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

NAAC GRADE A+ ACCREDITED UNIVERSITY

UGC Entitled

STUDENT HANDBOOK

Master of Computer Application

Programme Code – **OCA311**

Session - **JULY 2023**

Institute of Distance & Online Learning

Academic Block A3, Level 02,
Chandigarh University - 140413
www.cuidol.in

AICTE Approved Programme from an University with A+ Grade from NAAC

AT A GLANCE

Name of the Programme	Programme Code	Eligibility	Duration
Master of Computer Application	OCA311	Passed BCA/ Bachelor Degree in Computer Science Engineering or equivalent Degree OR Passed B.Sc./ B.Com./ B.A. with Mathematics at 10+2 Level or at Graduation Level (with additional Bridge Courses as per the norms of the University).	**Min**.: 02 Years **Max**.: 04 Years

MASTER OF COMPUTER APPLICATION (MCA)

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 (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 programme.

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 MASTER OF COMPUTER APPLICATION (MCA)

Master of Computer Applications at CU IDOL is a highly valued Professional degree designed to develop the skills required for careers in the computer and programming industries. 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 PROGRAMME

Some of the salient features of the programme are:

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

2.2 ELIGIBILITY

Bachelor degree in Commerce or its equivalent from a recognized University/ Institution.

2.3 DURATION

The minimum duration of the programme is 2 years and the maximum duration is 4 years.

2.4 MEDIUM OF INSTRUCTION

The medium of Instruction for this programme is English.

2.5 PROGRAMME STRUCTURE

The medium of Instruction for this programme is English.

Courses	1st Semester	2nd Semester	3rd Semester	4th Semester
Core	5 (Five)	5 (Five)	5 (Five)	5 (Five)
Specialization	-	-	-	-
Project	-	-	-	-

- The MCA Programme consists of 20 core courses.
- In order to get an MCA degree a student has to complete 20 courses with a total credit weightage of 80 credits. They are as follows:

  I) 20 Core Courses of 4 Credits each = 80 Credits.

- Programme structure of each of the MCA programme is presented below. The detailed course

Course code	Course Title	Course code	Course Title
Semester -1 (5 Courses)		Semester-2 (5 Courses)	
23ODMCH611	Design And Analysis of Algorithms	23ODMCH651	Advanced Internet Programming
23ODMCH612	Advanced Database Management System	23ODMCT652	System Programming & Operating System
23ODMCT613	Advanced Computer Network	23ODMCH653	Python Programming
23ODMCT614	Discrete Mathematical Structures	23ODMCT654	Parallel And Distributed Computing
23ODMCT615	Communication Skills	23ODMCT655	Introduction to Machine Learning
Semester-3 (5 Courses)		Semester-4 (5 Courses)	
23ODMCH711	Web Application Development	23ODMCH751	Advanced Mobile Application Development
23ODMCT712	Cloud Computing	23ODMCT752	Web Optimization
23ODMCT713	Operational Research	23ODMCT753	Research Methodology
23ODMCT714	Software Testing & Quality Assurance	23ODMCT754	Statistical and Numerical Methods
23ODMCT715	Network Security & Cryptography	23ODMCT755	Software Project Management

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.

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	Jan - June 2023 Semester	
i)	Dispatch of Study Material to begin	During first half of March till June.	
ii)	Counselling	June-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 – 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 CULMS & 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 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 LMS.

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. Sukhveet Kaur (Assistant Professor)**		

PROGRAMME COORDINATOR

Master of Computer Application (MCA)

- Ms. Amanpreet Kaur (odlmca1@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

22ODMCH611- Design and Analysis of Algorithms

Unit-1	Introduction
Unit-2	Performance Analysis
Unit-3	Asymptotic Notations
Unit-4	Important Problem Types
Unit-5	Fundamental Data Structures
Unit-6	Divide and Conquer
Unit-7	Greedy Method
Unit-8	Minimum cost spanning trees
Unit-9	Optimal Tree Problem
Unit-10	Transform and Conquer Approach
Unit-11	Dynamic Programming
Unit-12	Transitive Closure
Unit-13	General method
Unit-14	Branch and Bound
Unit-15	NP-Complete and NP –Hard problems

SEMESTER-1

22ODMCH612- Advanced Database Management System

Unit-1	DBMS Development Concept
Unit-2	DBLC phases
Unit-3	Distributed Database Management System 1
Unit-4	Distributed Database Management System 2
Unit-5	Distributed Database Management System 3
Unit-6	Object Oriented Databases 1
Unit-7	Object Oriented Databases 2
Unit-8	Type and Class Hierarchies and Inheritance
Unit-9	Enhanced Data Models for Advanced Applications 1
Unit-10	Enhanced Data Models for Advanced Applications 2
Unit-11	Database Security and Authorization 1
Unit-12	Database Security and Authorization 2
Unit-13	Mandatory Access Control
Unit-14	Role-Based Access Control for Multilevel Security 1
Unit-15	Role-Based Access Control for Multilevel Security 2

SEMESTER-1

22ODMCT613- Advanced Computer Networks

Unit-1	IP Addressing & Routing 1
Unit-2	IP Addressing & Routing 2
Unit-3	IP Addressing & Routing 3
Unit-4	Domain Network Services (DNS)
Unit-5	Network Applications
Unit-6	HTTP communications 1
Unit-7	HTTP communications 2
Unit-8	Mail Exchangers 1
Unit-9	Mail Exchangers 2
Unit-10	SNMP 1
Unit-11	SNMP 2
Unit-12	Wireless sensors networks
Unit-13	Wireless Mash Network
Unit-14	Computational Grids
Unit-15	P2P networks

SEMESTER-1

22ODMCT614- Discrete Mathematical Structures

Unit-1	Set Theory1
Unit-2	Set Theory2
Unit-3	Set Theory3
Unit-4	Relation 1
Unit-5	Relation 2
Unit-6	Functions
Unit-7	Propositional Logic
Unit-8	Combinatory 1
Unit-9	Combinatory 2
Unit-10	Recurrence Relations
Unit-11	Generating Function 1
Unit-12	Generating Function 2
Unit-13	Tree
Unit-14	Graphs 1
Unit-15	Graphs 2

SEMESTER-1

22ODMCT615- Communication Skills

Unit-1	Business Communication 1
Unit-2	Business Communication 2
Unit-3	Reading Skills &Writing
Unit-4	Grammar &Vocabulary 1
Unit-5	Grammar &Vocabulary 2
Unit-6	Ethics in Communication
Unit-7	Writing 1
Unit-8	Writing 2
Unit-9	Grammar & Vocabulary 3
Unit-10	Grammar & Vocabulary 4
Unit-11	Cross-Cultural Communication 1
Unit-12	Cross-Cultural Communication 2
Unit-13	Writing 1
Unit-14	Writing 2
Unit-15	Grammar & Vocabulary

SEMESTER-2

23ODMCH651- Advanced Internet Programming

Unit-1	Java Data Base Connectivity 1
Unit-2	Java Data Base Connectivity 2
Unit-3	User Interface Components 1
Unit-4	User Interface Components 2
Unit-5	Event Handling
Unit-6	Java Servlets 1
Unit-7	Java Servlets 2
Unit-8	Java Servlets 3
Unit-9	AJAX 1
Unit-10	AJAX 2
Unit-11	JSP
Unit-12	Java Hibernate 1
Unit-13	Java Hibernate 2
Unit-14	Java Struts 1
Unit-15	Java Struts 2

SEMESTER-2

23ODMCT652- System Programming & Operating System

Unit-1	Introduction to System Software 1
Unit-2	Introduction to System Software 2
Unit-3	Basics of Operating Systems
Unit-4	Operating Systems
Unit-5	Operating System Components 1
Unit-6	Operating System Components 2
Unit-7	Process Scheduling
Unit-8	Scheduling Algorithms 1
Unit-9	Scheduling Algorithms
Unit-10	Inter-process Communication and Synchronization
Unit-11	Deadlocks
Unit-12	Memory Management 1
Unit-13	Memory Management 2
Unit-14	File systems 1
Unit-15	File systems

SEMESTER-2

23ODMCH653- Python Programming

Unit-1	Introduction to Python and Basics
Unit-2	Introduction Python Data Structures
Unit-3	Flow Control Constructs: Conditional Statements
Unit-4	Python Function
Unit-5	Classes
Unit-6	Standard library
Unit-7	Python for Data Analysis and Visualization 1
Unit-8	Python for Data Analysis and Visualization 2
Unit-9	Python for Data Analysis and Visualization 3
Unit-10	Graphical Exploratory Data Analysis (EDA) 1
Unit-11	Graphical Exploratory Data Analysis (EDA) 2
Unit-12	Quantitative Exploratory Data Analysis (EDA
Unit-13	Statistics 1
Unit-14	Statistics 2
Unit-15	Web Application 1

SEMESTER-2

23ODMCT654- Parallel and Distributed Computing

Unit-1	Introduction 1
Unit-2	Introduction 2
Unit-3	Pipeline Processing 1
Unit-4	Pipeline Processing 2
Unit-5	Synchronous Parallel Processing 1
Unit-6	Synchronous Parallel Processing 2
Unit-7	Distributed Systems 1
Unit-8	Distributed Systems 2
Unit-9	Communication 1
Unit-10	Communication 2
Unit-11	Resource Management 1
Unit-12	Resource Management 2
Unit-13	Process Management 1
Unit-14	Process Management 2

SEMESTER-2

23ODMCT655- Introduction to Machine Learning

Unit-1	Introduction to Machine Learning
Unit-2	Development of Machine Learning
Unit-3	Python Libraries suitable for machine learning. Learning with Regression:
Unit-4	Learning with Classification
Unit-5	CART
Unit-6	Bayesian Belief Networks
Unit-7	Support Vector Machines (SVM
Unit-8	Neural Network
Unit-9	Clustering
Unit-10	Dimensionality Reduction
Unit-11	Natural Language Processing
Unit-12	Natural Language
Unit-13	Processing of Natural Language
Unit-14	Text Processing
Unit-15	Regular Expressions

SEMESTER-3

23ODMCH711- Web Application Development

Unit-1	.NET Framework Introduction
Unit-2	MS .NET
Unit-3	Compilers
Unit-4	Introduction to Project and Solution in Studio
Unit-5	Generic Collections. .Net Assembly
Unit-6	File Handling: System
Unit-7	Windows Forms and Controls and MDI Applications
Unit-8	MDI
Unit-9	ADO.NET
Unit-10	N-Tier Layered Architecture Application
Unit-11	Windows Services
Unit-12	Windows Services
Unit-13	Building Setup Applications
Unit-14	Controlled Installation
Unit-15	Installation Conditions

SEMESTER-3

23ODMCT712- 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-3

23ODMCT713- Operational Research

Unit-1	Introduction and Overview of the OR Modelling Approach 1
Unit-2	Introduction and Overview of the OR Modelling Approach 2
Unit-3	Introduction and Overview of the OR Modelling Approach 3
Unit-4	Introduction and Overview of the OR Modelling Approach 4
Unit-5	Introduction to Linear Programming
Unit-6	Solving LPP - the Simplex Method 1
Unit-7	Solving LPP - the Simplex Method 2
Unit-8	Duality 1
Unit-9	Duality 2
Unit-10	Transportation and Assignment Problems
Unit-11	A stream line simplex method for the transportation problem
Unit-12	Assignment problem
Unit-13	Assignment Problem
Unit-14	PERT and CPM 1
Unit-15	PERT and CPM 2

SEMESTER-3

23ODMCT714- Software Testing & Quality Assurance

Unit-1	Fundamentals of Testing 1
Unit-2	Fundamentals of Testing 2
Unit-3	Fundamentals of Testing 3
Unit-4	Approaches to Testing 1
Unit-5	Approaches to Testing 2
Unit-6	Black Box Testing
Unit-7	White Box Testing
Unit-8	Gray Box Testing
Unit-9	Test Management
Unit-10	Quality Assurance 1
Unit-11	Quality Assurance 2
Unit-12	Test Strategies 1
Unit-13	Test Strategies 2
Unit-14	Specialized Testing

SEMESTER-3

23ODMCT715- Network Security & Cryptography

Unit-1	Network Security 1
Unit-2	Network Security 2
Unit-3	Hash Functions
Unit-4	Message Digests MD4 and MD5
Unit-5	Authentication 1
Unit-6	Authentication 2
Unit-7	Cryptography 1
Unit-8	Cryptography 2
Unit-9	Public key Cryptography
Unit-10	Public key Cryptography
Unit-11	Digital Signature 1
Unit-12	Digital Signature 2

SEMESTER-4

23ODMCH751- Advanced Mobile Application Development

Unit-1	Basics of Android
Unit-2	Intent & Filters
Unit-3	Andriod Tab Activities
Unit-4	Data Storage
Unit-5	Database connectivity
Unit-6	Online data Parsing
Unit-7	Android Multimedia
Unit-8	Telephony API
Unit-9	SMS and E-mail connectivity
Unit-10	Device Connectivity
Unit-11	Maps and other services
Unit-12	Android Application Deployment and Camera

SEMESTER-4

23ODMCT752- Web Optimizaton

Unit-1	Basics of Internet
Unit-2	SEO and its Importance
Unit-3	SERP and Algorithms
Unit-4	Google Algorithm
Unit-5	Search Engine Optimization Techniques
Unit-6	HTML
Unit-7	Optimization Tool
Unit-8	Google SEO
Unit-9	Off Page Optimization
Unit-10	Linking Building Methodology
Unit-11	How to promote home page
Unit-12	Google Ad sense Training
Unit-13	Social Media Optimization (SMO)
Unit-14	Reports and Management
Unit-15	Introduction to Google Analytics

SEMESTER-4

23ODMCT753- Research Methodology

Unit-1	Introduction to Research Methodology 1
Unit-2	Introduction to Research Methodology 2
Unit-3	Introduction to Research Methodology 3
Unit-4	Research Problem
Unit-5	Research Questions and Hypothesis
Unit-6	Research Design 1
Unit-7	Research Design 2
Unit-8	Tools for Data Collection 1
Unit-9	Tools for Data Collection 2
Unit-10	Research Tools
Unit-11	Logic 1
Unit-12	Logic 2
Unit-13	Writing Research Report 1
Unit-14	Writing Research Report 2

SEMESTER-4

23ODMCT754- Statistical and Numerical Methods

Unit-1	Computer Arithmetic 1
Unit-2	Computer Arithmetic 2
Unit-3	Iterative Methods
Unit-4	Linear Equations and Differential Equations 1
Unit-5	Linear Equations and Differential Equations 2
Unit-6	Numerical Differentiation and Integration
Unit-7	Interpolation and Approximation 1
Unit-8	Interpolation and Approximation 2
Unit-9	Statistical methods
Unit-10	Analysis of Variance 1
Unit-11	Analysis of Variance 2
Unit-12	Time Series Analysis

SEMESTER-4

23ODMCT755- Software Project Management

Unit-1	Project Management Framework
Unit-2	Project Management Life Cycle
Unit-3	Risk Management 1
Unit-4	Risk Management 2
Unit-5	Software Project Estimation
Unit-6	Project Management Tools & Techniques 1
Unit-7	Project Management Tools & Techniques 2
Unit-8	Software Quality Management
Unit-9	Software Testing
Unit-10	Configuration Management 1
Unit-11	Configuration Management 2
Unit-12	Software Team Management 1
Unit-13	Software Team Management 2
Unit-14	Role of User in Projects

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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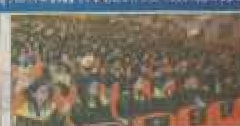
8.0 CONVOCATION CEREMONY 2023

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

ਚੰਡੀਗੜ੍ਹ ਯੂਨੀਵਰਸਿਟੀ ਵਿਖੇ-2022 ਬੈਚ ਦੀ ਸਾਲਾਨਾ ਕਨਵੋਕੇਸ਼ਨ

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, BonafideCertificate, 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 – odlmca1@cuidol.in
4	Status of Project Report of all Programmes/ Dissertation and Viva marks	Programme Coordinator – odlmca1@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

NH-05, Chandigarh Ludhiana State Highway,
Gharuan, Mohali, Punjab (140413) INDIA
Admission Helpline: +91 99159 99224, 99159 99223 | 1800 1212 88800