INSTITUTE OF DISTANCE & ONLINE LEARNING
Discover. Learn. Empower.

NAAC GRADE A+
ACCREDITED UNIVERSITY

UGC Entitled

STUDENT HANDBOOK

Bachelor of Computer Application

Programme Code – **OCA 210**

Session - **JULY 2023**

Institute of Distance & Online Learning

AT A GLANCE

Name of the Programme	Programme Code	Eligibility	Duration
Bachelor of Computer Application	OCA210	Normal: - A person with 10+2 or its equivalent examination in any stream conducted by a recognized Board / University / Council is eligible for admission.	**Min**.: 03 Years **Max**.: 06 Years

BACHELOR OF COMPUTER APPLICATION

1 Student Handbook will be available on your LMS also.

2 This Handbook is valid for the Admissions of JULY 2023 Session.

3 Examination form is to be filled through online mode only.

AT A GLANCE

1.0 INSTITUTE OF DISTANCE & ONLINE LEARNING (IDOL)

Over the years, Institute of Distance & Online Learning (IDOL), Chandigarh University has emerged as the best Distance Education Institute, which couples the experience of top industry leaders and renowned academicians to foster a global approach to life-long and real-world learning. The Institute of Distance & Online Learning (IDOL) has quickly evolved into a hub of eminent and distinguished scholars whose informed guidance ingrain their students with work-ready knowledge.

The programme offered by Institute of Distance & Online Learning (IDOL) provides superior Distance Education in Punjab, India, with a desire to deliver student-focused, quality education to students with diverse learning backgrounds. We seek to create excellence in Distance & Online Learning by providing the technology interface, i.e., a Learning Management System (LMS), between the institution and the learner so that quality education can be offered at an affordable cost while also making education convenient for everyone.

Our Learning Management System (LMS) keeps your curriculum, interactive sessions, faculty, etc. a Click Away. It enables learners to plan their studies according to their learning needs and provides enough scope to the experts to plan e-content.

1.1 COURSE MATERIAL

Learning materials are prepared for the courses by university in-house faculty. These materials are edited & audited as per CIQA guidelines of UGC-DEB Regulations of 2020 at the Institute of Distance & Online Learning (IDOL) before they are finally sent to the press for printing. Similarly, audio and video programmes are produced at the Institute of Distance & Online Learning (IDOL) in consultation with the in-house faculty, members of CIQA and Industry experts of Corporate Advisory Board of Chandigarh University. The materials are previewed and reviewed by the faculty as well as CIQA members and edited or modified wherever necessary before they are dispatched and uploaded on Learning Management System (CU LMS).

1.2 CREDIT SYSTEM

The University follows the 'Credit System' for most of its programmes. Each credit amounts to 30 hours of study comprising all learning activities. Thus, a four-credit course involves 120 hours of study. All commerce courses are 04 credit courses. This helps the student to understand the academic efforts one has to put in, in order to successfully complete a course. Completion of an academic programme (Degree) requires successful clearing of both, the continuous assignments and the term- end-examination of each course in a program.

1.3 STUDENT SUPPORT SERVICES

Institute of Distance & Online Learning (IDOL) has established a strong & quick responsive Learner Support System as per UGC -DEB Regulation 2020. Learner support service provide counselling facilities at periodic intervals online as well as offline; act as information center at university campus for all academic and, administrative information required by the Learner. *(Toll Free Number: 1800 121 388800).*

1.4 DELIVERY SYSTEM

The methodology of instruction in Institute of Distance & Online Learning (IDOL) is different from that of conventional universities. The Delivery system is more learners oriented and the learner is an active participant in the teaching-learning process. Most of the instruction is imparted through distance, rather than Face-to-Face communication. The Institute of Distance & Online Learning (IDOL) follows a multi-media approach for instructions. It comprises:

- **Print Material:** The printed material of the programme is supplied to the learners in the form of a single printed book/e-book, which is divided into Blocks and Units.

- **Audio-Visual Material Aids:** The learning package contains audio and video programmes which have been produced by the Institute of Distance & Online Learning (IDOL) for better clarity and enhanced understanding of the course material given to the Learner. These programmes are usually of 25-30 minutes duration. The audio programmes are run and video programmes are also screened at the learner support centre at the university campus during the hours of the counseling session. The information is also provided on the Institute of Distance & Online Learning (IDOL) website. (www.cuidol.in)

- **Counselling Sessions:** Normally, counseling sessions are held as per a schedule drawn beforehand by the Programme Coordinator/Course Coordinator. They are held on weekends, i.e., Saturday and Sunday.

2.0 BACHELOR OF COMPUTER APPLICATION (BCA)

Bachelor of Computer Applications at CU IDOL is a highly valued professional degree designed to develop the skills required for careers in Software Development, Hardware & Networking, Research & Development, IT & IT Enabled Services. The Institute for Online & Distance Education at Chandigarh University caters towards providing efficient course e-mentoring, interactive E-content, Placement support and more for its distance learners.

2.1 SALIENT FEATURES OF THE PROGRAM

Some of the salient features of the program are:

- AICTE-approved Programme
- Offered across pan India and in selected Countries outside India
- Contemporary curriculum and latest study material
- Affordable fee
- Flexible learning

2.2 ELIGIBILITY

A person with 10+2 or its equivalent examination in any stream conducted by a recognized Board / University / Council is eligible for admission.

2.3 DURATION

The minimum duration of the Programme is 3 years and the maximum duration is 6 years.

2.4 MEDIUM OF INSTRUCTION

The medium of Instruction for this programme is English.

2.5 PROGRAM STRUCTURE

Courses	1st Semester	2nd Semester	3rd Semester	4th Semester	5th Semester	6th Semester
Core	5(Five)	5 (Five)	5 (Five)	5 (Five)	5 (Five)	5 (Five)
Specializ ation/Ele ctive	-	-	-	-	-	-

- The BCA Programme consists of 20 core courses.

- In order to get an BCA degree a student has to complete 20 courses with a total credit weightage of 120 credits. They are as follows:

    I) 20 Core Courses of 4 Credits each = 120 Credits

- Programme structure of each of the BCA programmes is presented below. The detailed course outlines are given in the Appendix 1

Course code	Course Title	Course code	Course Title
Semester-1(5Courses)		**Semester-2(5Courses)**	
23ODBCH101	Computer Programming	23ODBCH151	Object Oriented Programming
23ODBCT102	Mathematics	23ODBCH152	Digital Circuits and Logic Designs
23ODBCT103	Communication Skills	23ODBCT153	Internet Computing and Ethics
23ODBCT104	Computer Fundamentals	23ODBCT154	Discrete Mathematical Structures
23ODBCH105	Office Automation	23ODBCT155	Principles of Management and Organization Behaviour
Semester-3(5Courses)		**Semester-4(5 Courses)**	
23ODBCH201	Data Structures	23ODBCH251	Web Designing
23ODBCH202	Database Management System	23ODBCT252	Business intelligence
23ODBCT203	Software Engineering	23ODBCT253	Computer System Architecture
23ODBCT204	Probability & Statistics	23ODBCT254	Computer Networks
23ODBCT205	System Software & Operating System	23ODBCT255	Web Security
Semester-5(5Courses)		**Semester-6(5 Courses)**	
23ODBCH301	Internet Programming	23ODBCH351	Advanced Web Development using Php
23ODBCH302	Web Development using Php	23ODBCH352	Mobile Application Development
23ODBCT303	IoT based Applications	23ODBCT353	Digital Marketing
23ODBCT304	Computer Graphics	23ODBCT354	Cloud Computing
23ODBCT305	Management Information System	23ODBCT355	Software Testing

2.6 EVALUATION

The evaluation system of the programme for all the courses, except the project course, is based on two components:

• Continuous assessment in the form of Assignments (weightage: 30%):

This component carries a weightage of 30%. There will be two assignments per course. The assignment is to be submitted on Learning Management System (CULMS). Learners are required to attempt the assignments which are prescribed for that semester.

• End Term Examination (ETE) (weightage: 70%):

Term End Examinations will be held twice every year in the months of June and December notified as per the COE. The Learners are at liberty to appear in any of the examinations conducted by the University during the year. A Learner will be allowed to appear in the End Term Examination, only after He/she has registered for that course and submitted the assignment of that course.

• For Project course the evaluation is based on the project report submitted by the Learner only.

Letter grade system is used in this programme. These letter grades are:

Letter Grade	Performance	Grade Point
A$^+$	Outstanding	10
A	Excellent	9
B$^+$	Very Good	8
B	Good	7
C$^+$	Average	6
C	Below Average	5
D	Marginal	4
E	Exposed	0
F	Fail/Poor	0
I	Incomplete	0

Following is the system of converting the overall letter grades to percentage equivalents:

A = 80% and Above

B = 60% to 79.9%

C = 50% to 59.9%

D = 40% to 49.9%

E = Below 40%

END TERM EXAMINATION (ETE)

The learners are required to fill in the Examination form to appear in the ETE each time i.e., for every exam (June/December). Learner has to apply afresh. The Examination Forms are accepted online through Learning Management System (CULMS) only as per the schedule of Academic Calendar.

Dates for submission of Examination Form

For June ETE	For December ETE	Late Fee
1st March to 31st March	1st September to 30th September	**NIL**
1st April to 15th April	1st October to 15th October	Rs. 1000/- (To be paid online to university through CULMS)

Please note that the dates mentioned above are subject to change. Please check the actual dates on the website/Announcement Section of CULMS.

Examination fee and Mode of Payment

Examination Fee	Mode of Payment
Rs 2000 /- all courses of semester	Credit Card/Debit Card/Net Banking

Examination fee once paid is neither refundable nor adjustable even if the learner fails to appear in the examination.

2.7 TENTATIVE SCHEDULE OF ACADEMIC DELIVERY

	Activities	July - December 2023 Semester	
i)	Dispatch of Study Material to begin	During first half of August till December.	
ii)	Counselling	June to September	
iii)	Submission of Assignments	30th September 2023	15th November 2023
iv)	Assignment feedback	13th November 2023	15th November 2023
v)	Term-end Examination	2nd December 2023 to 30th December 2023	
vi)	Dates for submission of Examination Forms -CULMS.	As notified by COE	
vii)	Dates for Online Re- registration for next semester	As per Academic Calendar available on LMS & on website www.cuidol.in	

(Dates are subject to change due to unforeseen circumstances)

- Re-appear Examination fee is Rs. 200/- per course

- Examination Form should be filled up and submitted through CULMS till the November Term-end examination respectively. For exact dates/information please check regularly CULMS.

- Examination Form is to be submitted Online only as per instructions/Guidelines available at CULMS.

2.8 GRIEVANCE REDRESSAL

The Institute of Distance & Online Learning (IDOL) has a robust mechanism in place for redressal of student grievances. On the LMS student can submit their grievances online and track the responses through ticket numbers.

A Grievance Redressal committee has been set up at to respond to the grievances of the Learners. The Student Service Centre can be contacted at the contact details provided below:

1	General Enquiry (Student Support Services and Student Grievances)	Phone: 1800-121-388800
2	Associate Director, Institute of Distance & Online Learning (IDOL) – Member Secretary Grievance Committee.	Room no-201, Level 02, Academic Block A3, Chandigarh University, Mohali – 140413. Email id – ad.idol@cumail.in

3.0 STUDY MATERIAL AND ASSIGNMENTS

The Institute of Distance & Online Learning sends study material to the Learners by Registered post/ Speed Post and if a Learner does not receive the same for any reason; whatsoever, the Learners are required to write to the Institute of Distance & Online Learning (IDOL) and send email to slmsupport@cuidol.in.

The Institute of Distance & Online Learning has a provision to provide soft copy of the self-learning material in place of printed material. The soft copy of SLM is also available on CULMS.

Assignments for the current session are made available on the CULMS. Students are advised to download the same.

4.0 LIST OF FACULTY

Institute of Distance & Online Learning (IDOL)			
Director:			
1.	Dr. Gurpreet Singh (Associate Director)	2.	Dr. Charanpreet Singh (Associate Professor)
3.	Dr. Sukhwant Kaur (Assistant Professor)	4.	Ms. Amanpreet Kaur (Assistant Professor)
5.	Dr. Pallavi Jaggi (Assistant Professor)	6.	Ms. Himanshi Nagpal (Assistant Professor)
7.	Ms. Reema Singh (Assistant Professor)	8.	Ms. Sukhveet Kaur (Assistant Professor)

PROGRAMME COORDINATOR

Bachelor of Computer Application (BCA)

- Ms. Amanpreet Kaur (odlbca@cuidol.in)

5.0 GUIDELINES FOR SUBMISSION OF ASSIGNMENTS AND APPEARING IN TERM-END EXAMINATIONS

5.1 ASSIGNMENTS

Assignments are part of the continuous assessment of the student. The submission of assignments is compulsory. The grade that you earn in your assignments will be counted in your final result. Assignments of a course carry 30% weightage while 70% weightage is given to the end term examinations. Therefore, you are advised to take your assignments seriously. You cannot appear for the end term examination for any course if you do not submit your assignment. Assignments are uploaded on the CULMS as per the Academic Calendar. The validity of the assignments is one year which implies that these assignments are to be attempted by the students who have taken admission in January and July cycles.

The main purpose of assignments is to test your comprehension of the learning materials you receive from university and also to help you get through the courses. The information given in the printed course materials is sufficient for answering the assignments. Please do not worry about the non-availability of extra reading materials for working on the assignments. However, if you have easy access to other books, you may make use of them. The University has the right not to entertain or even reject the assignments submitted after the due date. You are, therefore, advised to submit the assignments before the due date.

If you do not get passing grades in any assignment, you have to submit it again. For this, you have to ask for/obtain a fresh set of assignments for that course as applicable to that particular semester. However, once you get the pass grade in an assignment, you cannot re-submit it for improvement of grade. Assignments are not subject to re- evaluation except for factual errors, if any, committed by the evaluator. The discrepancy noticed by you in the evaluated assignments should be brought to the notice of the Programme Coordinator, so that the correct score is forwarded by him to the Examination Section.

In case you find that the score indicated in the assessment sheet of your assignments has not been correctly reflected or is not entered in your grade card; you are advised to contact the Programme Coordinator.

5.1 ASSIGNMENTS

The submission of TWO ASSIGNMENTS per subject is compulsory.

- Assignments carry 30% weightage while 70% weightage is given to the term-end examination. The average mark of two assignments will be awarded to students.

- 1st Assignment will be multiple choice-based questions available to the students on the LMS portal.

- 2nd Assignment will be having multiple choice-based questions available to the student on the LMS portal.

	Last Date of Submission
Assignment 1	30th September 2023
Assignment 2	15th November 2023

6.0 COURSE OUTLINE
SEMESTER-1
23ODBCH101- Computer Programming

Unit-1	Introduction to Computer and Programming
Unit-2	Algorithm and Flowcharts
Unit-3	Basic Concept of C
Unit-4	Operator
Unit-5	Expressions
Unit-6	Control structures
Unit-7	Loop Control structure in C
Unit-8	Other statements
Unit-9	Array
Unit-10	String Handling
Unit-11	Functions
Unit-12	Functions 2
Unit-13	Pointers
Unit-14	Structures
Unit-15	Dynamic Memory Allocation

SEMESTER-1

23ODBCT102- Mathematics

Unit-1	Sets
Unit-2	Sets II
Unit-3	Relation
Unit-4	Functions
Unit-5	Modern algebra 1
Unit-6	*E* Modern algebra 2
Unit-7	Modern algebra 3
Unit-8	Modern algebra 4
Unit-9	Matrix 1
Unit-10	Matrix 2
Unit-11	Matrix 3
Unit-12	Matrix 4
Unit-13	Matrix 5

SEMESTER-1

23ODBCT103- Communication Skills

Unit-1	Business Communication
Unit-2	Reading Skills
Unit-3	Writing, Listening, Speaking-
Unit-4	Grammar
Unit-5	Vocabulary
Unit-6	Ethics in Business Communication
Unit-7	Reading
Unit-8	Writing
Unit-9	Listening, Speaking
Unit-10	Grammar, Vocabulary
Unit-11	Cross Cultural aspects of Business Communication
Unit-12	Reading
Unit-13	Writing, Listening-
Unit-14	Speaking, Grammar, Vocabulary

SEMESTER-1

23ODBCT104- Computer Fundamentals

Unit-1	Computer Basics
Unit-2	History
Unit-3	Classification of Computers
Unit-4	Hardware and Software I
Unit-5	Hardware and Software II
Unit-6	Detailed Content I
Unit-7	Detailed Content II
Unit-8	Windows- Introduction
Unit-9	Excel
Unit-10	Word Processing Basics
Unit-11	MS PowerPoint

SEMESTER-1

23ODBCH105- Office Automation

Unit-1	Introduction to MS Office
Unit-2	MS Office II
Unit-3	MS Office III
Unit-4	MS Office IV
Unit-5	MS Office V
Unit-6	MS Office VI
Unit-7	Introduction to MS Office- MS Excel
Unit-8	MS Excel II- Setting Formula
Unit-9	Working with sheets
Unit-10	Creating Charts
Unit-11	MS Power point: Introduction to presentation
Unit-12	Creating a presentation
Unit-13	Formatting a Presentation
Unit-14	Adding Effects to the Presentation

SEMESTER-2

23ODBCH151- Object Oriented Programming

Unit-1	Fundamentals of C++ 1
Unit-2	Fundamentals of C++ 2
Unit-3	Classes and Objects 1
Unit-4	Classes and Objects 2
Unit-5	Constructors and Destructors
Unit-6	Inheritance 1
Unit-7	Inheritance 2
Unit-8	Polymorphism 1
Unit-9	Polymorphism 2
Unit-10	Exception Handling
Unit-11	Function 1
Unit-12	Function 2
Unit-13	Dynamic memory allocation
Unit-14	Files
Unit-15	File operations

SEMESTER-2

23ODBCH152- Digital Circuits and Logic Designs

Unit-1	Number System 1
Unit-2	Number System 2
Unit-3	Digital codes
Unit-4	Logic Gates 1
Unit-5	Logic Gates 2
Unit-6	Boolean Algebra 1
Unit-7	Boolean Algebra 2
Unit-8	Boolean Algebra 3
Unit-9	SOP and POS Form 1
Unit-10	SOP and POS Form 2
Unit-11	Combinational Circuits 1
Unit-12	Combinational Circuits 2
Unit-13	Sequential Circuits 1
Unit-14	Testing Fundamentals 2
Unit-15	Testing Fundamentals 3

SEMESTER-2

23ODBCT153- Internet Computing and Ethics

Unit-1	Computer Basics and Internet
Unit-2	Internet & its Use
Unit-3	Cloud Computing
Unit-4	Big Data
Unit-5	Internet Security
Unit-6	Internet Security II
Unit-7	E-commerce Fundamentals
Unit-8	E-commerce Fundamentals II
Unit-9	Electronic Payment Systems I
Unit-10	Electronic Payment Systems II
Unit-11	Introduction to Open Source Software I
Unit-12	Introduction to Open Source Software II
Unit-13	Introduction to Standards
Unit-14	Adoption Methods and Process

SEMESTER-2

23ODBCT154- Discrete Mathematical Structures

Unit -1	Set Theory 1
Unit -2	Set Theory 2
Unit -3	Relation I
Unit -4	Relation II
Unit -5	Function
Unit -6	Combinatorics 1
Unit -7	Combinatorics 2
Unit -8	Recurrence Relations
Unit -9	Generating Function 1
Unit -10	Generating Function 2
Unit -11	Trees I
Unit -12	Trees II
Unit -13	Graphs I
Unit -14	Graphs II

SEMESTER-2

23ODBCT155- Principles of Management and Organization Behaviour

Unit-1	Organizational Behaviour
Unit-2	Individual Behaviour I
Unit-3	Individual Behaviour II
Unit-4	Individual Behaviour III
Unit-5	Business Organization I
Unit-6	Business Organization II
Unit-7	Management I
Unit-8	Management II
Unit-9	Management III
Unit-10	Planning I
Unit-11	Planning II
Unit-12	Organizing
Unit-13	Authority
Unit-14	Staffing

SEMESTER-3

23ODBCH201- Data Structures

Unit-1	Introduction to Data Structures.
Unit-2	Arrays & Structures 1
Unit-3	Arrays & Structures 2
Unit-4	Structures
Unit-5	Stacks 1
Unit-6	Stacks 2
Unit-7	Applications of Stacks
Unit-8	Queues
Unit-9	Memory representation
Unit-10	Linked List
Unit-11	Types of Linked List
Unit-12	Trees
Unit-13	Binary Search Tree
Unit-14	Graphs
Unit-15	Sorting

SEMESTER-3

23ODBCH202- Database Management System

Unit-1	Introduction
Unit-2	Introduction to database languages & environments
Unit-3	Architecture
Unit-4	Data Models 1
Unit-5	Roles and structural constraints
Unit-6	Data Models 2
Unit-7	File Organization 1
Unit-8	File Organization 2
Unit-9	Relational Data Model
Unit-10	Relational algebra SQL
Unit-11	EER and ER to relational mapping
Unit-12	Data Normalization 1
Unit-13	Data Normalization 2
Unit-14	Concurrency Control 1
Unit-15	Concurrency Control 2

SEMESTER-3

23ODBCT203- Software Engineering

Unit-1	Software
Unit-2	Software Process Models 1
Unit-3	Software Process Models 2
Unit-4	Software Process Models 3
Unit-5	Software Process Models 4
Unit-6	S/W Project Planning 1
Unit-7	S/W Project Planning 2
Unit-8	Cost Estimation Models 1
Unit-9	Cost Estimation Models 2
Unit-10	Cost Estimation Models 3
Unit-11	S/W Design
Unit-12	Design methodologies
Unit-13	Testing Fundamentals 1
Unit-14	Testing Fundamentals 2
Unit-15	Testing Strategies

SEMESTER-3

23ODBCT204- Probability & Statistics

Unit-1	Statistics
Unit-2	Frequency distribution, Mean
Unit-3	Median
Unit-4	Mode
Unit-5	Mean Deviation
Unit-6	Measures of Dispersion I
Unit-7	Measures of Dispersion II
Unit-8	Correlation and Regression I
Unit-9	Correlation and Regression II
Unit-10	Correlation and Regression III
Unit-11	Probability I
Unit-12	Probability II
Unit-13	Mean and variance of haphazard variable
Unit-14	Repeated independent (Bernoulli) trials and Binomial distribution

SEMESTER-3

23ODBCT205- System Software & Operating System

Unit-1	Introduction to System Software
Unit-2	Basics of Operating Systems
Unit-3	Types of Operating Systems
Unit-4	Operating system components 1
Unit-5	Operating system components 2
Unit-6	Processes
Unit-7	CPU Scheduling
Unit-8	Scheduling Algorithms
Unit-9	Process Synchronization
Unit-10	Deadlocks
Unit-11	Memory Management
Unit-12	Paging
Unit-13	Paging 2.
Unit-14	Physical File system File

SEMESTER-4

23ODBCH251- Web Designing

Unit-1	HTML 1
Unit-2	HTML 2
Unit-3	Introduction to elements of HTML 1
Unit-4	Introduction to elements of HTML 2
Unit-5	Tables 1
Unit-6	Tables 2
Unit-7	HTML FRAMES
Unit-8	Introduction to CSS
Unit-9	Cascading Style Sheets Styling 1
Unit-10	Cascading Styles Sheets Styling 2
Unit-11	Cascading Style Sheets Advanced
Unit-12	Cascading style sheets advanced Designing
Unit-13	Introduction to java script
Unit-14	JavaScript functionality.
Unit-15	jQuery.

SEMESTER-4

23ODBCT252- Business Intelligence

Unit-1	Overview of Business Intelligence
Unit-2	Overview of Business Intelligence 2
Unit-3	Business Intelligence
Unit-4	Business Intelligence 2
Unit-5	Data vs Information
Unit-6	Data Warehouse 1
Unit-7	Data Warehouse 2
Unit-8	Data Warehouse 3
Unit-9	Data Warehouse 4
Unit-10	Data Mining
Unit-11	Data Mining 2
Unit-12	Data Pre-processing
Unit-13	Data Mining Models
Unit-14	Data Mining Models 2

SEMESTER-4

23ODBCT253- Computer System Architecture

Unit-1	Introduction to Computer Organization I
Unit-2	Introduction to Computer Organization II
Unit-3	Introduction to Flynn's Classification
Unit-4	Register Transfer and Micro operations
Unit-5	Micro operations
Unit-6	Basic Computer Instructions I
Unit-7	Basic Computer Instructions II
Unit-8	Interrupt
Unit-9	Design of Control Unit
Unit-10	Addressing Modes
Unit-11	I/O Organization
Unit-12	I/O Organization II
Unit-13	I/O Data Transfer Techniques
Unit-14	Synchronization

SEMESTER-4

23ODBCT254- Computer Networks

Unit-1	Data communications concepts 1
Unit-2	Data communications concepts 2
Unit-3	Wired transmissions 1
Unit-4	Wired transmissions 2
Unit-5	Transmission Media 1
Unit-6	Transmission Media 2
Unit-7	Wireless transmission 1
Unit-8	Wireless Transmission 2
Unit-9	Wireless Transmission 3
Unit-10	Network Reference Models 1
Unit-11	Network Reference Models 2
Unit-12	Data link layer design issue 1
Unit-13	Network Layer design issues
Unit-14	Application layer 1
Unit-15	Application layer 2

SEMESTER-4

23ODBCT255- Web Security

Unit-1	Web Security Basics- Introduction
Unit-2	Web Security Basics- Encoding Schemes
Unit-3	Web Security Basics- Authentication Security
Unit-4	Web Security Basics- Path Traversal Attacks
Unit-5	Web Security Basics- Authentication
Unit-6	Web Security Basics- Ethical Hacking
Unit-7	Injection Attacks 1
Unit-8	Injection Attacks 2
Unit-9	Cross Site Scripting (XSS)
Unit-10	User Attacks 1
Unit-11	User Attacks 2
Unit-12	User Attacks 3
Unit-13	User Attacks 4
Unit-14	Analysis of JavaScript, Analysis of SQL.

SEMESTER-5

23ODBCH301- Internet Programming

Unit-1	Principles of Object-Oriented Programming 1
Unit-2	Principles of Object-Oriented Programming 2
Unit-3	Principles of Object-Oriented Programming 3
Unit-4	Wrapper Class 1
Unit-5	Wrapper Class 2
Unit-6	Multithreading
Unit-7	Exception Handling 1
Unit-8	Exception Handling 2
Unit-9	Applet as Java Applications 1
Unit-10	Applet as Java Applications 2
Unit-11	Abstract Windows Toolkit 1
Unit-12	Abstract Windows Toolkit 2
Unit-13	Java Database Connectivity
Unit-14	An Overview of RMI Applications
Unit-15	Java Servlets

SEMESTER-5

23ODBCH302- Web Development using Php

Unit-1	Introduction to PHP
Unit-2	Introduction to Language constructs
Unit-3	Arrays
Unit-4	Function
Unit-5	PHP Forms
Unit-6	Regular Expressions
Unit-7	Objects
Unit-8	PHP File Handling
Unit-9	PHP Session & Cookies
Unit-10	PHP MySQL
Unit-11	Fetching Functions
Unit-12	AJAX
Unit-13	PHP Framework
Unit-14	WordPress
Unit-15	Pages and Posts

SEMESTER-5

23ODBCT303- IoT based Applications

Unit-1	Introduction to Internet of Things (IoT
Unit-2	Importance of IOT
Unit-3	Components in IoT
Unit-4	Components in IoT II
Unit-5	Embedded Systems
Unit-6	Introduction to Arduino 1
Unit-7	Introduction to Arduino 2
Unit-8	Basic Interfacing and I/O Concept
Unit-9	Digital
Unit-10	Analog
Unit-11	Embedded system Applications using Arduino 1:
Unit-12	Embedded system Applications using Arduino 2

SEMESTER-5

23ODBCT304- Computer Graphics

Unit-1	Introduction
Unit-2	Video Display Devices I
Unit-3	Video Display Devices II
Unit-4	Video Display Devices III
Unit-5	Two-dimensional Graphics Primitives I
Unit-6	Two-dimensional Graphics Primitives II
Unit-7	Two-dimensional Graphics Primitives III
Unit-8	Two-Dimensional Viewing
Unit-9	Two Dimensional Geometric transformations I
Unit-10	Two Dimensional Geometric transformations II
Unit-11	Three-Dimensional Transformations I
Unit-12	Three-Dimensional Transformations II
Unit-13	Three-Dimensional Transformations III
Unit-14	Three Dimensions Viewing

SEMESTER-5

23ODBCT305- Management Information System

Unit-1	Introduction
Unit-2	Levels of Management
Unit-3	Components of MIS
Unit-4	Frame Work understanding
Unit-5	Pre-requisites
Unit-6	Structured Vs un-structured decisions
Unit-7	Analysis & Design
Unit-8	Implementation
Unit-9	Decision Support Systems
Unit-10	Components of Decision support Systems
Unit-11	Group decision support systems
Unit-12	Introduction to Database Management
Unit-13	Querying
Unit-14	Printing

SEMESTER-6

23ODBCH351- Advanced Web Development using Php

Unit-1	MVC
Unit-2	Laravel
Unit-3	Routing
Unit-4	Controller
Unit-5	View
Unit-6	Flash Messages
Unit-7	Packages
Unit-8	Looping statements in Laravel
Unit-9	Conditional statements in Laravel
Unit-10	Middleware
Unit-11	Session handling in Laravel
Unit-12	Handling Database

SEMESTER-6

23ODBCH352- Mobile Application Development

Unit-1	Core Java Concepts
Unit-2	Introduction to Android 1
Unit-3	Introduction to Android 2
Unit-4	Android project structure, Activity and its life cycle
Unit-5	Android View 1
Unit-6	Unit-6- Android View 2
Unit-7	Android View 3
Unit-8	Other Android Components
Unit-9	Android Fragments-
Unit-10	Android Menus
Unit-11	Database Connectivity
Unit-12	Deployment

SEMESTER-6

23ODBCT353- Digital Marketing

Unit-1	Introduction to Social media
Unit-2	Evolution
Unit-3	Marketing campaigns
Unit-4	Social media strategy
Unit-5	Critical Appraisal
Unit-6	Social media in India I
Unit-7	Social media in India II
Unit-8	Social media in India III
Unit-9	Digital Marketing
Unit-10	Digital marketing channels
Unit-11	Mobile search engine
Unit-12	Strategy of marketing
Unit-13	SEO
Unit-14	Technologies in marketing

SEMESTER-6

23ODBCT354- Cloud Computing

Unit-1	Cloud Computing Fundamentals
Unit-2	Layers in Cloud Computing
Unit-3	Types of Cloud Computing
Unit-4	Cloud Computing
Unit-5	Cloud Computing Architecture
Unit-6	Cloud Service Management
Unit-7	Scalability
Unit-8	Microsoft Azure
Unit-9	Resource Management
Unit-10	Virtualization
Unit-11	Data Management
Unit-12	Traffic Manager
Unit-13	Loud Storage
Unit-14	Types of storage
Unit-15	Security

SEMESTER-6
23ODBCT355- Software Testing

Unit-1	Fundamentals of Testing 1
Unit-2	Fundamentals of Testing 2
Unit-3	Fundamentals of Testing 3
Unit-4	Fundamentals of Testing 4
Unit-5	Test levels
Unit-6	Approaches to Testing
Unit-7	Approaches to Testing 2
Unit-8	Dynamic Testing 1
Unit-9	Dynamic Testing 2
Unit-10	Dynamic Testing 3
Unit-11	Test Management 1
Unit-12	Test Management 2
Unit-13	Test Strategies
Unit-14	Test Activity Management

7.0 PCP –
PERSONAL CONTACT PROGRAMME

PCP plays a very significant role in the field of distance education (DE). The PCP is organized to solve distance learning problems. Advancement of new technologies, online tutorials, and Personal Contact Programme (PCP) makes distance education more flexible. PCP is organized for the counseling and guidance of learners.

PCP develops confidence among the students and helps him to solve the educational problem. Under PCP, the learners get an opportunity to interact with the faculty members. Also they get aspiration for further studies. It provides additional learning to the learners.

Personal Contact Programmes, conducted at University Campus, Gharuan, Punjab, for various courses, provide the students opportunity for conceptual understanding of the courses and also for learning by interacting with university faculty and fellow students.

Below are some glimpses of the Personal Contact Programme –

Students of CU-IDOL PCP Batch (Jan 2021) - 25th Oct to 30th Oct, 2021 Dr. Nitya Prakash, Director - IDOL and the staff of CHANDIGARH UNIVERSITY

7.0 PCP – PERSONAL CONTACT PROGRAMME

CU-IDOL PCP students with Dr. S.S. Sehgal, Registrar, Dr. B. Priestly Shan, Dean Academic Affairs, Dr. Nitya Prakash, Director - IDOL and the staff of CHANDIGARH UNIVERSITY

7.0 PCP – PERSONAL CONTACT PROGRAMME

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PERSONAL CONTACT PROGRAMME

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8.0 CONVOCATION CEREMONY 2023

चंडीगढ़ यूनिवर्सिटी में इंस्टीच्यूट ऑफ डिस्टैंस एंड ऑनलाइन लर्निंग के दीक्षांत समारोह में 225 डिग्रियां दी

● पढ़ने की कोई उम्र नहीं होती केवल इच्छा होनी चाहिए : डा. डी.पी. सिंह

चंडीगढ़ पुनोवर्सिटी विषे-2022 बेच दी सालाना कनवोकेशन

● विद्यिआर्थीआं नूं अपणें जोबन दा टीचा सिंघ डे पूरा बेस्ट तिवंड़ड बदटा सयोल्ल दी : अपराध गुढ़ाव

चंडीगढ़ विश्वविद्यालय में दीक्षांत समारोह में छात्रों को मिली डिग्रियां

9.0 CONTACT US

For specific queries related to Admission, Study Material, Assignment, Examination, Counseling etc. the students may contact the following:

Sl. No.	Issues	Authority to be contacted
1	Identity Card, Fee Receipt, Bonafide Certificate, Migration, Certificate, Scholarship Forms, change of name, correction of name/address	helpdesk@cuidol.in
2	Non-receipt of study material and assignments	slmsupport@cuidol.in
3	Change of Elective/Medium/opting of left over electives/ Deletion of excess credits	Programme Coordinator – odlbca@cuidol.in
4	Status of Project Report of all Programmes/ Dissertation and Viva marks	Programme Coordinator – odlbca@cuidol.in
5	Queries related to Assignment Marks	support@cuidol.in
6	Issue of Hall Ticket	exam@cuidol.in
7	Declaration of Result	exam@cuidol.in

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