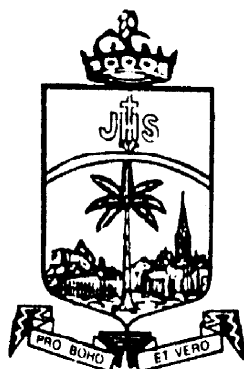




P.G.D.C.S.A.
SYLLABUS : 2012

CHOICE BASED CREDIT SYSTEM
(CBCS)



St. JOSEPH'S COLLEGE (Autonomous)

Re-accredited with 'A' Grade (3rd Cycle) by NAAC

College with Potential for Excellence by UGC

TIRUCHIRAPPALLI - 620 002, INDIA.



FEATURES OF CHOICE BASED CREDIT SYSTEM

PG COURSES

The Autonomous (1978) St. Joseph's College, accredited with Five Star status in 2001, Re-accredited with **A+ Grade** from NAAC (2006), Re-accredited with **A Grade** from NAAC (3rd cycle), had introduced the Choice Based Credit System (CBCS) for PG courses from the academic year 2001-2002. As per the guidelines of Tamil Nadu State Council of Higher Education (TANSCHHE) and the Bharathidasan University, the College has reformulated the CBCS in 2008-2009 by incorporating the uniqueness and integrity of the college.

OBJECTIVES OF THE CREDIT SYSTEM

- * To provide mobility and flexibility for students within and outside the parent department as well as to migrate between institutions
- * To provide broad-based education
- * To help students learn at their own pace
- * To provide students scope for acquiring extra credits
- * To impart more job oriented skills to students
- * To make any course multi-disciplinary in approach

What is credit system?

Weightage to a course is given in relation to the hours assigned for the course. Generally one hour per week has one credit. For viability and conformity to the guidelines credits are awarded irrespective of the teaching hours. The following Table shows the relation between credits and hours.

Sem.	Specification	No. of Papers	Hour	Credit	Total Credits
I - IV	Core Courses (Theory & Practical)	14	6	14 x 5	70
	Project	1	--	1 x 5	05
I - IV	3 - Core Electives	3	4	3 x 4	12
	1 - Soft Skill Course (Common) (IDC-1)				
	1 - Inter Dept. Courses (IDC-2)	2	4	2 x 4	08
I - IV	SHEPHERD - Extension Activity	~	70	5	05

Total Minimum Credits **100**

Other Additional Credits (Dept. Specific) **....**

However, there could be some flexibility because of practicals, field visits, tutorials and nature of project work.

For PG courses a student must earn a minimum of 100 credits. The total number of courses offered by a department is 20. However within their working hours a few departments can offer extra credit courses.

Course Pattern

The Post Graduate degree course consists of three major components. They are Core Course, Elective Course and Inter Departmental Course (IDC). Also 2 compulsory components namely Project / Project related items and SHEPHERD, the extension components are mandatory.

Core Course

A core course is the course offered by the parent department, totally related to the major subject, components like Practical, Projects, Group Discussions, Viva, Field Visits, Library Record form part of the core course.

Elective Course

The course is also offered by the parent department. The objective is to provide choice and flexibility within the department. The student can choose his/her elective paper. Elective is related to the major subject. The difference between core course and elective course is that there is choice for the student. The department is at liberty to offer three elective courses any semester. It must be offered at least in two different semesters. The staff too may experiment with diverse courses.

Inter Departmental Course (IDC)

IDC is an inter departmental course offered by a department for the students belonging to other departments. The objective is to provide mobility and flexibility outside the parent department. This is introduced to make every course multi-disciplinary in nature. It is to be chosen from a list of courses offered by various departments. The list is given at the end of the syllabus copies. Two IDCs must be taken by students which are offered in Semester II & III. In

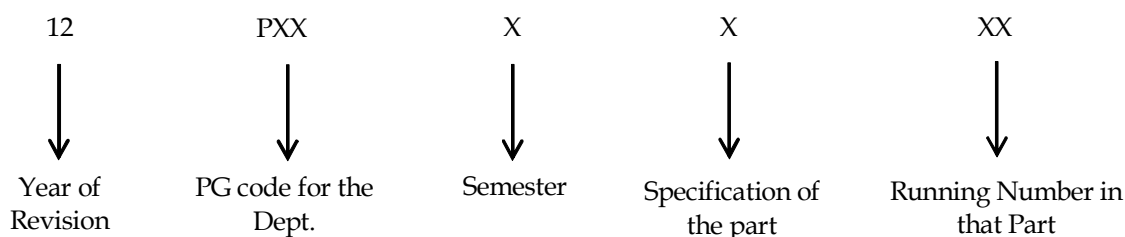
semester II, a common IDC, Soft Skills is to be offered by JASS (Joseph Academy of Soft Skills).

Day College (Shift-I) student may also take an IDC-2 from SFS (Shift-II) course and vice versa

The IDC are of application oriented and inter-disciplinary in nature.

Subject Code Fixation

The following code system (9 characters) is adopted for Post Graduate courses:



01 – Core Courses: Theory & Practical

02 – Core electives

03 – Additional Core Papers (if any)

04 – Inter Departmental Courses

05 – Project

06 – SHEPHERD

CIA Components

The CIA Components would comprise of two parts: (1) Test Components conducted by Controller of Examination (COE) and (2) Teacher specific component. The two centralized tests will be conducted by the COE (Mid-Semester Test & End-Semester Test) for 30% each administered for 2 hours duration. The remaining 40% would comprise of any three components as listed below and will be carried out by the faculty concerned for that paper.

- * Assignment, Quiz (Written / Objective), Snap Test, Viva-Voce, Seminar, Listening Comprehension, Reading Comprehension, Problem Solving, Map Reading, Group Discussion, Panel Discussion, Field Visit, Creative Writing, Open Book Test, Library Record, Case Study, etc.

- * As a special consideration, students who publish papers in referred journals would be exempted from one of the teacher specific internal components in one of the papers. At the beginning of each semester, the four internal components would be informed to the students and the staff will administer those components on the date specified and the marks acquired for the same will be forwarded to the Office of COE.

Evaluation

For each course there are formative continuous internal assessment (CIA) and semester examinations (SE) in the weightage ratio 50:50.

Once the marks of CIA and SE for each course are available, the Overall Percentage Mark (OPM) for a student in the programme will be calculated as shown below:

$$OPM = \frac{\sum_i C_i M_i}{\sum_i C_i} \text{ where } C_i \text{ is the credit earned for that course in any}$$

semester and M_i is the marks obtained in that course.

The Scheme of Over-all Results is as follows:

Class	PG	
	Arts (OPM)	Science (OPM)
SECOND	50 to 59.99	50 to 59.99
FIRST	60 to 74.99	60 to 79.99
DISTINCTION	75 & Above	80 & Above

Declaration of Result

Mr./Ms. _____ has successfully completed M.Sc./M.A. degree course in _____. The student's overall average percentage of marks is _____ and has completed the minimum 100 credits. The student has also acquired _____ (if any) additional credits from courses offered by the parent department.

PGDCSA - Course Pattern

SEM	CODE	SUBJECT	HR	CR
I	12 DCA 1 1 01	C PROGRAMMING	5	5
	12 DCA 1 1 02	OFFICE AUTOMATION	5	5
	12 DCA 1 1 03	FOUNDATIONS OF COMPUTER SCIENCE-I	5	5
	12 DCA 1 1 04	LAB: C & OFFICE AUTOMATION	3	3
		Total For Semester I	18	18
II	12 DCA 2 1 05	VISUAL PROGRAMMING	5	5
	12 DCA 2 1 06	WEB DESIGN	5	5
	12 DCA 2 1 07	FOUNDATIONS OF COMPUTER SCIENCE-II	5	5
	12 DCA 2 1 08	LAB: VB & HTML	3	3
		Total For Semester II	18	18
		TOTAL FOR ALL SEMESTERS		36

SEM: I
12DCA1101

Hours/Week : 5
Credits : 5

C PROGRAMMING

AIM

❖ To highlight the various features of C language.

UNIT I 12 Hrs

BASICS: Algorithms – Flowcharts – Developing Algorithms and Flowcharts for Sequential, Selection and Iterative Programming Structures - Basic Structure of C Program - Constants, Variables and Data types - Operators and Expressions

UNIT II 12 Hrs

DECISION MAKING AND LOOPING: Managing Input / Output Operations - If Statement - If-Else Statement – Nesting of If – If .. Else statement - The Switch Statement - The Go To Statement- While Statement – Do Statement – For Statement.

UNIT III 12 Hrs

ARRAYS: One-dimensional Arrays – Two-dimensional Arrays – Initializing Arrays – Multi-dimensional Arrays. **STRINGS:** Declaring and Initializing String Variables – Reading Strings – Writing Strings – String Handling Functions.

UNIT IV 12 Hrs

FUNCTIONS: User-defined Functions - The Form of C Functions – Return Values and their Types – Calling a Function – Category of Functions – Nesting of Functions - Recursion.

UNIT V 12 Hrs

STRUCTURES AND UNIONS: Definition of Structure – Structure Initialization – Comparison of Structure Variables – Array of Structures – Unions. **FILE MANAGEMENT:** Defining and Opening a File – Closing a File – Input /Output Operations on Files.

BOOK FOR STUDY

Balagurusamy E., "Programming in ANSI C", II Edition, Tata McGraw-Hill Ltd., New Delhi, 2002.

BOOK FOR REFERENCE

Gottfried S Byron, "Programming with C", Tata McGraw-Hill Ltd., New Delhi, 2002.

SEM: I
12DCA1102

Hours/Week : 5
Credits : 5

OFFICE AUTOMATION

AIM

- ✦ To impart the knowledge about the office automation and various uses of MS-OFFICE.

UNIT I

12 Hrs

OFFICE AUTOMATION: Nature of Office Work – Functions of an Office – Office Communications – Services of an Office – Need for Office Automation

UNIT II

12 Hrs

WORD: Editing the document – Move and Copy Text – Formatting Text and Paragraph – Finding and Replacing Text – Spell Checking – Using Tabs – Enhancing Document – Columns, Tables and Other Features.

UNIT III

12 Hrs

EXCEL: Editing Cells – Using Commands and Functions – Moving, Copying, Inserting and Deleting Rows and Columns – Printing the Worksheet – Creating Charts – Using Date and Time – Addressing Modes – Naming Ranges and Financial Functions.

UNIT IV

12 Hrs

POWERPOINT: Power Point Views – Running Slide Show – Printing Presentation – Animations – Transitions – Custom Slide Show.

UNIT V

12 Hrs

ACCESS: Starting Microsoft Access – Creating a New Database – Creating a New Table – Rename Columns – Saving the Database – Query – Form – Reports.

BOOK FOR STUDY

Taxali R.K, “PC Software for WINDOWS Made Simple”, Tata McGraw-Hill Ltd., New Delhi, 1998.

BOOK FOR REFERENCE

Sanjay Saxena, "MS-OFFICE 2000 FOR EVERYONE", Vikas Publishing House Pvt. Ltd., New Delhi, 2000.

SEM: I

Hours/Week : 5

12DCA1103

Credits : 5

FOUNDATIONS OF COMPUTER SCIENCE - I

AIM

✦ To understand the fundamentals of Information Technology.

UNIT I

12 Hrs

COMPUTER BASICS: Evolution of Computers – Generations of Computers – Classification of Computers – The Computer System – Applications of Computers – **COMPUTER MEMORY & STORAGE:** Introduction – Memory Hierarchy – RAM – ROM – RAM ,ROM & CPU Interaction – Types of Secondary Storage Devices – Magnetic Tape – Magnetic Disk – Types of Magnetic Disk – Optical Disk – Types of Optical Disks – Magneto-Optical Storage Devices – Mass Storage Devices.

UNIT II

12 Hrs

INPUT OUTPUT MEDIA: Types of Input Devices – Types of Output Devices – Computer Terminals – **OPERATING SYSTEM:** Definition – Evolution of Operating Systems – Types of Operating Systems – Functions of Operating Systems.

UNIT III

12 Hrs

MULTIMEDIA ESSENTIALS: Definition – Building Blocks of Multimedia – Multimedia System – Multimedia Applications – Virtual Reality – **DATA COMMUNICATION & COMPUTER NETWORKS:** Data Communication – Transmission Media – Modulation – Multiplexing – Switching – Computer Networks – Network Topologies – Communication Protocols – Network Devices.

UNIT IV

12 Hrs

COMPUTER GRAPHICS: Advantages of Interactive Graphics – Representative Uses of Computer Graphics – Classification of Applications – Development of Hardware and Software for Computer Graphics – Conceptual Framework for Interactive Graphics.

UNIT V

12 Hrs

COMPUTER SECURITY: Definition – Malicious Programs – Cryptography – Digital Signature – Firewalls – Users Identification

and Authentication - Security Awareness & Policies – **EMERGING TRENDS IN IT:** Ecommerce - EDI - Mobile Communications - Bluetooth - Global Positioning System -Infrared Communication - Smart Card - Imminent Technologies.

BOOKS FOR STUDY

1. ITL Education Solutions Limited, "Introduction to Information Technology", Pearson Education, Fifth impression, New Delhi, 2008.
2. Foley, Van Dam, Feiner, Hughes, "Computer Graphics: Principles and Practice", Addison - Wesley Publishing Company, United States of America, 2004. UNIT - IV

BOOK FOR REFERENCE

Alexis Leon & Mathews Leon, "Fundamentals on Information Technology", Leon Press, Second Edition, Chennai, 2009.

SEM: I

12DCA1104

Hours/Week : 3

Credits : 3

LAB - C & OFFICE AUTOMATION

C Programs

1. Find if the given number is odd or even, Sum of digits
2. Factorial of a given number using Functions
3. Find the nth term of Fibonacci sequence
4. Sorting the elements of an array
5. String Manipulations

OFFICE AUTOMATION

6. Using MS WORD, perform the following operations - Spell Check, Table Creation, Mail Merge
7. Manipulate all the basic functions in MS Excel.
8. Draw different types of charts in MS Excel.
9. Create a simple slide show with the help of PowerPoint presentation.
10. Create a student database using MS Access.

SEM: II
12DCA2105

Hours/Week: 5
Credit: 5

VISUAL PROGRAMMING

AIM

- ✦ To highlight the features of GUI and apply it to develop various applications.

UNIT I

12 Hrs

INTRODUCING VISUAL BASIC: Features of Visual basic - Developing an application - Creating an application - Objectives - Toolbox - Project Explorer - Properties window - Form Window - List of Controls - Toolbar - Textbox control - Picture Box, Label, list, combo, checkbox - Line and Shape controls, image controls.

UNIT II

12 Hrs

IDE FORMS AND CONTROLS: The Form-Working with Control-Opening the code Window. **VARIABLES IN VISUAL BASIC:** Declaring Variables - Data types - Null Values - Scope of a Variable - Module level variables - Constants - Scope of Constants - Converting Data types - Arrays - Multidimensional arrays - Dynamic arrays.

UNIT III

12 Hrs

WRITING CODE IN VISUAL BASIC: The Code window - The Anatomy of a procedure - Subroutines or functions - Editor features - The Decision Maker: If-Loop -While Loop - Select case - End select.

UNIT IV

12 Hrs

MENUS: Menu System, Menu Convention - The Menu editor - Using the Menu Editor - Coding the Menu items - Adding the Toolbar - Toolbar convention - Pasting Icons On Buttons.

UNIT V

12 Hrs

MULTIPLE DOCUMENT INTERFACE APPLICATIONS: MDI Form - Features of an MDI Form - Loading MDI forms and Child forms - The Active Form Property -Specifying the active child

Form or Control - Maintaining State information for a child form -
Unloading MDI form with Query Unload.

BOOK FOR STUDY

Mohammed Azam, "Programming with VISUAL BASIC 6.0",
Vikas Publishing, New Delhi, 2006.

BOOKS FOR REFERENCE

Gary Cornell, "Visual basic 6.0 from the Ground Up" Tata
McGraw hill, New Delhi, 2000.

SEM: II
12DCA2106

Hours/Week: 5
Credit: 5

WEB DESIGN

AIM

✦ To understand the basic concepts of Internet & HTML.

UNIT I

12 Hrs

INTERNET - Networking -Internet -E Mail - Resource Sharing - Gopher - WWW - Usenet - Telnet - Bulletin Board Service - Wide Area Information Service. **INTERNET BROWSERS:** Internet Explorer - Netscape Navigator.

UNIT II

12 Hrs

HTML BASICS: Designing a home page - History of HTML - HTML Generation -HTML Document - Anchor Tag -Hyper Links - Sample HTML documents. **HEAD AND BODY SECTIONS:** Header Section - Title - Links -Colourful Web Page -Comment lines.

UNIT III

12 Hrs

Designing the Body Section - Aligning the heading - Horizontal rule - Paragraph - Tab settings -Images and pictures - Embedding PNG format images. **ORDERED AND UNORDERED LISTS:** Lists - Unordered lists - Headings in a list - Ordered Lists - Nested Lists. **TABLE HANDLING:** Table creation in HTML - Width of the table and cells - Cells Spanning Multiple Rows/Columns - Coloring cells - Column specification.

UNIT IV

12 Hrs

FRAMES: Frameset definition - Frame definition - Nested Framesets. Web Page Design using Forms.

UNIT V

12 Hrs

DHTML AND STYLE SHEETS: Defining Styles - Elements of Styles - Linking a Style sheet to an HTML Documents - In line Styles - External Style Sheets - Internal Style Sheets -Multiple Styles.

BOOK FOR STUDY

C Xavier, "World wide Web Design with HTML", TMH, 2000

BOOK FOR REFERENCE

Jennifer Niederst - O' Recilly, "Web Design in a Nutshell" I
Edition - Shroff Publishers and Distributors Pvt. Ltd.

Sem: II
12DCA2107

Hours/Week: 5
Credit: 5

FOUNDATIONS OF COMPUTER SCIENCE - II

AIM

- ✦ To Offer the Rudiments of the Computer Science Concepts and System Oriented Concepts.

UNIT I

12 Hrs

OPERATING SYSTEM: Early Systems - Multiprogrammed Batch System - Real Time Systems - General System Architecture - System Components - System Calls - System Generation.

UNIT II

12 Hrs

DIGITAL LOGIC: The Basic Gates - NOR Gates - NAND Gates. **NUMBER SYSTEMS AND CODES:** Binary Numbers Usage - Binary to Decimal Conversion - Decimal to Binary Conversion - Octal Numbers - Hexadecimal Numbers - The ASCII Code - The Excess-3 Code - The Gray Code.

UNIT III

12 Hrs

DATABASE MANAGEMENT SYSTEM: Data Modeling for a Database - Records and Files- Abstraction and Data Integration - Three Level Architecture for a DBMS - Components of a DBMS- Advantages and Disadvantages of DBMS.

UNIT IV

12 Hrs

SYSTEM ANALYSIS AND DESIGN: The System Concept: Definition - Characteristics of System - Elements of System - Types of System - The System Development Lifecycle - The Role of the System Analyst: Academic And Personal Qualification.

UNIT V

12 Hrs

System Planning and the Initial Investigation - Information Gathering - Input And Output Form Design- Cost Benefit Analysis.

BOOKS FOR STUDY

1. Abraham Silberschatz And Peter Baer Galvin, "Operating System Concepts" 4th Edition, Addison Wesley Longman Inc, New York ,1999 UNIT I
2. Leach Malvino, " Digital Principles and Applications", 5th Edition, Tata McGraw-Hill, New Delhi, 1995 UNIT II
3. Bibin C. Desai, "An Introduction To Database System", Galgotia, New Delhi-2005 UNIT III
4. Elias M. Awad, "System Analysis And Design", Galgotia, New Delhi -2000 UNITS IV & V.

Sem : II
12DCA2108

Hours/Week : 3
Credits : 3

LAB – VB & HTML**VB**

1. Arithmetic Operations
2. Adding and Removing Items into List Box
3. MDI
4. Move Object using Timer Control
5. Menu

HTML

6. Basic Tags
7. Table Creation
8. Frames
9. Forms
10. Style Sheets