

Teaching and Examination Scheme

Programme: Bachelor of Computer Applications Sem: I

NHEQF Level: 4.5 Courses					Evaluation Scheme			Total Marks
Course Category	Discipline	Course Category Code	Course Name	Course Code	Credits	CIA	ESE	
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 01	Computer System Architecture and Digital Electronics	ODL BCA DSC 01	3	30	70	100
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 02	Fundamentals of Programming	ODL BCA DSC 02 T	3	30	70	100
Discipline Specific Core Courses (DSCC)			Fundamentals of Programming Lab	ODL BCA DSC 02 P	2	15	35	50
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 03	Database Management System	ODL BCA DSC 03 T	2	15	35	50
Discipline Specific Core Courses (DSCC)			Database Management System Lab	ODL BCA DSC 03 P	2	15	35	50
Generic Elective (GE)	Computer Applications	GE 01	Generic Elective - I		4	30	70	100
Skill Enhancement Course (SEC)/Internship	Computer Applications	SEC 01	IT Skills	ODL SEC-001	2	15	35	50
Ability Enhancement Course (AEC)	Computer Applications	AEC 01	Communication Skill	ODL AEC-001	2	15	35	50
VAC/IKS (Foundation)/IKS(Core)	Computer Applications	VAC 01	Yoga and Human Conciseness	ODL VAC-001	2	15	35	50
					22	180	420	600



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Semester-wise distribution of Credits for Bachelor of Computer Applications:

Sr. No.	Semester	Number of Credits
1	Semester – 1	22
2	Semester – 2	22
3	Semester – 3	22
4	Semester – 4	22
5	Semester – 5	22
6	Semester – 6	22
	Total Credits	132

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Generic Elective Courses

Category	Name	Code
Generic Elective – I	Fundamentals of Entrepreneurship	GE004
	Business Organization	GE007

Programme: Bachelor of Computer Applications Sem: II

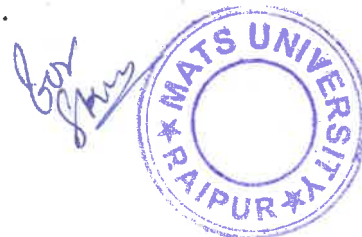
NHEQF Level: 4.5 Courses					Evaluation Scheme			Total Marks
Course Category	Discipline	Course Category Code	Course Name	Course Code	Credits	CIA	ESE	
Discipline Specific Core Courses (DSCC)	Computer Application	DSC 04	Object Oriented Programing Concepts	ODL BCA DSC 04 T	3	30	70	100
Discipline Specific Core Courses (DSCC)			Object Oriented Programing Concepts Lab	ODL BCA DSC 04 P	2	15	35	50
Discipline Specific Core Courses (DSCC)	Computer Application	DSC 05	Relational Database Management System	ODL BCA DSC 05 T	3	30	70	100
Discipline Specific Core Courses (DSCC)			Relational Database Management System Lab	ODL BCA DSC 05 P	2	15	35	50
Discipline Specific Core Courses (DSCC)	Computer Application	DSC 06	Operating System Concepts	ODL BCA DSC 06	2	15	35	50
Generic Elective (GE)	Computer Application	GE 02	Generic Elective - II		4	30	70	100
Skill Enhancement Course (SEC)/Internship	Computer Application	SEC 02	Web Designing	ODL SEC-002	2	15	35	50
Ability Enhancement Course (AEC)	Computer Application	AEC 02	Professional Communication Skill	ODL AEC-002	2	15	35	50
VAC/IKS (Foundation)/IKS (Core)	Computer Application	VAC 02	Environmental Studies and Disaster management	ODL VAC-002	2	15	35	50
					22	180	420	600

Generic Elective Courses

Category	Name	Code
Generic Elective - II	Chhattisgarh ki Jan Jatiya Sanskriti	GE017
	Intellectual Property Rights	GE014

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Programme: Bachelor of Computer Applications Sem: III

NHEQF Level: 5 Courses					Evaluation Scheme			Total Marks
Course Category	Discipline	Course Category Code	Course Name	Course Code				
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 07	Data Structure	ODL BCA DSC 07 T	3	30	70	100
Discipline Specific Core Courses (DSCC)			Data Structure Lab	ODL BCA DSC 07 P	2	15	35	50
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 08	Java Programing	ODL BCA DSC 08 T	3	30	70	100
Discipline Specific Core Courses (DSCC)			Java Programing Lab	ODL BCA DSC 08 P	2	15	35	50
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 09	Software Engineering	ODL BCA DSC 09	2	30	70	100
Generic Elective (GE)	Computer Applications	GE 03	Generic Elective III		4	30	70	100
Skill Enhancement Course (SEC)/Internship	Computer Applications	SEC 03	Python Programing	ODL SEC 003	2	15	35	50
Ability Enhancement Course (AEC)	Computer Applications	AEC 03	Presentation Skill	ODL AEC 003	2	15	35	50
VAC/IKS (Foundation)/IKS (Core)	Computer Applications	VAC 03	Vedic Mathematics	ODL VAC 003	2	15	35	50
					22	180	420	600

Generic Elective Courses

Category	Name	Code
Generic Elective - III	Organizational Behavior	GE021
	Managerial Economics	GE016



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Programme: Bachelor of Computer Applications Sem: IV

NHEQF Level: 5 Courses					Evaluation Scheme			Total Marks
Course Category	Discipline	Course Category Code	Course Name	Course Code	Credit	CIA	ESE	
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 10	Web Technology	ODL BCA DSC 10 T	3	30	70	100
Discipline Specific Core Courses (DSCC)			Web Technology Lab	ODL BCA DSC 10 P	2	15	35	50
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 11	Data Warehousing and Data Mining	ODL BCA DSC 11 T	3	30	70	100
Discipline Specific Core Courses (DSCC)			Data Warehousing and Data Mining Lab	ODL BCA DSC 11 P	2	15	35	50
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 12	Data Communication and Computer Network	ODL BCA DSC 12	2	15	35	50
Discipline Specific Elective Courses (DSEC)	Computer Applications	DSE 01	Elective IV		4	30	70	100
Skill Enhancement Course (SEC)/Internship	Computer Applications	SEC 04	Prompt Engineering	ODL SEC 004	2	15	35	50
Ability Enhancement Course (AEC)	Computer Applications	AEC 04	Business Communication Skill	ODL AEC 004	2	15	35	50
VAC/IKS (Core)/IKS (Foundation)	Computer Applications	VAC 04	Society, Culture and Human Behavior	ODL VAC 04	2	15	35	50
					22	120	420	600

Discipline Specific Elective Courses (DSEC)	Minor Elective IV	Blockchain Technology	BCA DSE 01
	Minor Elective IV	Software Testing Techniques	BCA DSE 02

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Programme: Bachelor of Computer Applications Sem: V

NHEQF Level: 5.5 Courses					Evaluation Scheme			Total Marks
Course Category	Discipline	Course Category Code	Course Name	Course Code	Credits	CIA	ESE	
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 13	Advanced Java Programming	ODL BCA DSC 13 T	3	30	70	100
			Advanced Java Programming Lab	ODL BCA DSC 13 P	2	15	35	50
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 14	Compiler Designing	ODL BCA DSC 14	4	30	70	100
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 15	Cloud Computing Foundations	ODL BCA DSC 15	3	30	70	100
Discipline Specific Elective Courses (DSEC)	Computer Applications	DSE 02	Elective V		3	30	70	100
			Elective V Lab		2	15	35	50
Discipline Specific Elective Courses (DSEC)	Computer Applications	DSE03	Elective VI		3	30	70	100
Skill Enhancement Course (SEC)/Internship	Computer Applications	SEC 05	Internet of Things	ODL BCA SEC 005	2	15	35	50
					22	195	455	650

Discipline Specific Elective Courses (DSEC)	Minor Elective V (ML & AI Specialization)	Introduction to Artificial Intelligence	BCA DSE 03 T
		Introduction to Artificial Intelligence Lab	BCA DSE 03 P
	Minor Elective V (Web Technology Specialization)	ASP.Net Programming Concepts	BCA DSE 04 T
		ASP.Net Programming Concepts Lab	BCA DSE 04 P
	Minor Elective VI	Advanced Operating System	BCA DSE 05
		Advanced Networking	BCA DSE 06



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Programme: Bachelor of Computer Applications Sem: VI

NHEQF Level: 5.5 Courses					Evaluation scheme			Total Marks
Course Category	Discipline	Course Category Code	Course Name	Course Code	Credits	CIA	ESE	
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 16	Advanced Machine Learning	ODL BCA DSC 16 T	3	30	70	100
			Advanced Machine Learning Lab	ODL BCA DSC 16 P	2	15	35	50
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 17	User Interface and User Experience Design	ODL BCA DSC 17 T	3	30	70	100
			User Interface and User Experience Design Lab	ODL BCA DSC 17 P	2	15	35	50
Discipline Specific Core Courses (DSCC)	Computer Applications	DSC 18	Green Computing	ODL BCA DSC 18	2	15	35	50
Discipline Specific Elective Courses (DSEC)	Computer Applications	DSE 06	Elective VII		2	15	35	50
			Elective VII Lab		2	15	35	50
Ability Enhancement course (AEC)	Computer Applications	AEC 05	Corporate Communication Skills	ODL AEC 005	2	15	35	50
Skill Enhancement Course (SEC)/Internship	Computer Applications	INT 01	Internship/Project	ODL INT 01	4	50	100	150
					22	200	450	650

Discipline Specific Core Courses (DSCC) Major Elective VI	Major (ML & AI) Elective VII	Data Analytics and Visualization	BCA DSE 07 T
		Data Analytics and Visualization Lab	BCA DSE 07 P

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Discipline Specific Core Courses (DSCC) Major Elective VI	Major (ML & AI) Elective VII	Advanced Web Technology	BCA DSE 08 T
		Advanced Web Technology Lab	BCA DSE 08 P

Detailed Syllabus

SYLLABUS			
PROGRAM: BCA SEMESTER: I WEF:2024-25			
Course Code: ODL BCA DSC 01	Credit:03	Course: Computer System Architecture and Digital Electronics	L:02/T:01/P:00

No.	Module Description	
Module 1:	Computer Organization	
	Unit 1.1:	Introduction of Computers, Characteristics of computers
	Unit 1.2:	Evolution of computer
	Unit 1.3:	Input unit, Output unit and Storage unit
	Unit 1.4:	Arithmetic Logic Unit (ALU), Control Unit (CU), Central Processing Unit (CPU)
	Unit 1.5:	System concepts
	Unit 1.6:	Classification of computers
	Unit 1.7:	Types of Memory: RAM, ROM, PROM, EPROM, EEPROM, Cache
Module 2:	Digital System and Boolean Algebra	
	Unit 2.1:	Overview of digital systems and their applications, number system: representation and conversion
	Unit 2.2:	Binary coded decimal (BCD) representation
	Unit 2.3:	Boolean algebra fundamentals
	Unit 2.4:	Basic Theorem and properties of Boolean algebra
	Unit 2.5:	Boolean function
	Unit 2.6:	Canonical and standard forms
Module 3:	Gate-level Minimization	
	Unit 3.1:	Introduction
	Unit 3.2:	The map method
	Unit 3.3:	Karnaugh maps(K-maps) for simplifying Boolean expressions.
	Unit 3.4:	product of sums simplification
	Unit 3.5:	Don't care condition
	Unit 3.6:	NAND and NOR implementation
Module 4:	Computer Software	
	Unit 4.1:	Introduction to Software



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