

Dr. Babasaheb Ambedkar Marathwada University, Aurangabad
Faculty of Management Science
Curriculum Structure
Bachelor of Computer Applications (BCA) Honours
Academic Year 2023-2024

Semester -I

Course Type	Course Code	Course Tile	Total Lectures (Teaching Lectures /week)	Credits	Scheme of Examination			
					Max Marks	UA	IA	Min Marks
	DSC : Discipline Specific Core							
DSC -1	BCA101T	Computer Fundamentals	45 (03/per week)	02	50	30	20	20
DSC -2	BCA102T	Operating System	45 (03/per week)	02	50	30	20	20
DSC 1&2	BCA103P	Lab based on CF & OS	45 (03/per week)	02	50	30	20	20
GE : Generic Elective (Choose any one)								
GE /OE-1	BCA104T	A] Digital Electronics	45 (03/per week)	02	50	30	20	20
		B] Principles of Marketing	45 (03/per week)	02	50	30	20	20
		C] Fundamentals of Accounting	45 (03/per week)	02	50	30	20	20
OE : Open Elective (Choose any one)								
GE /OE-1	BCA105T	A] Web Development Technology	45 (03/per week)	02	50	30	20	20
		B] Programming Methodology	45 (03/per week)	02	50	30	20	20
		C] Internet Technology	45 (03/per week)	02	50	30	20	20
VSC : Vocational Skill Course (Choose any one)								
VSC1	BCA106P	A] Ms-Office	45 (03/per week)	02	50	30	20	20
		B] Unix	45 (03/per week)	02	50	30	20	20
		C] Linux	45 (03/per week)	02	50	30	20	20
SEC : Skill Enhancement Course (Choose any one)								
SEC-1	BCA107P	A] MS-Power BI	45 (03/per week)	02	50	30	20	20
		B] Web Development Technology using HTML Lab	45 (03/per week)	02	50	30	20	20
		C] Introduction to Tally	45 (03/per week)	02	50	30	20	20
AEC : Ability Enhancement Course (Choose any one)								
AEC1	BCA108T	English	45 (03/per week)	02	50	30	20	20

	VEC : Value Education Course (Choose any one)							
VEC1	BCA109T	Indian Constitution	45 (03/per week)	02	50	30	20	20
	IKS : Indian Knowledge System (Choose any one)							
IKS	BCA110P	Preservation of Himroo Weaving Design Patterns of Paithani /Historical Heritage / Study of Regional Language / History of Marathwada / Khadi Gramudyog /International Trade in Ancient India	45 (03/per week)	02	50	--	50	20
	CC : Co-curricular Course							
CC1	BCA111P	Health & Wellness	45 (03/per week)	02	50	--	50	20
				22	550			

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Semester -II

Course Type	Course Code	Course Tile	Total Lectures (Teaching Lectures /week)	Credits	Scheme of Examination			
					Max Marks	UA	IA	Min Marks
	DSC : Discipline Specific Core							
DSC-3	BCA201T	DBMS	45 (03/per week)	02	50	30	20	20
DSC -4	BCA202T	C programming	45 (03/per week)	02	50	30	20	20
DSC 3&4	BCA203P	Lab based on DBMS & C programming	45 (03/per week)	02	50	30	20	20
	Minor							
M1	BCA204T	Discrete Mathematics	45 (03/per week)	02	50	30	20	20
	GE : Generic Elective (Choose any one)							
GE/OE-3	BCA205T	A] Basics of Electronics	45 (03/per week)	02	50	30	20	20
		B] Business Organisation	45 (03/per week)	02	50	30	20	20
		C] Fundamentals of Banking	45 (03/per week)	02	50	30	20	20
	OE C]: Open Elective (Choose any one)							
GE/OE-4	BCA206T	A] Advance Web Development Technology	45 (03/per week)	02	50	30	20	20
		B] System Analysis & Design	45 (03/per week)	02	50	30	20	20
		C] Digital Marketing	45 (03/per week)	02	50	30	20	20
	VSC : Vocational Skill Course (Choose any one)							
VSC2	BCA207P	A] Basic of Electronics Lab	45 (03/per week)	02	50	30	20	20
		B] Data Analysis Using MS-Excel	45 (03/per week)	02	50	30	20	20
		C] Analysis of Balance Sheet	45 (03/per week)	02	50	30	20	20
	SEC : Skill Enhancement Course (Choose any one)							
SEC2	BCA208P	A] Advance Web Development Technology Lab	45 (03/per week)	02	50	30	20	20
		B] System Analysis & Design -Lab	45 (03/per week)	02	50	30	20	20

		C]Digital Marketing -Lab	45 (03/per week)	02	50	30	20	20
	AEC : Ability Enhancement Course (Choose any one – Modern Indian Language)							
AEC2	BCA209T	Hindi / Marathi / Urdu / Arabic / Sanskrit /Pali	45 (03/per week)	02	50	30	20	20
	VEC : Value Education Course							
VEC2	BCA210T	Environment Studies	45 (03/per week)	02	50	30	20	20
	BCA204T CC : Co-curricular Course (Choose any one)							
CC2	BCA211P	A] Yoga Education	45 (03/per week)	02	50	--	50	20
		B] Sports & Fitness	45 (03/per week)	02	50	--	50	20
				22	550			

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Semester -III

Course Type	Course Code	Course Tile	Total Lectures (Teaching Lectures /week)	Credits	Scheme of Examination			
					Max Marks	UA	IA	Min Marks
	DSC : Discipline Specific Core							
DSC-5	BCA301T	OOPS using C++	45 (03/per week)	02	50	30	20	20
	BCA302P	OOPS using C++ Lab	45 (03/per week)	02	50	30	20	20
DSC-6	BCA303T	Advance Database Management	45 (03/per week)	02	50	30	20	20
	BCA304P	Advance Database Management-Lab	45 (03/per week)	02	50	30	20	20
	Minor							
M2	BCA305T	Statistics	45 (03/per week)	02	50	30	20	20
	BCA306T	Mathematics	45 (03/per week)	02	50	30	20	20
GE/OE -5	GE / OE : Generic Elective / Open Elective (Choose any one)							
	BCA307T	A] Computer Networking	45 (03/per week)	02	50	30	20	20
		B] Microcontroller	45 (03/per week)	02	50	30	20	20
		C] Computer Hardware	45 (03/per week)	02	50	30	20	20
	Select any one Lab with respect to selection of any one GE / OE from the above							
	BCA308P	A] Computer Networking -Lab	45 (03/per week)	02	50	30	20	20
		B] Microcontroller-Lab	45 (03/per week)	02	50	30	20	20
		C] Computer Hardware-Lab	45 (03/per week)	02	50	30	20	20
	VSC-3	VSC : Vocational Skill Course (Choose any one)						
BCA309P		A] JavaScript Lab	45 (03/per week)	02	50	30	20	20
		B] Oracle Lab	45 (03/per week)	02	50	30	20	20
		C] XML Lab	45 (03/per week)	02	50	30	20	20
	AEC : Ability Enhancement Course (Choose any one – Modern Indian Languages)							
AEC-3	BCA310T	Hindi / Marathi / Urdu / Arabic / Sanskrit / Pali/ English	45 (03/per week)	02	50	30	20	20
	FP : Field Project							

FP1	BCA311P	Field Project	45 (03/per week)	02	50	--	50	20
	OR (Select either FP1 or CC3)							
	CC : Co-curriculum Course							
CC3	BCA311P	Cultural Activity / NSS / NCC	45 (03/per week)	02	50	--	50	20
				22	550			

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Semester -IV

Course Type	Course Code	Course Tile	Total Lectures (Teaching Lectures /week))	Credits	Scheme of Examination			
					Max Marks	UA	IA	Min Marks
	DSC : Discipline Specific Core							
DSC-7	BCA-401T	Data Structure Using C	45 (03/per week)	02	50	30	20	20
	BCA402P	Data Structure Using C-Lab	45 (03/per week)	02	50	30	20	20
DSC-8	BCA403T	ASP.Net	45 (03/per week)	02	50	30	20	20
	BCA404P	ASP.Net -Lab	45 (03/per week)	02	50	30	20	20
	Minor							
M3	BCA405T	Python	45 (03/per week)	02	50	30	20	20
	BCA406P	Python - Lab	45 (03/per week)	02	50	30	20	20
GE4/OE4	GE/OE : Generic Elective / Open Elective (Choose any one)							
	BCA407T	A] SPSS	45 (03/per week)	02	50	30	20	20
		B] Creativity & Innovation	45 (03/per week)	02	50	30	20	20
		C] Cyber Security	45 (03/per week)	02	50	30	20	20
	Select any one Lab with respect to selection of any one GE / OE from the above							
	BCA408P	A] SPSS - Lab	45 (03/per week)	02	50	30	20	20
		B] Creativity & Innovation -Practical	45 (03/per week)	02	50	30	20	20
		C] Cyber Security - Lab	45 (03/per week)	02	50	30	20	20
SEC-3	SEC : Skill Enhancement Course (Choose any one)							
	BCA409T	A] Quantitative Aptitude	45 (03/per week)	02	50	30	20	20
		B] Business Communication	45 (03/per week)	02	50	30	20	20
		C] Life Skills	45 (03/per week)	02	50	30	20	20
	AEC : Ability Enhancement Course (Choose any one)							
AEC4	BCA410T	Modern Indian Languages. Choose	45 (03/per week)	02	50	30	20	20

		any one from available Indian Language Hindi / Marathi / Urdu / Arabic / Sanskrit / Pali / English						
	CEP : Community Engagement Project or Co-curriculum Course							
CEP	BCA411T	Community Engagement Project	45 (03/per week)	02	50	--	50	20
OR (Select either CEP or CC4)								
CC4	BCA411T	NSS / NCC/ Fine / Applied / Visual / Performing Arts	45 (03/per week)	02	50	--	50	20
				22	550			

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Semester -V

Course Type	Course Code	Course Tile	Total Lectures (Teaching Lectures /week)	Credits	Scheme of Examination			
					Max Marks	UA	IA	Min Marks
	DSC : Discipline Specific Core							
DSC-9	BCA501T	Java Programming	45 (03/per week)	02	50	30	20	20
	BCA502P	Java Programming - Lab	45 (03/per week)	02	50	30	20	20
DSC-10	BCA503T	Software Engineering	45 (03/per week)	01	50	30	20	20
	BCA504P	Software Engineering -Lab	45 (03/per week)	01	50	30	20	20
	DSE : Discipline Specific Elective							
DSE-1	BCA505T	A] Advance Java	45 (03/per week)	01	50	30	20	20
		B] C#	45 (03/per week)	01	50	30	20	20
		C] Web Development using PHP	45 (03/per week)	01	50	30	20	20
	Select any one Lab with respect to selection of any one DSE from the above							
	BCA506P	A] Advance Java -Lab	45 (03/per week)	01	50	30	20	20
		B] C#-Lab	45 (03/per week)	01	50	30	20	20
		C] Web Development using PHP-Lab	45 (03/per week)	01	50	30	20	20
	Minor							
M5	BCA507T	Android	45 (03/per week)	02	50	30	20	20
	BCA508P	Android-Lab	45 (03/per week)	02	50	30	20	20
VSC-4	VSC : Vocational Skill Course (Choose any one)							
	BCA509T	A] Sensors Technology	45 (03/per week)	02	50	30	20	20
		B] Entrepreneurship	45 (03/per week)	02	50	30	20	20
		C] Image Processing	45 (03/per week)	02	50	30	20	20
	Select any one Lab with respect to selection of any one VSC from the above							
	BCA510P	A] Sensors Technology -Lab	45 (03/per week)	02	50	30	20	20
		B] Entrepreneurship - Lab	45 (03/per week)	02	50	30	20	20

		C] Image Processing-Lab	45 (03/per week)	02	50	30	20	20
	FP : Field Project							
FP2	BCA511P	Field Project	45 (03/per week)	02	50	--	50	20
OR (Select either FP2 or CEP)								
CEP	BCA511P	Community Engagement Project	45 (03/per week)	02	50	--	50	20
				22	550			

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Semester -VI

Course Type	Course Code	Course Tile	Total Lectures (Teaching Lectures /week)	Credits	Scheme of Examination			
					Max Marks	UA	IA	Min Marks
	DSC : Discipline Specific Core							
DSC-11	BCA601T	Internet of Things (IoT)	45 (03/per week)	02	50	30	20	20
	BCA602P	Internet of Things (IoT) - Lab	45 (03/per week)	02	50	30	20	20
DSC-12	BCA603T	Software Testing	45 (03/per week)	01	50	30	20	20
	BCA604P	Software Testing - Lab	45 (03/per week)	01	50	30	20	20
DSC-13	BCA605T	Software Project Management(SPM)	45 (03/per week)	01	50	30	20	20
	DSE : Discipline Specific Elective (Choose any one)							
DSE-2	BCA606T	A] Java Server Page (JSP)	45 (03/per week)	01	50	30	20	20
		B] Geographic information System(GIS)	45 (03/per week)	01	50	30	20	20
		C] Data Warehousing & Data Mining	45 (03/per week)	01	50	30	20	20
	Select any one Lab with respect to selection of any one DSE from the above							
	BCA607P	A] Java Server Page (JSP) -Lab	45 (03/per week)	01	50	30	20	20
		B] Geographic information System(GIS) -Lab	45 (03/per week)	01	50	30	20	20
		C] Data Warehousing & Data Mining -Lab	45 (03/per week)	01	50	30	20	20
	Minor							
M5	BCA608T	Android Application Development	45 (03/per week)	02	50	30	20	20
	BCA609P	Android Application Development - Lab	45 (03/per week)	02	50	30	20	20
	OJT : On Job Training							
OJT -1	BCA610P	On Job Training -1	90 (06/per week)	04	100	60	40	40
				22	550			

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Semester -VII

Course Type	Course Code	Course Tile	Total Lectures (Teaching Lectures /week)	Credits	Scheme of Examination			
					Max Marks	UA	IA	Min Marks
	DSC : Discipline Specific Core							
DSC-14	BCA701T	Cloud Computing	45 (03/per week)	02	50	30	20	20
	BCA702P	Cloud Computing-Lab	45 (03/per week)	02	50	30	20	20
DSC-15	BCA703T	Artificial Intelligence	45 (03/per week)	01	50	30	20	20
	BCA704P	Artificial Intelligence-Lab	45 (03/per week)	01	50	30	20	20
DSC-16	BCA705T	Design and Analysis of Algorithms	45 (03/per week)	02	50	30	20	20
	BCA706P	Design and Analysis of Algorithms-Lab	45 (03/per week)	02	50	30	20	20
DSC-17	BCA707T	Theory of Computation	45 (03/per week)	02	50	30	20	20
	DSE : Discipline Specific Elective (Choose any one)							
DSE-3	BCA708T	A] Hibernate	45 (03/per week)	02	50	30	20	20
		B] Multimedia	45 (03/per week)	02	50	30	20	20
		C] E-Commerce	45 (03/per week)	02	50	30	20	20
	Select any one Lab with respect to selection of any one DSE from the above							
	BCA709P	A] Hibernate -Lab	45 (03/per week)	02	50	30	20	20
		B] Multimedia - Lab	45 (03/per week)	02	50	30	20	20
		C] E-Commerce - Lab	45 (03/per week)	02	50	30	20	20
	Minor							
M6	BCA710T	Research Methodology	45 (03/per week)	02	50	30	20	20
	BCA711P	Research Methodology -Lab	45 (03/per week)	02	50	30	20	20
				22	550			

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Semester -VIII

Course Type	Course Code	Course Tile	Total Lectures (Teaching Lectures /week)	Credits	Scheme of Examination			
					Max Marks	UA	IA	Min Marks
	DSC : Discipline Specific Core							
DSC-18	BCA801T	Block Chain Technology	45 (03/per week)	02	50	30	20	20
	BCA802P	Block Chain Technology -Lab	45 (03/per week)	02	50	30	20	20
DSC-19	BCA803T	Data Science using Python	45 (03/per week)	02	50	30	20	20
	BCA804P	Data Science using Python-Lab	45 (03/per week)	02	50	30	20	20
DSC-20	BCA805T	Big Data	45 (03/per week)	02	50	30	20	20
	BCA806P	Big Data-Lab	45 (03/per week)	02	50	30	20	20
DSC-21	BCA807T	Principles of Management	45 (03/per week)	02	50	30	20	20
	DSE : Discipline Specific Elective (Choose any one)							
DSE-4	BCA808T	A] Amazon Web Service (AWS)	45 (03/per week)	02	50	30	20	20
		B] Machine Learning	45 (03/per week)	02	50	30	20	20
		C] R-programming	45 (03/per week)	02	50	30	20	20
	Select any one Lab with respect to selection of any one DSE from the above							
	BCA809P	A] Amazon Web Service (AWS) -Lab	45 (03/per week)	02	50	30	20	20
		B] Machine Learning - Lab	45 (03/per week)	02	50	30	20	20
		C] R-programming - Lab	45 (03/per week)	02	50	30	20	20
	OJT : On Job Training							
OJT-2	BCA810T	On Job Training -3	90 (06/per week)	04	100	60	40	40
				22	550			