min. Marks: 16

Attempt all the questions. Internal choices are given. All questions carry equal marks.

[8*5=40]

1. Ques 1.
      OR
   Ques. 1.
2.   Ques 2.
            OR
   Ques 2.

3.   Ques 3.
            OR

   Ques 3.

4.   Ques 4.
            OR

Fees: Rs. 25000/-

Expenditure:

Books & Photocopies   Rs. 3000/-

Examination Fees   Rs. 3500/- for 2 semesters

Remuneration to faculty @ Rs. 250/- per lecture

Total No. of lectures: 140 for 2 semester.

Contribution to college @ 20% of per student fee

Contribution to Coordinator @ 20% of per student fee

Paper   DIB-101: INTERNATIONAL MANAGEMENT- PRINCIPLES & PRACTICES

Objective: The objective of this paper is to familiarize students with the cross – cultural behavior and its management for successful operations of the international firms. Management for successful operations of the international firms. To get acquainted with the principles and practices related with management studies at international level.   **20 lectures**

1. International Management: Concept, Dimensions and Approaches; Globalization, Business culture and corporate culture; Problems of intercultural communication; Leadership in the Cross cultural dimensions, Cross -cultural values and business management; Business values ethics and social responsibilities.

2. Challenges of Global Planning: Economics, political, and strategic predisposition imperatives; Resource allocation and portfolio compositions of a global firm; Planning for linkages and synergies among business across borders; Locus of decision making; Headquarter-subsidiary relationships in international business enterprises.

3. Organization and Control for international Competitiveness: Multinational Corporations: Nature, goals, Global Trade and its theories, Organization design and structure of international companies.

4. Management of Personnel with Different Social and Cultural Backgrounds: Selection, training and development of people for global assignments; Compensation and reward practices among international firms; managing cultural and social diversities.

5. Managing international Collaborative Arrangements: Joint Ventures and other forms for strategic alliances: Traditional and emerging reasons for forming strategic alliances, Pitfalls in strategic alliances; Making cross -cultural alliances work.
Text Book: International Business , K Aswathappa; Tata McGraw Hill.

Paper : DIB-102 International Business Environment

Objective: The objective of this paper is to familiarize the students with the current business scenario and build their foundations of the basic policies and regulations of India as well as the world financial environment.

20 lectures

1. International Business: Overview, types of environment –economic, political, social, cultural and legal. Influence on trade and Investment patterns, Recent World Trade and Foreign Investment trends, Country risk. Changing Environment of International Business: Globalization, Liberalization and Privatization.

2. Trade and Investment: Foreign Direct Investment, Govt. influence on trade and investment.

3. World financial environment – tariff and non- tariff barriers, forex market mechanism, exchange rate determination, Eurocurrency market, international institution (IMF, IBRD, IFC, World bank, IDA, MIGA) NBFS's and Stock markets.

4. Regional trading blocks and trading agreements' global competitiveness.

5. Corporate Governance, global competition, HR development, social responsibility, world economic growth and physical environment.

Text Book: Public Finance and International Economics; M L Jhinghan.

Paper DIB-103

Global Business And Business Ethics

20 lectures

1.Overview of Global Business: Globalization Issues/Forces The big picture, The importance of IB in the world economy, Global Monetary and Financial System, International Politics, Regulation, and Law Project II

2. New trends and increasing competition in foreign trade. Role of foreign cooperation in economic development, Employment opportunities and new paradigms in employment , Indian and International Labor standards.

3. The Cultural Challenge and raising up to the global challenge, Global Business Operations and Management. Global Business Strategy , Global Marketing , Global Financial Management

4. Business ethics: Definition & nature, Characteristics of ethical problems, The Role of Ethics in Business, Causes of unethical behavior; Ethical abuses; Work ethic, Code of ethics, The Importance of Business Ethics, Stakeholder Relationships, Social Responsibility, and Corporate Governance

5. Emerging Business Ethics Issues; Business Ethics in a Global Economy & Case Studies

Text Book: International Business , K Aswathappa; Tata McGraw Hill.

Paper DIB- 104 INTERNATIONAL MARKETING MANAGEMENT

Objectives
- The course participants will become more familiar with the nature and practices of international marketing. They should feel equally confident to be able to distinguish international marketing mechanics from the domestic marketing models and approaches.
- They would be far more equipped to design and participate in designing an international marketing strategy.
- The spin-off benefits to the participants should be to develop in them a right attitude, inject enthusiasm and hone their interactive ability as they address the issues and challenges of operating in the international markets.

20 lectures

1: Introduction to International Marketing: International Marketing Environment, Preparing for International Marketing Strategies.
2: International Marketing Mix: International Research and Segmentation, Developing Global Products and Pricing, International Promotion and Advertising, International Distribution Systems.
3. The Indian Export Scenario: The Export Import Scene in India, Import-Export Policy, Export Documentation, Export Procedure, International Technology Transfer and Counter Trade, The Trade Mark Regime.

4. International Marketing Planning: Managing Systems for International Marketing, Reflection and Evaluation of the Endeavors.
5. Case Study

Suggested Readings:
1. International Marketing by R. Srinivasan
2. International Marketing by Dr. R. K. Kothari & Dr. P.C. Jain
3. International Marketing by Rajgopal
4. International Marketing by Sunil Gupta & Kulbhushan Chandel

Paper DIB: 201 GLOBAL STRATEGIC MANAGEMENT & CASE DYNAMICS
20 lectures

Objective: The objective of this paper is to help students understand strategy making process that is informed integrative and responsive to rapid changes in an organization's globally oriented environment and also to help them understand tasks of implementing strategy in a global market.

1. Introduction: Strategy making strategy implementing and strategic managing; Roles of line managers, strategic planners and top management; Developing strategic vision and mission; Setting objectives and forming a strategy; Globalization and strategic management; Strategic flexibility and learning organization.

2. Environmental: Scanning and Competitiveness Analysis; Appraising company's external strategic situation, company situation, competitive strategy and competitive advantage in global market.

3. Situation Specific Strategies: Strategies for situation like competing in emerging industries, maturing or declining industries, fragmented industries, hyper –competitive industries and turbulent industries; Strategies for industry leaders, runner -up firms and weak businesses.

UNIT 4 & 5 : CASE STUDIES

Suggested Readings:
1. . Davidson, W.H., Global Strategic Management, John Wiley, New York.
2. Ellis, J. and D. Williams, International Business Strategy, Pitman, London, 1995.

Paper 202: INTERNATIONAL FINANCIAL MANAGEMENT
20 lectures

Objectives: This paper will introduce the environment of international finance and its implications on international business, it will help to understand the nature and

functioning of foreign exchange markets, determination of exchange rates and interest rates..

1. The Foreign Exchange Market: Structure and Operations , The International Monetary System
2. The Balance of Payments: Implications for Exchange Rates, International Parity
3. Management of Foreign Exchange Exposure and Risk , Currency Forwards and Futures , Currency Options, Financial Swaps
4. Cross-border Investment Decisions, Financing Decisions of MNCs.
5. Foreign Investments & Management of Working Capital: An International Perspective

Suggested Readings:

1. International Financial Management, Thummuluri Siddaiah; Pearsons
2. International Financial Management, Jeff Madura
3. International Financial Management, Cheol S Eun, Bruce G Resnick

Paper 203: INTERNSHIP/PROJECT WORK

Time duration: 2 months

Project Work should be undertaken by the candidate as assigned by the faculty of the course . Internship/Project work will be conducted under the guidance of the faculty. The Internship/project work will comprise of 40 marks and project report will be of 35 marks and project viva of 35 marks. Project report will be assessed by the external examiner and thereafter Viva examination will be conducted by the external examiner which will comprise of 35 marks each. The passing marks will be 40% of each component. That is Internship/project work will have minimum passing marks as 16. Project report will have 14 marks as minimum passing and also project viva. The internship/Project work will be undertaken for a minimum period of two months in any institution/business house which deals with international business.

TAXATION FOR BEGINNERS
Brochure &
Course Module

ST. ALOYSIUS' COLLEGE
(AUTONOMOUS), JABALPUR(M.P.)
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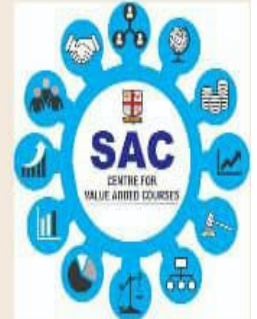
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Course Highlights

1. Complete elementary and advanced knowledge of Income Tax.
2. In parlance with current GST pattern.
3. Tips on how to save tax legally.
4. 100% assured understanding of technical and theoretical concepts.
5. Get comprehensive understanding from a 20+ years experienced teacher.
6. Course Marksheet to be issued after assessment.

Module 1
Basic concept of Income Tax Structure
Provision of Income Tax Act
Tax Calculation of Different Assesses

Module 2
Return Filing Both Online and Offline
Clearance of Technical and Theoretical Concepts

Taxation for Beginners

Module 1

- Basic concept of Income Tax Structure .

- Provision of Income Tax Act.

- Tax Calculation of Different Assesses.

- **Module 2**

- Return Filling Both Online and Offline .

- Clearance of Technical and Theoretical Concepts .

Global Education Partner(GEP)
for Global Understanding Programme (GUP)
Brochure
&
Course Module

GLOBAL EDUCATION PARTNERS (GEP) FOR GLOBAL UNDERSTANDING PROGRAMME(GUP)

ABOUT GEP

Global education aims to foster learning communities in which learners and educators collaborate and share ideas on how to address global challenges. The objective of GEP is stimulating and motivating learners and educators to approach global issues through innovative teaching and pedagogy. Connecting with the world around is essential in the 21st century. This is necessary because having knowledge of global change stimulates one's awareness of the ever-changing space, which is essential to broaden one's perspective and cultivate a cross-cultural work ethic that ultimately benefits the growth of nations.
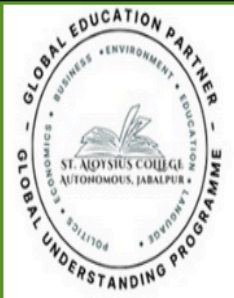
St. Aloysius College (Autonomous), Jabalpur invites the institutions to be members of Global Education Partners to experience global connections and learning, an open path to a better understanding of a more interconnected and interdependent world to encourage the development of civic engagement and the search for collective solutions to shared problems.

St. Aloysius (Autonomous) College [SAC], Jabalpur (Reaccredited 'A+' by NAAC (CGPA 3.68/4.00), College with Potential for Excellence by UGC, DST-FIST supported & Star College Scheme by DBT)

DATE- 04-12 MARCH , 2024

ABOUT GUP

The Global Understanding Programme has been designated as GEP's flagship program. GUP is an initiative to share a virtual classroom that invites students and faculty fraternity from all over the world to have discussions, chats, and collaborative student projects. The goal of the programme is to provide students with both personal and global experiences that will broaden their perspectives on other cultures and help them develop the knowledge, skills, and attitudes necessary to thrive in a universal multiethnic civilization. The purpose of the Global Understanding Programme initiative is to encourage the formation of new interdisciplinary partnerships, with a particular focus on exploration that spans both disciplinary and geographical boundaries.

Excellence: Our Way of Life and Ministry

GLIMPSES OF GUP 2022-23 GLOBAL ISSUE : LANGUAGE & CULTURE

ST. ALOYSIUS' COLLEGE

(AUTONOMOUS), JABALPUR(M.P.)

Reaccredited ' A+ ' Grade by NAAC (CGPA 3.68/4.00)
College with Potential for Excellence (CPE) by UGC
DST-FIST Supported & Star College Scheme by DBT.

SOP

- The Global Understanding initiative will include contributions from every GEP member.
- It is required of the member institutions that each institution nominates a Teacher coordinator as well as a tech-in-charge from their respective institutions.
- Faculty and students from the participating institutes are invited to take part in the program through the use of a virtual platform that allows for one-on- one interaction between the participants. Ten to twelve pupils are required to enroll from each institution. The students will intern with two different national or international partner institutions or universities, for three to four weeks each year.
- The two institutions will "connect" through video conferencing and text chat. Every day in a linking class, half of the students will participate in a group video conference with their partners, while the other half will engage in individual text chats with their partners (preferably on SLACK). The groups will switch their linking mode in the next week.
- Students will gain a greater understanding of the topic's diversity through group talks while gaining more in-depth viewpoints through one- on-one conversations. During their three to four weeks with a given partner university, students will engage in structured discussions and joint projects on a predetermined topic.

GUP 2023-24 THEME: GLOBAL ECONOMY

SUB-THEMES :-

- **Economic Impact of the COVID-19 Pandemic**
- **Environmental and Economics**
- **Crypto currency and Digital Economy**
- **Labor Market Challenges**
- **Globalization and Economic Interconnectedness**
- **Collaborative projects**

OTHER THEMES

- **GLOBAL POLITICS**
- **GLOBAL ECONOMY**
- **GLOBAL BUSINESS**
- **GLOBAL ENVIRONMENT**
- **GLOBAL EDUCATION**
- **GLOBAL CULTURE & LANGUAGE**

- The program will be conducted twice in a year in fall and spring seasons.
- The student will achieve 2 credits.
- The fees of the Program: ₹ 250/-(for Indian students) $2 (for International students)

OUTCOMES

- Improved cultural competency.
- Reduced anxiety when interacting with different cultures.
- Enhanced intercultural communication. Greater international awareness and interest.
- High satisfaction and recommendations Students display an augmented international awareness and a heightened interest in global experiences.
- The course garners overwhelming satisfaction among students, who readily endorse it to their peers.
- Fostering transformative global experiences that empower students with the skills, knowledge, and adaptability needed to excel in an interconnected world.

CONTACT US

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📍 1, Ahilya Bai Marg, Pentinaka Chowk, Sadar, Cantt, Jabalpur, Madhya Pradesh, INDIA 482001
📞 +917612620738   ✉ info@staloysiuscollege.ac.in

SYLLUBUS Of GEP
2023-24

The Global Understanding Programme (GUP) has been designated as flagship of Global Education Partnership Program (GEP). It aims to foster learning communities in which learners and educators collaborate and share ideas on how to address global challenges. The objective of GEP is stimulating and motivating learners and educators to approach global issues through innovative teaching and pedagogy.

Course Outcome:

- The goal of the program is to provide students with both individual and global experiences that will broaden their perspectives on other cultures and help them develop the knowledge, skills, and attitudes necessary to thrive in a universal multi- ethnic civilization.
- This program is to encourage the formation of new interdisciplinary partnerships, with a particular focus on exploration that spans both disciplinary and geographical boundaries.
- It will increase cultural competencies, intercultural communication and collaboration Skills.
- It provides high impact in global experiences that help students build the skills, knowledge and flexibility necessary to thrive in an interconnected world.
- It increases national/ international awareness and experiences.
  Credit: 2 Credits.   **Duration: 30 Hours**
  Module : GLOBAL ECONOMY
1. Global Economy : Introduction, Importance of Economy, Impact on national and international issues.
2. Economic Impact of the COVID-19 Pandemic:
3. Environment and Economy
4. Crypto Currency and Digital Economy
5. Labor Market Challenges
6. Globalization and Economic Interconnectedness
7. Collaborative Projects

DOEACC 'O' Level
Brochure &
Course Module

DOEACC 'O' Level

'O' level course of DOEACC Scheme is equivalent to a Foundation Level Course in Computer Applications. Students can acquire this qualification by undergoing this course and passing the examination conducted by the NIELIT. After completion of 'O' Level course, students can further enroll for DOEACC 'A' level course.

CAREER OPPORTUNITIES

- Junior Programmer
- EDP Assistant
- Web Designer
- Lab Demonstrator

Organized By-
Department of Computer science

In-charge Name- Ms. Mala Das

Contact No.-94253 85279

Ministry of Electronics & Information Technology
Government of India

St. Aloysius College, 1, Ahilya Bai Marg, Pentinaka Chowk, Sadar, Jabalpur, Madhya Pradesh, INDIA 482001

learn more by clicking here
https://nielit.gov.in/chandigarh/content/doeacc-o-level-0

3.   PROJECT

DOEACC curriculum has a project as an important component of 'O' Level course. The Project is carried out by the student under guidance and support of faculty and management of the respective Institute / Organization. It is felt that such a project provides an opportunity to the student to apply his / her knowledge and skills to real life problems (including oral and written communication skills), and as such the project should be given utmost importance and priority both by the students as well as institution faculty / management in respect of its identification, planning and implementation.

3.1.   Objective of the Project

The objective of the project is to give the students an additional hand-on experience in solving a real life problem by applying knowledge and skills gained on completion of theory papers in a course at a given Level. It provides an opportunity to students to develop written and communication skills. Project also helps the students to realize the importance of resource and time management, ownership of task towards deliverables, innovation and efficiency in task management apart from presentation skills. It also provides a good opportunity for students to build, enhance and sustain high levels of professional conduct and performance and evolves a problem solver frame of mind in the students. It is also felt that taking up the project by a student prepares him for a job in industry and elsewhere.

3.2.   Project Submission

The student undergoing course 'O' level course has to submit project in order to be 'O' Level certified. The project should be original, of real life value and not copies from existing material from any other source.

The Learners are expected to carry out a project successfully and submit certificate in the prescribed format from the head of the institute running the accredited course or the organization of which the Learner is an employee. Proforma of the Project Completion Certificate is given as follow:

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4. **CREDIT SCHEME FOR DOEACC 'O' LEVEL**

   4.1. Course Introduction

   A credit system based on the AICTE norms has been introduced for indicating the efforts required to pass a specific level of course under the DOEACC Scheme. Award of credit to a student will facilitate measurement/comparison of study hours including Theory Lectures, Tutorials and Practical Assignments put in a given module/paper/subject under the Scheme with similar course in IT in India and abroad. This will also facilitate other Universities/ Apex Accrediting bodies to consider academic and professional equivalence of DOEACC courses. This will also help students/organizations to transfer credits from DOEACC to other academic bodies and vice-versa for ensuring continuing education. Following table gives the number of hours of Lectures/Tutorials and Practicals per week to be attended and the credits earned by the student:-

   4.2. Calculation of Credits

Sr. No.	Module Code	Module Name	No. of Lecture per week (L)	No. of Tutorial/ Practical per week (T+P)	Total Credit L +(T+P)/2
1.	M1-R5	Information Technology tools and Network Basis	2	4	4
2.	M2-R5	Web Designing & Publishing	2	4	4
3.	M3-R5	Programming and Problem Solving through Python	2	4	4
4.	M4-R5	Internet of Things and its Application	2	4	4
5.	M6-R5	Project		2	1
6.		**Total Credits**			17

Notes
1. One credit is defined as one hour of lecture and 2 hours of tutorials/ practical every week for one semester consisting of 20 weeks.
2. Total number of credits earned in a module is calculated using AICTE formula (as applicable to Under Graduate Courses in IT namely C=L + (T+P)/2 where L, T and P indicate number of hours per week for Lectures, Tutorials and Practicals.
3. The credit scheme was implemented from July, 2003 examinations.
4. Fractions in Credits have been rounded to nearest integer.

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5.   EXAMINATION PATTERN

The theory examination for each module under the fifth revised syllabus would be for duration of three hours and the total marks for each subject would be 100. One Practical examination of three hours duration and would be of 100 marks. The first examination with the revised syllabus will be held in January 2020, for which teaching will commence with immediate effect.

Dates for the various activities connected with examinations will be announced on NIELIT website, well in advance of the examinations.

Laboratory/ Practical work will be conducted at Institutions / organizations, which are running the course. NIELIT will be responsible for holding the examination for theory and practical both for the students from Accredited Centers and student at large.

5.1.   Pass Percentage

To qualify for a pass in a module, a candidate must have obtained at least 50% in each theory, practical examination and project. Following table shows the marks distribution

Module Code	Module	Maximum Marks
M1-R5	Information Technology tools and Network Basis	100
M2-R5	Web Designing & Publishing	100
M3-R5	Programming and Problem Solving through Python	100
M4-R5	Internet of Things and its Applications	100
M5-R5	Practical based on M1-R5, M2-R5, M3-R5 and M4-R5	100
M6-R5	Project (Certificate only to qualify O Level)	-
	Total Maximum Marks	500

The marks will be translated into grades, while communicating results to the candidates. The gradation structure is as below:-

Pass Percentage	Grade
Failed (<50)	F
50%-54%	D
55%-64%	C
65%-74%	B
75%-84%	A
85% and over	S

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5.2. Award of Certificates

The students would be eligible for the award of 'O' Level certificate on successfully qualifying the Theory Examinations of all modules, Practical Examination and the Project. The 'O' Level Certificate was recognized as equivalent to Foundation Level Course by the Government of India for the purpose of employment vide Notification No. 43 & 49 dated 1st March, 1995 and 10th April, 1996 respectively issued by the Ministry of HRD, Government of India.

5.3. Registration

Registration is a pre-requisite for appearing in 'O' Level examinations. A candidate can register at only one Level at a time to appear for the examination. Registration is only for candidates and not for institutes. Candidate has to register with NIELIT through online portal.

5.4. Eligibility Criteria

The eligibility criteria for registration at 'O' Level is as follows:

5.4.1. Students from Institutes conducting accredited courses:

10+2 or ITI Certificate (One Year) after class 10 followed in each case, by an accredited 'O' Level course.

Or

Successful completion of the second year of a Government recognized polytechnic engineering diploma course after class 10, followed by an accredited 'O' Level course concurrently during the third year of the said polytechnic engineering diploma course. The certificate of 'O' level will be awarded only after successful completion of the polytechnic engineering diploma.

5.4.2. Direct Applicants

10+2 or ITI Certificate (One Year) after class 10, followed in each case, by one-year relevant experience. Relevant experience connotes job experience in IT, including teaching in a recognized institution as a faculty member, excludes coaching.

Or

A pass in the NCVT-DP&CS (data Preparation & Computer Software) Examination, conducted by DGE&T(Govt. of India)

For getting registered, a candidate fulfilling the eligibility criteria should apply online in NIELIT portal. Registration fee is also to be paid online. Registration fee once paid is not reimbursable or adjustable against any other payment.

Registration application can be submitted online throughout the year, however cut off dates are specified for submitting Registration applications for each examinations for the convenience of processing and allotting Registration Numbers.

Cut off Dates	
January Examination	July Examination
Preceding 30th June	Preceding 31st December

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Accredited Institutes are allowed to submit the Registration Application Form online of their candidates one month beyond the cut off dates.

5.5. Auto-upgradation:

The candidates successfully completing all papers (Theory, Practical and Project) of a particular Level in a particular Examination and wish to appear in the next Examination for immediate higher Level are exempted from the above cut off dates. Such candidates can fill up examinations Form and Registration Forms for higher Levels subject to following conditions:-

a) Combined Registration fee and Examination fee is paid online.
b) The facility is available to the candidates appearing through Accredited Institutes and not for direct applicants. However the facility is available to a candidate who might have completed lower level as a direct candidate and wishing to appear for immediate higher level through Accredited Institutes.
c) The facility is also not available to the candidates those who might be appearing through Accredited institute but have cleared lower level prior to the preceding exam (e.g. if a candidate has passed 'O' Level Exam in Jan, 2019, he would be eligible for this facility in case he wishes to appear for 'A' Level Examinations in July, 2019 through Accredited Institute. If, however, he had passed 'O' Level prior to Jan., 2019 Exams, this facility would not be available to him).
d) This facility would also not be available to the candidate opting for Level jumping (e.g. from 'O' to 'B' or 'A' to 'C' Levels).

Once registered at a particular level, the registration is valid for ten consecutive examinations for 'O' Level, reckoned from the specific examination as indicated in the Registration allocation letter issued to the candidates.

Registration, by itself, does not entitle a candidate to appear for an examination at the Level concerned, unless all conditions, stipulated in the examination application form, and in any other notification, relevant to the examination are fulfilled by the candidate.

5.6. Re-registration:

Candidates who are not able to clear the level within the validity period of initial registration, are allowed to re-register for once, at the same level for another full term i.e. 5 years to clear the left over papers by submitting filled in Registration application and full Registration fee within one year of the expiry of the validity period of existing Registration.

6. PRACTICAL EXAMINATION SCHEME

The Practical Examination will be conducted by the NIELIT in reputed Institutions for all candidates. The institutes are obliged to facilitate the conduct of Practical Examinations and arrange infrastructure, support of its faculty and staff for the conduct of Practical Examination at their Centre. The practical examination scheme is as follows.

Number of Practical Examination	One
Duration of Practical Examination	Three hour duration including viva-voce

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ST. ALOYSIUS' COLLEGE

(AUTONOMOUS), JABALPUR(M.P.)

Reaccredited ' A+ ' Grade by NAAC (CGPA 3.68/4.00)
College with Potential for Excellence (CPE) by UGC
DST-FIST Supported & Star College Scheme by DBT.

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Max. Marks	100 = 80(Practical) + 20(Viva Voce)
Grading	Marks obtained by the students will be translated into the Grades as per the structure given Section 9.1.
Date(s)	Date(s) will be announced on NIELIT website.

The institutes are not allowed to charge any fee from the candidates, for the practical examination

7.   HARDWARE REQUIREMENT FOR 'O' LEVEL COURSE

7.1.   Computer configuration recommended

Processor	:	1 GHz or higher
RAM	:	1 GB or higher
HDD	:	100 GB or higher
Monitor	:	SVGA
Mouse	:	Windows compatible
Keyboard	:	Standard
NIC	:	Standard
Optical Drive	:	Standard
Speaker, Mic, Webcam	:	Standard
CD/DVD Writer	:	Standard

7.2.   Printer

Laser printer / Inkjet Printer	:	Standard
Dot matrix printer	:	Standard
OHP /LCD Projector	:	Standard
MODEM, DIAL UP/DSL	:	Standard
SCANNER	:	Standard

Sufficient number of computers are standard networking are part of satisfying criteria for accreditation.

7.3.   Networking

NIC	:	Standard
RJ-45 Connector	:	Standard
Crimping Tools	:	Standard
UTP/STP/Coaxial Fiber Optic	:	Standard
Cables and their connectors	:	Standard
8/16 port Hub/Switch	:	Standard
Wi-H Router	:	Standard

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7.4. Others

Arduino UNO or equivalent board sensors and motors

1. SOFTWARE REQUIREMENT FOR 'O' LEVEL COURSE

Sr. No.	Particular	Software
1.	Operating System	Linux/Windows/Unix
2.	NOS	Linux/Windows/Unix
3.	Software Package	LibreOffice, Star Office/ MS Office or any relevant word processing/spreadsheet
4.	Complier/Interpreter	Python
5.	Antivirus	Standard
6.	Internet and Web Publishing Tools	Standard Browser and publishing tools
7.	IoT	Arduino IDE Ardoblockopen Tool

2. PARITY TABLE BETWEEN REVISION IV and REVISION V of 'O' LEVEL SYLLABUS

Module Code (Revision IV)	Revision IV (Module)	Module Code (Revision V)	Revision V (Module)
M1-R4	IT Tools and Business System	M1-R5	Information Technology tools and Network Basis
M2-R4	Internet Technology and Web Design	M2-R5	Web Designing & Publishing
M3-R4	Programming and Problem Solving Through 'C' Language	M1-R5	Programming and Problem Solving through Python
M4.1-R4	Application of .NET Technology	M1-R5	Internet of Things and its Applications
M4.2-R4	Introduction to Multimedia		
M4.3-R4	Introduction to ICT Resources		

1. The above table shows the equivalence between the modules of old syllabus (Revision VI and V).
2. Candidates would not be allowed to appear in the equivalent papers of the Revision IV (new syllabus), if they have already passed the relevant papers in earlier revision.
3. Candidates would have to pass a total of 4 papers and one practical in order to qualify 'O' Level in Revision IV syllabus.

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4. In case, candidate has cleared examination as per Revision II and/or Revision III, the equivalency of Revision II with III and Revision III with IV will be done before the equivalency with Revision V is done.

5. Candidates would be allowed exemption in equal number of papers which they have passed in Revision II or Revision III (old syllabus).

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Detailed Modules

1. Module: M1-R5: IT Tools & Basics of Networks

1.1. Introduction

The module is designed to equip a student to use computers for professional as well as day to day use. It provides theoretical background as well as in depth knowledge of Software/ packages.

1.2. Objectives

After completing the module, the incumbent will be able to:

➢ Acquire confidence in using computers in Office and General Life
➢ Identify the basic components of computers and terminology
➢ Understand file management
➢ Create documents using word processor, spreadsheet & presentation software
➢ Understand computer networks, and browse the internet, content search, email and collaborate with peers
➢ Use e-Governance applications; and use computer to improve existing skills and learn new skills
➢ Understanding Social Networking platform
➢ Using internet for Digital Financial services
➢ Develop knowledge about FutureSkills
➢ Understand the various financial services and be aware of the various schemes started by Government.

1.3. Duration

120 Hours - (Theory: 48 hrs + Practical: 72 hrs)

1.4. Outline of Module

Module Unit	Duration (Theory) in Hours	Duration (Practical) in Hours	Learning Objectives
1. Introduction to Computer	4	6	After completion of this unit of module, the Learner will be able to

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				• Identify computers, IT gadgets and explain their evolution and applications. • Get familiar with various input, output and hardware components of a computer along with storage devices. • Get familiar with various types of software, utilities used for computer and mobile apps.
2.	Introduction to Operating System	4	6	After learning this unit, Learner will be: • Well acquainted with Operating System and its applications for both desktop and mobile devices. • Able to identify various desktop screen components and modify various properties, date, time etc. • Able to add and remove new program and features, manage files and folders. • Well versed with printing and know various types of file extensions.
3.	Word Processing	6	9	After completion of this unit, Learner will have in depth knowledge of • Word Processing, their usage, details of word processing screen • Opening, saving and printing a document including pdf files • Document creation, formatting of text, paragraph and whole document • Inserting Header and Footer on the document • Finding text on a word document and correcting spellings • Inserting and manipulating

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			tables, enhancing table using borders and shading features • Preparing copies of a document labels etc. for sending various recipients using Mail Merge.
4. Spreadsheet	8	12	After completion of this unit, Learner will have good hands-on practice on • Basic Knowledge of Spreadsheet Processing, their usage, details of Spreadsheet screen • Opening, saving and printing a Spreadsheet • Spreadsheet creation, inserting and editing data in cells, sorting and filtering of data • Inserting and deleting rows /columns • Applying basic formulas and functions • Preparing chart to represent the information in a pictorial form.
5. Presentation	6	9	After completion of this unit, Learner will have good hands-on practice on • Basic Knowledge of PowerPoint presentations. • Opening/saving a presentation and printing of slides and handouts • Manipulating slides to enhance the look of the slides as well as whole presentation by inserting a picture, objects, multimedia formatting etc. • Running a slide show with various transitions.
6. Introduction to Internet and WWW	6	9	After completion of this unit, Learner will be able to • Gather knowledge of various types of networks

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				and topologies • Get an overview of Internet, its applications and various browsers available to access the Internet • Connect to Internet using various modes of connections/devices available • Get knowledge of device identification on local network as well as on Internet for both Desktop and Mobile Devices • Can search Information on the Internet on various topics • Download and print web pages.
7.	E-mail, Social Networking and e-Governance Services	6	9	After completion of this unit, Learner will be able to • Create an email account, compose an email, reply an email and send the email along with attachments • Get familiar with Social Networking, Instant Messaging and Blogs • Get familiar with e-Governance Services, e-Commerce and Mobile Apps.
8.	Digital Financial Tools and Applications	4	6	After completion of this unit, Learner will be able to • Know the Digital Financial Tools • Get Knowledge of Internet Banking Modes • Get familiar with e-Governance Services, e-Commerce and Mobile Apps • Use the Digital Locker and will be able to store documents in Digital Locker

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9.	Overview of FutureSkills & Cyber Security	4	6	After completion of this unit, Learner will be familiar with the
				• Latest trends and technologies in upcoming fields in IECT
				• Need of Cyber Security and will be able to secure their PC and Mobile devices by using basic security features.

1.5. Marks Distribution

Module Unit	Written Marks (Max.)
1. Introduction to Computer, Introduction to Operating System	10
2. Word Processing	20
3. Spreadsheet	20
4. Presentation	20
5. Introduction to Internet and WWW, E-mail, Social Networking and e-Governance Services	20
6. Digital Financial Tools and Applications, Overview of FutureSkills & Cyber Security	10
7. Total	100

1.6. Detailed Syllabus

(i) Introduction to Computer

Computer and Latest IT gadgets, Evolution of Computers & its applications, IT gadgets and their applications, Basics of Hardware and Software, Central Processing Unit, Input devices, Output devices, Computer Memory & storage, Application Software, Systems Software, Utility Software, Open source and Proprietary Software, Mobile Apps.

(ii) Introduction to Operating System

Operating System, Basics of Operating system, Operating Systems for Desktop and Laptop, Operating Systems for Mobile Phone and Tablets, User Interface for Desktop and Laptop, Task Bar, Icons & shortcuts, Running an Application, Operating System Simple Setting, Using Mouse and Changing its Properties, Changing System Date and Time, Changing Display Properties, To Add or

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Remove Program and Features, Adding, Removing & Sharing Printers, File and Folder Management, Types of file Extensions

(iii) Word Processing

Word Processing Basics, Opening Word Processing Package, Title Bar, Menu Bar, Toolbars & Sidebar, Creating a New Document, Opening and Closing Documents, Opening Documents, Save and Save As, Closing Document, Using The Help, Page Setup, Page Layout, Borders, Watermark, Print Preview, Printing of Documents, PDF file and Saving a Document as PDF file, Text Creation and manipulation, Document Creation, Editing Text, Text Selection, Cut, Copy and Paste, Font, Color, Style and Size selection, Alignment of Text, Undo & Redo, AutoCorrect, Spelling & Grammar, Find and Replace, Formatting the Text, Creating and using user defined Styles, Paragraph Indentation, Bullets and Numbering, Change case, Header & Footer, Table Manipulation, Insert & Draw Table, Changing cell width and height, Alignment of Text in cell, Delete / Insertion of Row, Column and Merging & Splitting of Cells, Border and Shading, Mail Merge, Table of Contents, Indexes, Adding Comments, Tracking changes

(iv) Spreadsheet

Elements of Spread Sheet, Creating of Spread Sheet, Concept of Cell Address [Row and Column] and selecting a Cell, Entering Data [text, number, date] in Cells, Page Setup, Printing of Sheet, Saving Spreadsheet, Opening and Closing, Manipulation of Cells & Sheet, Modifying / Editing Cell Content , Formatting Cell (Font, Alignment, Style), Cut, Copy, Paste & Paste Special, Changing Cell Height and Width, Inserting and Deleting Rows, Column, AutoFill, Sorting & Filtering, Freezing panes, Formulas, Functions and Charts, Using Formulas for Numbers (Addition, Subtraction, Multiplication & Division), AutoSum, Functions (Sum, Count, MAX, MIN, AVERAGE),Sort, Filter, Advanced Filter, Database Functions (DSUM, DMIN,DMAX, DCOUNT, DCOUNTA), What-if Analysis, Pivot table Charts (Bar, Column, Pie, Line).

(v) Presentation

Creation of Presentation, Creating a Presentation Using a Template, Creating a Blank Presentation, Inserting & Editing Text on Slides, Inserting and Deleting Slides in a Presentation, Saving a Presentation, Manipulating Slides, Inserting Table , Adding ClipArt Pictures, Inserting Other Objects, Resizing and Scaling an Object, Creating & using Master Slide, Presentation of Slides , Choosing a Set Up for Presentation, Running a Slide Show, Transition and Slide Timings, Automating a Slide Show, Providing Aesthetics to Slides & Printing, Enhancing Text Presentation, Working with Color and Line Style, Adding Movie and Sound, Adding Headers, Footers and Notes, Printing Slides and Handouts

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(vi) Introduction to Internet and WWW

Basic of Computer Networks, Local Area Network (LAN), Wide Area Network (WAN), Network Topology , Internet, Concept of Internet & WWW, Applications of Internet, Website Address and URL, Introduction to IP Address, ISP and Role of ISP, Internet Protocol, Modes of Connecting Internet (HotSpot, Wifi, LAN Cable, BroadBand, USB Tethering), Identifying and uses of IP/MAC/IMEI of various devices, Popular Web Browsers (Internet Explorer/Edge, Chrome, Mozilla Firefox, Opera etc.), Exploring the Internet , Surfing the web, Popular Search Engines, Searching on Internet, Downloading Web Pages, Printing Web Pages

(vii) E-mail, Social Networking and e-Governance Services

Structure of E-mail, Using E-mails, Opening Email account, Mailbox: Inbox and Outbox,   Creating and Sending a new E-mail, Replying to an E-mail message, Forwarding an E-mail message, Searching emails, Attaching files with email, Email Signature, Social Networking & e-Commerce, Facebook, Twitter, Linkedin, Instagram, Instant Messaging (Whatsapp, Facebook Messenger, Telegram),   Introduction to Blogs, Basics of E-commerce, Netiquettes, Overview of e-Governance Services like Railway Reservation, Passport, eHospital [ORS], Accessing e-Governance Services on Mobile Using "UMANG APP", Digital Locker

(viii) Digital Financial Tools and Applications

Digital Financial Tools, Understanding OTP [One Time Password]and QR [Quick Response] Code, UPI [Unified Payment Interface], AEPS [Aadhaar Enabled Payment System], USSD[Unstructured Supplementary Service Data], Card [Credit / Debit], eWallet, PoS [Point of Sale], Internet Banking, National Electronic Fund Transfer (NEFT), Real Time Gross Settlement (RTGS), Immediate Payment Service (IMPS), Online Bill Payment

(ix) Overview of Futureskills and Cyber Security

Introduction to Internet of Things (IoT), Big Data Analytics, Cloud Computing, Virtual Reality, Artificial Intelligence, Social & Mobile, Blockchain Technology, 3D Printing/ Additive Manufacturing, Robotics Process Automation, Cyber Security, Need of Cyber Security, Securing PC, Securing Smart Phone

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2. Module: M2-R5: Web Designing & Publishing

2.1. Introduction to Module

This module is designed to start web designing, irrespective of knowledge currently have in this area. The businesses, nowadays, are heavily relying on web based applications. The purpose of this module is to provide skill to students in designing layouts of web sites. By the end of this module, student will be able to describe the structure and functionality of the World Wide Web, create web pages using a combination of HTML, CSS, and JavaScript and Angular js. The student will also learn how to design and integrate multimedia objects in web site. Further, the student will learn how web sites are published.

2.2. Objective

After completing the module, the incumbent will be able to:

➢ Design and create effective web pages

➢ Integrate graphics in web pages

➢ Integrate various tools and techniques like HTML, CSS, JavaScript etc.

➢ Design and edit images using tools

➢ Embed the images in web pages

2.3. Duration

120 Hours - (Theory: 48 hrs + Practical: 72 hrs)

2.4. Outline of Module

Module Unit	Duration (Theory) in Hours	Duration (Practical) in Hours	Learning Objectives
Introduction to Web Design	2	3	After completing this unit, learner will be able to • Know the types of web site • Know the role of front end and back end application • Understand the concept of client side scripting and server side scripting
Editors	2	3	After completing this unit, learner will be able to • Difference editors available for writing code • Understand working of editors

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HTML Basis	10	15	After completing this unit, learner will be able to develop static website using different HTML Controls
Cascading Style Sheets (CSS)	10	15	After completing this unit, learner will be able to • Purpose of CSS • Role of CSS in web sites • Enhancing the effects in web site
CSS Framework	6	9	After completing this unit, learner will be able to use CSS Framework to develop web site effectively.
Javscript and Angular Js I	10	15	After completing this unit, learner will be able to • Apply client side scripting • Adding Validations checks on forms (web pages)
Photo Editor	6	9	After completing this unit, learner will be able to edit images and embed in web pages
Web Publishing and Browsing	2	3	The learner will finally be able to publish the web sites

2.5. Marks Distribution

Module Unit	Written Marks (Max.)
1 Introduction to Web Design and Editors, HTML Basis	25
3 Cascading Style Sheets (CSS)	20
4 CSS Framework	15
5 JavaScript and Angular Js I	20
6 Photo Editor, Web Publishing and Browsing	20
Total	100

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2.6. Detailed Syllabus

(i) Introduction to Web Design

Introduction of Internet, WWW, What is Website? How the Website Works?, Web pages, Front End, Back End, Client and Server Scripting Languages, Responsive Web Designing, Types of Websites (Static and Dynamic Websites)

(ii) Editors

Notepad, Downloading free Editors: Notepad++, Sublime Text Editor, Making use of Editors, File creation and editing, saving

(iii) HTML

HTML: Introduction, Basic Structure of HTML , Head Section and Elements of Head Section, Formatting Tags :Bold , Italic, Underline, Strikethrough, Div,Pre Tag Anchor links and Named Anchors ImageTag, Paragraphs, Comments, Tables : Attributes –(Border, Cellpadding, Cellspacing , height , width), TR, TH, TD, Rowspan, Colspan Lists : Ordered List , Unordered List , Definition List, Forms, Form Elements, Input types, Input Attriutes, Text Input Text Area, Dropdown, Radio buttons , Check boxes ,Submit and Reset Buttons Frames : Frameset , nested Frames HTML 5 Introduction , HTML5 New Elements: Section , Nav, Article , Aside, Audio Tag, Video Tag, HTML5 Form Validations: Require Attribute, Pattern Attribute , Autofocus Attribute, email, number type, date type , Range type

(iv) CSS

Introduction to CSS, Types of CSS, CSS Selectors : Universal Selector ,ID selector, Tag Selector, Class Selector, Sub Selector, Attribute Selector, Group Selector, CSS Properties : Back Ground properties , Block Properties , Box properties , List properties , Border Properties , Positioning Properties, CSS Lists CSS Tables, CSS Menu Design CSS Image Gallery,

(v) CSS Framework

Web Site Development using W3.CSS Framework, W3.CSS Intro, W3.CSS Colors, W3.CSS Containers, W3.CSS Panels, W3.CSSBorders, W3.CSSFonts, W3.CSS Text, W3.CSS Tables, W3.CSS List, W3.CSSImages, W3.CSS Grid

(vi) Javscript and Angular Js

Introduction to Client Side Scripting Language, Variables in Java Script, Operators in JS, Conditions Statements, JS Popup Boxes, JS Events, Basic Form Validations in JavaScript

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(vii) Photo Editor

Features of Photo Editing: Tools: Selection Tools, Paint Tools ,Transform Tools, Text Tool, Layers, Brightness/ Contrast, Improve Colors and tone, Filters

(viii) Web Publishing and Browsing

Overview, SGML, Web hosting Basics, HTML, CGL, Documents Interchange Standards, Components of Web Publishing, Document management, Web Page Design Consideration and Principles, Search and Meta Search Engines, WWW, Browser, HTTP, Publishing Tools.

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3. Module: M3-R5: Programming and Problem Solving though Python Language

3.1. Introduction to Module

Python is easy to use, powerful and versatile, making it a great choice for developers. Python is used widely in different areas likes building Raspberry Pi applications, writing script program for desktop applications, configuring servers, developing machine learning & data analytics applications and developing web applications.

3.2. Objectives

The objectives of this module are to make the beginners understand the programming language concepts like Data Types, Loops, Functions; Python Lists, Strings, Tuples, Dictionaries, Elementary Data Handling using Pandas, NumPy Arrays, Creating Forms etc.

After completion of this course the learner is expected to analyze the real life problem and write a program in Python to solve the problem. The main emphasis of the module will be on writing algorithm to solve problems and implement in Python. After completion of the module, the learner will be able to

- ➤ Draw flow charts for solving different problems
- ➤ Develop efficient algorithms for solving a problem
- ➤ Use the various constructs of Python viz. conditional, iteration
- ➤ Write programs making judicious use of Lists, Strings, Tuples, Dictionaries wherever required
- ➤ Manage data using Numpy
- ➤ Handle files and create Modules in Python

3.3. Duration

120 Hours - (Theory: 48 hrs + Practical: 72 hrs)

3.4. Outline of Module

Module Unit	Duration (Theory) in Hours	Duration (Practical) in Hours	Learning Objectives
1. Introduction to Programming	2	3	After completion of this unit of module, the candidate will be able to • Understand the concept of Programming • Understand evolution of Programming.

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2.	Algorithm and Flowcharts to solve problems	6	9	After completion of this unit of module, the candidate will be able to • Understand the concepts and purposes of algorithm and flowchart • Use algorithm and flowchart to solve problem independent of language • Gain knowledge of different constructs of algorithm and flowchart.
3.	Introduction to Python	2	3	After completion of this unit of module, the candidate will be able to • Understand features of Python that make it one the most popular languages in the industry • Understand structure of Python problem • Understand the areas where Python is used
4.	Operators, Expressions and Python Statements	10	15	After completion of this unit of module, the candidate will be able to • Use the basic operators and expressions available in Python in developing program • Understand and use various Python statements like conditional constructs, looping constructs in writing Python program .
5.	Sequence data types	6	9	After completion of this unit of module, the candidate will be able to • Work with various built-in Sequence datatypes and their use • Understand the concept of mutable and immutable objects

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6. Functions	10	15	After completion of this unit of module, the candidate will be able to • Apply the in-built functions available in Python in solving different problems • Work with modular approach using user defined functions	
7. File Processing	6	9	After completion of this unit of module, the candidate will be able to • Work with files and reading /writing onto files	
8. Modules	2	3	After completion of this unit of module, the candidate will be able to • Understand the concept of modules and importing, loading and reloading of modules in programs.	
9. NumPy Basics	4	6	After completion of this unit of module, the candidate will be able to • work on NumPy array manipulation to access data and subarrays and to split, reshape, join arrays etc	
Total	48	72		

3.5. Marks Distribution

Module Unit	Written Marks (Max.)
1. Introduction to Programming, Algorithm and Flowcharts to solve problems	20
2. Introduction to Python, Operators, Expressions and Python Statements, Sequence data types	30
3. Functions, File Processing, Modules	30
4. NumPy Basics	20

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5.	Total	100

3.6. Detailed Syllabus

(i) Introduction to Programming

The basic Model of computation, algorithms, flowcharts, Programming Languages, compilation, testing & Debugging and documentation.

(ii) Algorithms and Flowcharts to Solve Problems

Flow Chart Symbols, Basic algorithms/flowcharts for sequential processing, decision based processing and iterative processing. Some examples like: Exchanging values of two variables, summation of a set of numbers, Decimal Base to Binary Base conversion, Reversing digits of an integer, GCD (Greatest Common Division) of two numbers, Test whether a number is prime, factorial computation, Fibonacci sequence, Evaluate 'sin x' as sum of a series, Reverse order of elements of an array, Find largest number in an array, Print elements of upper triangular matrix, etc.

(iii) Introduction to Python

Python Introduction, Technical Strength of Python, Introduction to Python Interpreter and program execution, Using Comments, Literals, Constants, Python's Built-in Data types, Numbers (Integers, Floats, Complex Numbers, Real, Sets), Strings (Slicing, Indexing, Concatenation, other operations on Strings), Accepting input from Console, printing statements, Simple 'Python' programs.

(iv) Operators, Expressions and Python Statements

Assignment statement, expressions, Arithmetic, Relational, Logical, Bitwise operators and their precedence, Conditional statements: if, if-else, if-elif-else; simple programs. Notion of iterative computation and control flow –range function, While Statement, For loop, break statement, Continue Statement, Pass statement, else, assert.

(v) Sequence Data Types

Lists, tuples and dictionary, (Slicing, Indexing, Concatenation, other operations on Sequence data type), concept of mutability, Examples to include finding the maximum, minimum, mean; linear search on list/tuple of numbers, and counting the frequency of elements in a list using a dictionary.

(vi) Functions

Top-down approach of problem solving, Modular programming and functions, Function parameters, Local variables, the Return statement, DocStrings, global statement, Default argument values, keyword arguments, VarArgs parameters.

Library function-input(), eval(),print(), String Functions: count(), find(), rfind(), capitalize(), title(), lower(), upper(), swapcase(), islower(), isupper(), istitle(),

replace(), strip(), lstrip(), rstrip(), aplit(), partition(), join(), isspace(), isalpha(), isdigit(), isalnum(), startswith(), endswith(), encode(), decode(), String: Slicing, Membership, Pattern Matching, Numeric Functions: eval(), max(), min(), pow(), round(), int(), random(), ceil(), floor(), sqrt(), Date & Time Functions, Recursion

(vii) File Processing

Concept of Files, File opening in various modes and closing of a file, Reading from a file, Writing onto a file, File functions-open(), close(), read(), readline(),readlines(),write(), writelines(),tell(),seek(), Command Line arguments.

(viii) Scope and Modules

Scope of objects and Names, LEGB Rule
Module Basics, Module Files as Namespaces, Import Model, Reloading Modules.

(ix) NumPy Basics

Introduction to NumPy ,ndarray, datatypes, array attributes, array creation routines, Array From Existing Data, Array From Numerical Ranges, Indexing & Slicing.

ST. ALOYSIUS' COLLEGE

(AUTONOMOUS), JABALPUR(M.P.)

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College with Potential for Excellence (CPE) by UGC
DST-FIST Supported & Star College Scheme by DBT.

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Detailed Modules

4. Module: M4-R5: Introduction to Internet of Things(IoT) and its Applications

4.1. Introduction

The module is designed to equip the students to understand the basics of connected world that is Internet of Things (IoT) and its applications. IoT primarily refers to the connected and smarter world having physical and virtual objects with some unique identities. IoT applications spans across domains of industrial control, retail, energy, agriculture, etc. According to experts forecast, IoT ecosystem will have 50 billion devices/things by 2020.

This module provides the theoretical and practical aspects of interfacing sensors and actuators, making informed world of Things speaking to each other. The different type of communication modes and models are discussed in detail. The in-depth knowledge of software and packages is provided to make applications in IoT paradigm.

4.2. Objective

After completing the module, the incumbent will be able to:

➢ Understand how connected devices work together to update other applications

➢ Acquire knowledge to interface sensors and actuator with microcontroller based Arduino platform

➢ Writing C programs in Arduino IDE

➢ Understand the Communication between microcontroller and PC using serial communication

➢ Build IoT based applications and understand how data flows between things

➢ Understand how electronic devices control electrical appliances working at 220v AC

➢ Understand security aspect of IoT devices

➢ Enhance skill set towards better personality development

4.3. Duration

120 Hours - (Theory: 48 hrs + Practical: 72 hrs)

4.4. Outline of Module

Module Unit	Duration (Theory) in Hours	Duration (Practical) in Hours	Learning Objectives
1. Introduction to IoT –	4	6	After completion of this unit of module, the Learner will be

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	Applications/ devices, protocols, communication model			able to • Understand various IoT Applications, architecture, protocols, etc. • Understand the characteristics of IoT devices • Know about Physical Design/Logical Design, Functional blocks of IoT and Communication Models.
2.	Things and Connections	4	6	After completing this unit, learner will be able to understand • Closed loop/ feedback loop system. • The use of sensors, actuators and controllers in the IoT process flow. • TCP/IP Versus OSI models. • Wired and wireless connectivities.
3.	Sensors, Actuators and Microcontrollers	8	12	After completing this unit, learner will be able to understand • The role of Sensors, transducers in measuring physical quantities • Working and characteristics of actuators • Role and use of microcontroller in building various electronic devices
4.	Building IoT Applications	20	30	After completing this unit, learner will be able to

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				understand • Working of microcontroller and hardware prototyping Arduino platform • The role of 'C' language in building IoT applications • Built-in Data-type, operators-expressions • Conditional statements and loops • Arrays, functions • Digital, analog pins of Arduino • Interfacing sensors, actuator • Using Ardublock GUI tool
5.	Security and Future of IoT Ecosystem	4	6	After completing this unit, learner will be able to understand • Need of security in IoT • Various basic concept of security • Security levels • Need of powerful CPU for Future IoT eco system
6.	Soft skills-Personality Development	8	12	After completing this unit, learner will be able to understand • Role of positive personality and determinants of personality • Self-esteem • Communication and writing skills

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4.5. Marks Distribution

Module Unit	Written Marks (Max.)
1. Introduction to IoT – applications/devices, protocols, communication model	10
2. Things and Connections	10
3. Sensors, Actuators and Microcontrollers	15
4. Building IoT applications	40
5. Security and Future of IoT Ecosystem	5
6. Soft skills-Personality Development	20
Total	100

4.6. Detailed Syllabus

(i) Introduction to Internet of Things – applications/devices, protocols, communication model

Introduction - Overview of Internet of Things(IoT), the characteristics of devices and applications in IoT ecosystem, building blocks of IoT, Various technologies making up IoT ecosystem, IoT levels, IoT design methodology, The Physical Design/Logical Design of IoT, Functional blocks of IoT and Communication Models.

(ii) Things and Connections

Working of Controlled Systems, Real-time systems with feedback loop e.g. thermostat in refrigrator, AC, etc. Connectivity models – TCPIP versus OSI model, different type of modes using wired and wireless methodology, The process flow of an IoT application.

(iii) Sensors, Actuators and Microcontrollers

Sensor - Measuring physical quantities in digital world e.g. light sensor, moisture sensor, temperature sensor, etc.

Actuator – moving or controlling system e.g. DC motor, different type of actuators

Controller – Role of microcontroller as gateway to interfacing sensors and actuators, microcontroller vs microprocessor, different type of microcontrollers in embedded ecosystem.

(iv) Building IoT applications

Introduction to Arduino IDE – writing code in sketch, compiling-debugging, uploading the file to Arduino board, role of serial monitor.

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Embedded 'C' Language basics - Variables and Identifiers, Built-in Data Types, Arithmetic operators and Expressions, Constants and Literals, assignment.

Conditional Statements and Loops - Decision making using Relational Operators, Logical Connectives - conditions, if-else statement, Loops: while loop, do while, for loop, Nested loops, Infinite loops, Switch statement.

Arrays – Declaring and manipulating single dimension arrays
Functions - Standard Library of C functions in Arduino IDE, Prototype of a function: Formal parameter list, Return Type, Function call.

Interfacing sensors – The working of digital versus analog pins in Arduino platform, interfacing LED, Button, Sensors-DHT, LDR, MQ135, Display the data on Liquid Crystal Display(LCD), interfacing keypad

Serial communication – interfacing HC-05(Bluetooth module)
Control/handle 220v AC supply – interfacing relay module.

(v) Security and Future of IoT ecosystem

Need of security in IoT - Why Security? Privacy for IoT enabled devices- IoT security for consumer devices- Security levels, protecting IoT devices

Future IoT eco system - Need of power full core for building secure algorithms, Examples for new trends - AI, ML penetration to IoT

(vi) Soft skills–Personality Development

Personality Development - Determinants of Personality- self-awareness, motivation, self-discipline, etc., building a positive personality, gestures.

Self-esteem - self-efficacy, self-motivation, time management, stress management, Etiquettes & manners.

Communication and writing skills- objective, attributes and categories of communication, Writing Skills – Resume, Letters, Report, Presentation, etc. Interview skills and body language.

4.7. Use-case for building IoT based application
A. Using Arduino and sensors/actuators
i. Interfacing Light Emitting Diode(LED)- Blinking LED :
    This use case will be used for familiarizing the GPIO peripheral of at mega micro controller. The LED will be used as a device and GPIO will work as output mode.
ii. Interfacing Button and LED – LED blinking/glow when button is pressed
    This use case will help to understand the GPIO in two different modes, Input - Button and LED - output mode.

iii. Interfacing Light Dependent Resistor (LDR) and LED, displaying automatic night lamp

This use case will help to understand ADC peripheral and how to read analog data from sensors.

iv. Interfacing Temperature Sensor(LM35) and/or humidity sensor (e.g. DHT11)

This use case will help to connect traditional environmental monitoring sensors (Temperature and humidity) to the Arduino development board. Also use the suitable libraries for implementing these case studies.

v. Interfacing Liquid Crystal Display(LCD) — display data generated by sensor on LCD

This case study will demonstrate how to provide local display unit with Arduino micro controller. Use suitable libraries for implementing these case studies.

vi. Interfacing Air Quality Sensor-pollution (e.g. MQ135) - display data on LCD, switch on LED when data sensed is higher than specified value.

This use case will help to understand how to use traditional smart pollution management sensors with Arduino platform for developing applications as a part of smart city projects.

vii. Interfacing Bluetooth module (e.g. HC05)- receiving data from mobile phone on Arduino and display on LCD

This use case will help to understand the connectivity solution to Arduino to a gadget like mobile phone. Bluetooth is used as connectivity solution in this application.

viii. Interfacing Relay module to demonstrate Bluetooth based home automation application. (using Bluetooth and relay).

This use case will enable the IoT node capability of Arduino development boards by integrating actuator (relay connected to GPIO) to Arduino board and remote connectivity (Using Bluetooth) using a mobile phone with the help of a readily available Bluetooth serial application.