Punyashlok Ahilyadevi Holkar Solapur University, Solapur

पुण्यश्लोक अहिल्यादेवी होळकर
सोलापूर विद्यापीठ
॥ विद्यया संपन्नता ॥

NAAC Accredited-2015
'B' Grade (CGPA 2.62)

Name of the Faculty: Science & Technology

CHOICE BASED CREDIT SYSTEM

Syllabus: B. C. A.

Name of the Course: B.C.A. II (Sem.– III & IV)

(Syllabus to be implemented from w.e.f. June 2020)

B.P.Sulakhe Commerce College,Barshi
Dist.Solapur

Punyashlok Ahilyadevi Holkar Solapur University
Faculty of Science and Technology
Choice Based Credit System (CBCS), (w.e.f.2020-21)
Structure for B. C. A. – Part II (Science)

Subject/ Core Course	Name and Type of the Section		No. of Papers/ Practical	Hrs/week			Total Marks Per Section	UA	CA	Credits
	Type	Name		L	T	P				
Class :	**B.C. A.- II Semester – III**									
Core	DSC1C	OOPS with C++-I	Section -I	03	--	--	50	40	10	4.0
		Data structures using 'C'- I	Section-II	03	--	--	50	40	10	
	DSC2C	Database Management System	Section-I	03	--	--	50	40	10	4.0
		Software Testing & Quality Assurance	Section-II	03	--	--	50	40	10	
	DSC3C	Web Development using PHP	Section-I	03	--	--	50	40	10	4.0
		Computer Networks-I	Section-II	03	--	--	50	40	10	
	AECC	Environmental Studies		03	--	--	50	40	10	NC
	SEC-I	Financial Accounting with Tally		06	--	--	100	80	20	4.0
Total				**27**	--	--	**450**	**360**	**90**	**16**
Class :	**B. C. A. - II Semester - IV**									
Core	DSC1D	OOPS with C++-II	Section -I	03	--	--	50	40	10	4.0
		Data structures using 'C'- II	Section-II	03	--	--	50	40	10	
	DSC2D	MySQL	Section-I	03	--	--	50	40	10	4.0
		Ethics and Cyber law	Section-II	03	--	--	50	40	10	
	DSC3D	Angular JS	Section-I	03	--	--	50	40	10	4.0
		Advanced Computer Networks	Section-II	03	--	--	50	40	10	
	SEC-II	Python Programming		06	--	--	100	80	20	4.0
Total (Theory)				**24**	--	--	**400**	**320**	**80**	**16**
Core		DSC 1 C & 1 D	Practical I & II	--	--	8	100	80	20	4.0
		DSC 2 C & 2 D	Practical I & II	--	--	8	100	80	20	4.0
		DSC 3 C & 3 D	Practical I & II	--	--	8	100	80	20	4.0
Total (Practical)						**24**	**300**	**240**	**60**	**12**
Grand Total				**51**	--	**24**	**1150**	**920**	**230**	**44**

***Core Subjects: Chemistry/Physics/Electronics/Computer Science/Mathematics/Statistics/Botany/Zoology/ Microbiology/Geology/ Geography/Psychology**

Abbreviations: L: Lectures, T: Tutorials, P: Practical's, UA:University Assessment, CA: College Assessment, DSC / CC: Core Course, AEC : Ability Enhancement Course, DSE : Discipline Specific Elective Section, SEC : Skill Enhancement Course, GE : Generic Elective, CA: Continuous Assessment, ESE: End Semester Examination

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NAAC Accredited-2015
'B' Grade (CGPA 2.62)

Name of the Faculty: Commerce & Management

CHOICE BASED CREDIT SYSTEM

Syllabus: Post Graduate Diploma in Computer Application

Name of the Course: PGDCA I (Sem.– I & II)

(Syllabus to be implemented from w.e.f. June 2020)

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Punyshlok Ahilyadevi Holkar Solapur University, Solapur

PGDCA(Post Graduate Diploma in Computer Application)

STRUCTURE FOR COLLEGE & UNIVERSITY CAMPUS

Choice Based Credit System w.e.f.2020-21

Semester	Code	Title of the Paper	Semester Exam			L	T	P	Total Credits
			Theory	IA	Total				
Subject									
HCT	PGDCA1.1	Communication skill	80	20	100	4	1	0	5
HCT	PGDCA1.2	Fundamental of computer and information technology	80	20	100	4	1	0	5
HCT	PGDCA 1.3	Introduction to accounting Package and MS-office	80	20	100	4	1	0	5
	PGDCA 1.4	Software Enginnering with C Programming	80	20	100	4	1	0	5
DSE	PGDCA 1.5	Web programming with PHP	80	20	100	4	1	0	5
DSE	PGDCA 1.6	I) Lab Course based on PGDCA – 1.2,1.3,1.4 II) Mini project based on 1.5		50 50	50 50	2 3		50 50	5
			400	200	600				
		PGDCA Semister -II							
Subject		**Hard Core** Compulsory Papers							
HCT	PGDCA 1.7	DBMS with oracle	80	20	100	4	1	0	5
HCT	PGDCA 1.8	ASP.NET using C#	80	20	100	4	1	0	5
HCT	PGDCA 1.9	JAVA and Python Programming	80	20	100	4	1	0	5
HCT	PGDCA 2.0	Lab Course 2 Based on PGDCA 1.7,1.8,1.9 Major Project	-	100 100	100 200			3 3	6
			240	260	600			0	

HCT -Hard Core Theory

DSE -Discipline Specific Elective

SCT -Soft Core Theory

OET -Open Elective Theory

IA -Internal Assessment – Home Assignment' Unit Test' Seminar' PPT Presentation'' Industrial Visit/ Oral Exam' Group Discussion' Case Study' Internship' Survey/ Field Visit report.

L Lecture

T Theory

P Practical

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Faculty Name	Science and Technology
BOS Name	Computer Science
Subject Name	Computer Science – BCA
Course Pattern	CBCS
Syllabus Implement from Academic Year	June-2018

Year of Course FY/SY/TY	Semester	Paper Code(Computer Code will be given by Computer Section)	Paper Code (BOS Code)	Paper Name (This name is displayed on mark sheet)	Paper Number (I/II/III)	Paper Type (1. Core/Compulsory 2. Fundamental/Optional/Elective)	Credits	Number of Lectures in Hr/WK	Total Lecture in Semester	Teaching Learning Method (Lecture/ Laboratory)	Assessment Method (Theory/Practical / Team work/ Oral /Viva/ Field Work/ Project/ Seminar)	Total Marks		Theory				Practical/Team Work/ Oral/ Viva/ Field Work/ Project/ Seminar			
														ESE(UA)		ICA(CA)		ESE(UA)		ICA(CA)	
												Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks	Max Marks	Min Marks
TY	V	BCA 501		Core Java		1	4	5		Lecture	Theory	100	40	70	28	30	12				
TY	V	BCA 502		Visual Programming		1	4	5		Lecture	Theory	100	40	70	28	30	12				
TY	V	BCA 503		Linux and Shell Programming		1	4	5		Lecture	Theory	100	40	70	28	30	12				
TY	V	BCA 504		Computer Graphics		1	4	5		Lecture	Theory	100	40	70	28	30	12				
TY	V	BCA 505-A		Data Warehouse and Data Mining		2	4	5		Lecture	Theory	100	40	70	28	30	12				
TY	V	BCA 505-B		Theory of Computation		2	4	5		Lecture	Theory	100	40	70	28	30	12				
TY	V	BCA 506		Lab 5 Based on 501, 502, 503 Mini Project using 501/502		1	4	12		Laboratory	Practical	100	40					50 50	20 20		

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TY	VI	BCA 601		Advanced Java		1	4	5		Lecture	Theory	100	40	70	28	30	12				
TY	VI	BCA 602		Dot Net Technology		1	4	5		Lecture	Theory	100	40	70	28	30	12				
TY	VI	BCA 603		Recent Trends in IT		1	4	5		Lecture	Theory	100	40	70	28	30	12				
TY	VI	BCA 604-A		Cryptography and Network Security		2	4	5		Lecture	Theory	100	40	70	28	30	12				
TY	VI	BCA 604-B		System Programming		2	4	5		Lecture	Theory	100	40	70	28	30	12				
TY	VI	BCA 605		Lab 6 Based on 601, 602		1	4	8		Laboratory	Practical	100	40	70	28	30	12	70	28	30	12
TY	VI	BCA 606		Major Project Work based on any programming language in syllabus		1	4	8		Laboratory	Project	100	40	70	28	30	12	70	28	30	12

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Solapur University, Solapur
Faculty Of Commerce
Choice Based Credit System(CBCS)
(w.e.f - June 2016)
Structure for PGDCA(Post Graduate Diploma In Computer Applications)

Introduction :

The name of the program shall be Post Graduate Diploma in Computer Applications (P.G.D.C.A.)

Course Objectives :

There are three major objectives of this diploma course.

1. To prepare a Computer Operator and Accounting operator various office packages effectively with some analytical approach and who can be directly employed by many organizations.
2. To prepare a person who can work as Web Programmer , Assistant Programer in an Organization & to train students to a level where they can readily compete for a seats for lateral entry to advance degree courses like M.C.A.,M.C.M., M. Sc. (C.S.) etc.
3. To introduce students with programming

The course has been designed keeping in mind the desirable characteristics of a component professional. We have identified these characteristics to be the following.

1. Good knowledge and skill base of the following form the core field
   - Office Application Packages
   - Web designing
   - Programming methodology and techniques.
   - LAN and Internet.
   - Database user.

2. Ability to work in team
   - Course Duration : One year (TWO SEMESTERS)
   - Intake Capacity :60
   - Number of Computers : 15.
   - Eligibility :

1. Graduate of any discipline (under 10+2+3) pattern from any recognized university
2. Student who is perusing any post graduate course of Solapur University can be admitted to P.G.D.C.A. course i.e. student may be allowed to do Simultaneously two courses.
3. Students who are doing the post graduate degree in external mode in any University other than Solapur University, can do PGDCA Course

Structure of the Course

Sem - I

Subject /Core Course	Name and Type of The Paper		L	Credits	Total Marks Per Paper	UA		CA	
	Type	Paper No. & Name							
Class:->	**PGDCA(Post Graduate Diploma In Computer Applications)Sem -I**								
	Ability Enhancement Courses(AECC)	1. Communication Skills	4	4	100	70	28	30	12
	Core	2. Fundamentals Of Computer And Information Technology	4	4	100	70	28	30	12
	Core	3. Introduction to Accounting Package And MS-Office	4	4	100	70	28	30	12
	Core	4. Software Engineering With 'C' Programming	4	4	100	70	28	30	12
	Core	5. Web Programming With PHP	4	4	100	70	28	30	12
	Core	6. (i) Lab Course 1 Based On Paper No. 2,3,4	2	4	50	-	-	50	20
		(ii) Mini Project Based On Paper No. 5	3		50	-	-	50	20
		Total	25	24	600	350	--	250	--

Sem -II

Subject /Core Course	Name and Type of The Paper		L	Credits	Total Marks Per Paper	UA		CA	
	Type	Paper No. & Name							
Class:->	**PGDCA(Post Graduate Diploma In Computer Applications)Sem –II**								
	Core	7. DBMS And RDBMS Using Oracle	4	4	100	70	28	30	12
	Core	8. ASP.Net Using C #	4	4	100	70	28	30	12
	Core	9. Java Programming	4	4	100	70	28	30	12
	Core	10. Lab Course 2 Based On Paper No. 7, 8 ,9	3	4	100	-	-	100	40
	Core	11. Major Project & Viva Voce	3	8	200	100	40	100	40
		Total	18	24	600	310	--	290	--

Project Work :-
The project report can be prepare by group of three or four students. The project report will be assessed by internal guide for 100 marks and there will be Viva for 100 marks conducted by the Panel Examiner appointed by University.

Standard of Passing:-
To pass the examination in Post Graduate Diploma in Computer Applications, a candidate must obtain a minimum of 40% of marks in each head of passing and also in aggregate. Subject to the condition of clearing in all heads a candidate will be awarded class of distinction.

If aggregate percentage is :-

Greater than or equal to 40% but less than 49.99% - Pass Class.

Greater than or equal to 50% but less than 59.99% -Second Class.

Greater than or equal to 60% but less than 69.99% -First Class.

Greater than or equal to 70% -First Class with Distinction.

Lab Work Load -Size of the practical batch should be 15 students.
Staff Pattern - One full time Assistant Professor.

One full time Instructor.

Visiting faculty as per requirement.

Nature of Examination –

University examination shall be 2.30 hours durations for 70 marks paper.

The question paper pattern will be flexible. Examiner may set the objective, short

20% objectives, 40% short and 40%long

Internal Marks

The division of 30 marks are as follows—

Internal Marks

1.	Attendance	05 Marks
2.	2 Class & 2 Home Assignments	10 Marks
3.	Seminar/ Group Exercise	10 Marks
4.	Mid Test	05 Marks
	Total	30 Marks

Qualifications for Assistant Professor and Instructor :

- **Assistant Professor :**- A candidate with M.C.A., M.C.M. B. E. (I. T. / CSE), M. Sc.(CS) qualifications eligible to teach P.G.D.C.A. course.
- **Instructor**: Graduate with one year diploma in Computer recognized by the University.

Free Structure

Tuition Fee	12000
Computer Lab Charge	1500
Library Fee	1000
Caution Money	500
Total	15000

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The Repeater PGDCA students may be given additional two chances.

Equivalence of the subjects

PGDCA Sem I

Old Syllabus w.e.f. 2013		New Syllabus(CBCS)w.e.f. June 2016	
Paper No.	Subject	Paper No.	Subject
1	Fundamentals Of Computer and Information Technology	1	Fundamentals Of Computer and Information Technology
2	Introduction to A/C Package and MS-Office	2	Introduction to Accounting Package and MS-Office
3	System Analysis and Design with C Programming	3	Software Engineering with 'C' Programming
4	Web Programming with PHP	4	Web Programming with PHP
5	Lab Course I based on paper no. 1 , 2,3,4	5	Lab Course I based on paper no. 2,3,4
6	Mini Project Based on Paper No.4	6	Mini Project Based on Paper No. 5

PGDCA Sem II

Old Syllabus w.e.f. 2013		New Syllabus w.e.f. June 2016	
Paper No.	Subject	Paper No.	Subject
7	Dbms & Rdbms Using Oracle	7	DBMS & RDBMS Using Oracle
8	ASP.NET using C #	8	ASP.NET using C #
9	Java Programming	9	Java Programming
10	Lab Course II Based on P.No. 7, 8 ,9	10	Lab Course Based on P.No. 7, 8 ,9
11	Major Project and Viva Voce	11	Major Project and Viva Voce

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Choice Based Credit System Syllabus (FOR REGULAR STUDENTS)
M.COM Part-II
(Common Syllabus to all Specializations of M.Com. Course as Paper-IV)
(Advanced Accountancy, Taxation, Advanced Costing, Advanced Statistics, Advanced Marketing, Advanced Banking & Financial System, Co-Operation & Rural Development, Insurance)

RESEARCH METHODOLOGY & PROJECT WORK (w.e.f.June-2016-17)

(Theory-70 marks & Internal Assessment-30 marks)

Semester III

Course Objectives : To provide basic research knowledge on formulation , appraisal, financing, administration and control of projects.

Periods - 60

Course Inputs :-

Marks -70

1.Research : Meaning ,Objectives, Types of research, Methods of research- Survey Method and case study method.

2.Planning research project – Identifying Research problems, selection of problem – formulation of a problems - Research Design : Meaning and Objectives, Characteristics of good research design, components of the research design & steps in scientific research process

3. Data Collection : Meaning , Methods and Tools of Data Collection , Hypothesis Sampling, Data Processing, Analysis and Interpretation of Data.

4.Report Writing – Elements , Characteristics of a good report , Contents, Steps in drafting report, Editing and preparing final draft.

Semester-IV

Paper-IV

RESEARCH METHODOLOGY & PROJECT WORK

Marks-100

All Students should prepare the Project Report on any one of the following area.

1) Ratio analysis
2) Funds Management
3) Break-even analysis
4) Inventory Control and Management
5) Working Capital Management
6) Budgets
7) Audit Practice and audit report, internal-Check etc. of Firm, company, Bank, Co-operative-Society etc.
8) Cost Ascertainment, Cost control and Cost reduction.
9) Any Suitable area Coming-under the titles of advanced accountancy.

Reference Books

1) Research Methodology- C.R. Kothari.
2) Research Methodology in Management-Dr.V.P.Michael.
3) Research Methodology in Management- Dr.N. Thanulingom.
4) Research Methodology – Dr.P.M.Herekar
5) Research Methodology in Social Sciences – G.C. Pande
6) Research Methodology in Social Sciences – P.C. Tripathi
7) Research Methodology and Statistical-techniques : Santosh Gupta

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Choice Based Credit System Syllabus (FOR EXTERNAL STUDENTS)
M.COM Part-II

(Common Syllabus to all Specializations of M.Com. Course as Paper-IV)

(Advanced Accountancy, Taxation, Advanced Costing, Advanced statistics, Advanced Marketing, Advanced Banking & Financial System, Co-Operation & Rural Development, Insurance)

RESEARCH METHODOLOGY & PROJECT WORK (w.e.f.June-2016-17)

Semester III

Course Objectives : To provide basic research knowledge on formulation , appraisal, financing, administration and control of projects.

Course Inputs :-

Marks -70

1.Research : Meaning ,Objectives, Types of research, Methods of research- Survey Method and case study method.

2.Planning research project – Identifying Research problems, selection of problem – formulation of a problems - Research Design : Meaning and Objectives, Characteristics of good research design, components of the research design & steps in scientific research process

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4.Report Writing – Elements , Characteristics of a good report , Contents, Steps in drafting report, Editing and preparing final draft.

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Choice Based Credit System Syllabus (FOR EXTERNAL STUDENTS)
M.COM Part-II
(Common Syllabus to all Specializations of M.Com. Course as Paper-IV)

(Advanced Accountancy, Taxation, Advanced Costing, Advanced statistics, Advanced Marketing, Advanced Banking & Financial System, Co-Operation & Rural Development, Insurance)

RESEARCH METHODOLOGY & PROJECT WORK (w.e.f.June-2016-17)

Semester-IV

Marks-70

1. Sampling Technique: Sampling theory-Types of sampling-Steps in sampling-Sampling and Non-sampling error-Sample size –Advantages and limitations of sampling. Hypothesis Testing and estimation: Fundamentals of hypothesis testing

2. Data Processing: Checking- Editing-Coding- transcriptions and Tabulation- Data analysis- Meaning and methods- Quantitative and Qualitative analysis.

3. Statistics in Research: Specific applications of measures of Central tendency, Dispersion, Skewness,

4. Role of computers in Research : Computer Application, Computer & Research

References:

1. Baily K.D, 1982, Mothods of Social Research Free press, New York.
2. Bajpai S.R. 1969. Social Survey and Research. Kanpur: Kitab Ghar.
3. Barnes,John A, 1979,Who Should Know What ? Social Science, Privacy and Ethics, Harmondsworth, Penguin..
4. Bleicher M. 1988.The Hermeneutic Inagination, London. Routlcdege and Kegan Paul (Introduction onlu)

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Average percentage of courses that include experiential learning through project work/field work/internship during last five years

2016-17	2017-18	2018-19	2019-20	2020-21
335	319	366	509	529
947	1052	1134	1300	1341
35.37	30.32	32.28	39.15	39.45

Avarage **35.32**

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