Jaypee UniversityAnoopshahr

Faculty of Mathematics and Computer Applications

Course Curriculum

(Applicable to batches admitted in 2025-26 onwards)

Course Structure

BCA

Academic Batch: 2025-2028/29

FIRST SEMESTER												
	Course		Contact Hours									
S.No.	Subject Code	Course Name	L	T	P	Total	Credit	UGC/ NEP Category	University Category	UP. Govt. Category	Course offered by the Dept.	Remarks
1	25H11MA101	Fundamentals of Mathematics-I	2	1	0	3	3	Major/Core	Core	Major	Dept. of Mathematics	
2	25H11CA111	Computer Fundamentals and Programming	2	0	0	2	2	Major/Core	Core	Major	Dept. of Computer Applications	
3	25H11SS214	Indian Knowledge System	3	0	0	3	3	MDC 1	Core	Major	Dept. of Social Sciences	
4	25H11LS211	Environmental Sciences	3	0	0	3	3	VAC 2	Core	Co-Curricular	Dept. of Life Sciences	
5	25H11HS216	Professional Communication	3	1	0	4	4	AEC 1	Core	Co-Curricular	Dept. of Arts	
6	25H17CA171	Computer Fundamentals and Programming Lab	0	0	2	2	1	Major Lab	Core	Major Lab	Dept. of Computer Applications	
Total			**13**	**2**	**2**	**17**	**16**					

*A Bridge course of **0** credit has been introduced to give students basic knowledge of Mathematics and Physics

SECOND SEMESTER												
	Course		Contact Hours									
S. No	**Subject Code**	**Course Name**	**L**	**T**	**P**	**Total**	**Credit**	**UGC/ NEP Category**	**University Category**	**UP. Govt. Category**	**Course offered by the Dept.**	**Remarks**
1	25H11CA211	Object Oriented Programming	3	0	0	3	3	Major/Core	Core	Major	Dept. of Computer Applications	
2	25H11CI212	Database Systems	3	0	0	3	3	Major/Core	Core	Major		
3	25H11CA213	Web Technology	3	0	0	3	3	Major/Core	Core	Major		
4	25H11MA201	Fundamentals of Mathematics-II	3	1	0	4	4	Core	Core	Major	Dept. of Mathematics	
5	25H17CA271	Object Oriented Programming Lab	0	0	2	2	1	Major Lab	Core	Major Lab	Dept. of Computer Applications	
6	25H17CA272	Database Systems Lab	0	0	2	2	1	Major Lab	Core	Major Lab		
7	25H17CA273	Web Technology Lab	0	0	2	2	1	Major Lab	Core	Major Lab		
8	25H11SS114	Constitution and Development	3	1	0	4	4	VAC 1	Core	Co-Curricular	Dept. of Social Sciences	
9	25H11MT417	Skills for Employability	3	1	0	4	4	AEC2	Core	Co-Curricular	Dept. of Management	
Total			**18**	**3**	**6**	**27**	**24**					

THIRD SEMESTER												
	Course		Contact Hours									
S. No	Subject Code	Course Name	L	T	P	Total	Credit	UGC/ NEP Category	University Category	UP. Govt. Category	Course offered by the Dept.	Remarks
1	25H11CA311	Fundamentals of Data Structure	3	0	0	3	3	Major/Core	Core	Major	Dept. of Computer Applications	
2	25H11EE314	Digital Systems	3	0	0	3	3	Major/Core	Core	Major	Dept. Of Electronics	
3	25H11CA312	Multimedia Technology	3	0	0	3	3	Major/Core	Core	Major	Dept. of Computer Applications	
4	XXXXXXXXX	Elective 1	3	0	0	3	3	Minor Core	Core	Minor	Dept. of Computer Applications	
5	25H17CA371	Fundamentals of Data Structure Lab	0	0	2	2	1	Major/Core	Core	Major Lab	Dept. of Computer Applications	
6	25H17EE374	Digital Systems Lab	0	0	2	2	1	Major/Core	Core	Major Lab	Dept. Of Electronics	
7	25H17CA372	Multimedia Technology Lab	0	0	2	2	1	Major/Core	Core	Major Lab	Dept. of Computer Applications	
8	XXXXXXXXXX	Elective Lab	0	0	2	2	1	Minor Lab	Core	Minor Lab	Dept. of Computer Applications	
9	25H11MT312	Intellectual Property Rights	3	0	0	3	3	MDC3	Core	Major	Dept. Of Management	
10	25H11ME111	Design Thinking	2	0	0	2	2	SEC1	Core	Vocational	Dept. Of Mechanical Engineering	
11	25H17ME171	Design Thinking Lab	0	0	2	2	1	SEC Lab	Core	Vocational	Dept. Of Mechanical Engineering	
Total			**17**	**0**	**10**	**27**	**22**					

FOURTH SEMESTER												
	Course		Contact Hours									
S. No	Subject Code	Course Name	L	T	P	Total	Credit	UGC/ NEP Category	University Category	UP. Govt. Category	Course offered by the Dept.	Remarks
1	25H11CA411	Algorithm and Programming	3	0	0	3	3	Major/Core	Core	Major	Dept. of Computer Applications	
2	25H11CA412	Python Programming	3	0	0	3	3	Major/Core	Core	Major	Dept. of Computer Applications	
3	25H11CA413	Artificial Intelligence	3	0	0	3	3	Major/Core	Core	Major	Dept. of Computer Applications	
4	XXXXXXXXX	Elective 2	3	0	0	3	3	Minor/DE	Elective	Minor	Dept. of Computer Applications	
5	25H17CA471	Algorithm and Programming Lab	0	0	2	2	1	Major Lab	Core	Major Lab	Dept. of Computer Applications	
6	25H17CA472	Python Programming Lab	0	0	2	2	1	Major Lab	Core	Major Lab	Dept. of Computer Applications	
7	XXXXXXXXX	Elective Lab	0	0	2	2	1	Minor Lab	Elective	Minor Lab		
8	25H11MA312	Fundamentals of Statistics	3	0	0	3	3	MDC 2	Core	Major	Dept. of Mathematics	
9	25H11MT416	Digital Marketing	3	0	0	3	3	SEC2	Core	Vocational	Dept. of Management	
Total			**18**	**0**	**6**	**24**	**21**					

FIFTH SEMESTER												
	Course		Contact Hours									
S. No	**Subject Code**	**Course Name**	**L**	**T**	**P**	**Total**	**Credit**	**UGC/ NEP Category**	**University Category**	**UP. Govt. Category**	**Course offered by the Dept.**	**Remarks**
1	25H11CA511	Computer Architecture	3	1	0	4	4	Major/Core	Core	Major	Dept. of Computer Applications	
2	25H11CA512	Computer Network	3	0	0	3	3	Major/Core	Core	Major		
3	25H11CA513	Principles of Operating System	3	0	0	3	3	Major/Core	Core	Major		
4	25H11CA514	Fundamentals of Software Engineering	3	0	0	3	3	Major/Core	Core	Major		
6	XXXXXXXX	Elective 3	3	0	0	3	3	Minor/DSE	Elective	Minor		
8	25H17CA572	Computer Network Lab	0	0	2	2	1	Major/Core	Core	Major Lab		
9	25H17CA573	Principles of Operating System Lab	0	0	2	2	1	Major/Core	Core	Major Lab		
10	XXXXXXXXXX	Elective Lab	0	0	2	2	1	Minor Lab	Elective	Minor Lab		
11	25H11CO311	Finance for Everyone	3	0	0	3	3	SEC 3	Core	Vocational	Dept. Of Commerce	
12	25H19CA591	Summer Training/Internship	-	-	-	-	3	Summer Internship	Core			
Total			**18**	**1**	**6**	**25**	**25**					

विद्या तत्व ज्योतिसम:

SIXTH SEMESTER												
	Course		Contact Hours									
S. No	**Subject Code**	**Course Name**	**L**	**T**	**P**	**Total**	**Credit**	**UGC/ NEP Category**	**University Category**	**UP. Govt. Category**	**Course offered by the Dept.**	**Remarks**
1	xxxxxxxxx	Elective 4	3	0	0	3	3	Minor/DE	Elective	Minor	Dept. of Computer Applications	
2	xxxxxxxxx	Elective 5	3	0	0	3	3	Minor/DE	Elective	Minor		
3	xxxxxxxxxx	Elective 6	3	0	0	3	3	Minor/DE	Elective	Minor		
4	xxxxxxxxxx	Elective Lab	0	0	2	2	1	Minor Lab	Elective	Minor Lab		
5	xxxxxxxxx	Elective Lab	0	0	2	2	1	Minor Lab	Elective	Minor Lab		
6	xxxxxxxxxx	Elective Lab	0	0	2	2	1	Minor Lab	Elective	Minor Lab		
Total			**9**	**0**	**6**	**15**	**12**					

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विद्या तत्व ज्योतिसम:

SEVENTH SEMESTER (BCA- Honours)												
	Course		Contact Hours									
S. No	Subject Code	Course Name	L	T	P	Total	Credit	UGC/ NEP Category	University Category	UP. Govt. Category	Course offered by the Dept.	Remarks
1	25H11CA711	Data Science	3	1	0	4	4	Major/Core	Core	Major	Dept. of Computer Applications	
2	25H17CA771	Data Science Lab	0	0	2	2	1					
3	xxxxxxx	Elective 7	3	1	0	4	4	Minor/Core	Elective	Minor		
4	xxxxxxxx	Elective 8	3	1	0	4	4	Minor/DE	Elective	Minor		
5	xxxxxxxx	Elective 9	3	1	0	4	4	Minor/DE	Elective	Minor		
6	xxxxxxxx	Elective 10	3	1	0	4	4	Minor/DE	Elective	Minor		
Total			**15**	**5**	**0**	**20**	**20**					

EIGHTH SEMESTER (BCA- Honours)												
	Course		Contact Hours									
S. No	Subject Code	Course Name	L	T	P	Total	Credit	UGC/ NEP Category	University Category	UP. Govt. Category	Course offered by the Dept.	Remarks
1	25H11CA811	Cloud Computing	3	1	0	4	4	Major/Core	Core	Major	Dept. of Computer Applications	
2	XXXXXXXXX	Elective 11	3	1	0	4	4	Minor/DE	Elective	Minor		
3	XXXXXXXXX	Elective 12	3	1	0	4	4	Minor/DE	Elective	Minor		
4	XXXXXXXXX	Elective 13	3	1	0	4	4	Minor/DE	Elective	Minor		
5	XXXXXXXXX	Elective 14	3	1	0	4	4	Minor/DE	Elective	Minor		
Total			**15**	**5**	**0**	**20**	**20**					

विद्या तत्व ज्योतिसम:

SEVENTH SEMESTER (BCA- Honours with Research)												
	Course		Contact Hours									
S. No	**Subject Code**	**Course Name**	**L**	**T**	**P**	**Total**	**Credit**	**UGC/ NEP Category**	**University Category**	**UP. Govt. Category**	**Course offered by the Faculty**	**Remarks**
1	25H11CA711	Data Science	3	0	0	3	3	Major/Core	Core	Major	Dept. of Computer Applications	
2	25H17CA771	Data Science Lab	0	0	2	2	1					
3	XXXXXXXXX	Elective 15	4	0	0	4	4	Minor/DE	Elective	Minor		
4	XXXXXXXXX	Elective 16	4	0	0	4	4	Minor/DE	Elective	-		
5	XXXXXXXXX	Elective 17	4	0	0	4	4	Minor/DE	Elective			
6	XXXXXXXXX	Elective 18	4	0	0	4	4	Minor/DE	Elective			
Total			**07**	**1**	**6**	**14**	**20**					

EIGHTH SEMESTER (BCA- Honours with Research)												
	Course		Contact Hours									
S. No	**Subject Code**	**Course Name**	**L**	**T**	**P**	**Total**	**Credit**	**UGC/ NEP Category**	**University Category**	**UP. Govt. Category**	**Course offered by the Dept.**	**Remarks**
1	25H11CA811	Cloud Computing	3	1	0	4	4	Major/Core	Core	Major	Dept. of Computer Applications	
2	25H11CA812	Mobile Application Development	3	1	0	4	4	Major/Core	Core	Major		
3	25H19CA891	Project	-	-	-	-	12	Project	Core	Project		
Total			**6**	**2**	**0**	**8**	**20**					

Category-wise Distribution of the Credits across the Programme

Description	Core Courses	AEC	MDC (Including OE)	VAC	SEC	DSE/Minor	Summer training/project	Total
BCA	60	08	09	07	09	24	03	120
BCA (Honours)	60+20	08	09	07	09	24+ 20	03	160
BCA (Honours with Research	60 + 20	08	09	07	09	24 + 08	03 + 12	160

Category-wise Distribution of the Credits across the Programme

Semester	Major Core	Minor Core	MDC	AEC	SEC	VAC	Project/Internship
1	6	0	3	4	0	3	0
2	16	0	0	4	0	4	0
3	12	4	3	0	3	0	0
4	11	4	3	0	3	0	0
5	15	4	0	0	3	0	3
6	0	12	0	0	0	0	0
Total	60	24	9	8	9	7	3

विद्या तत्व ज्योतिसम:

Electives: Major Choice

	AI/ML				
S. No	**Subject Names**			**Codes**	
1	Artificial Intelligence & Application			25H11CA331	
2	Machine Learning & Applications			25H11CA332	
3	Soft Computing & Applications			25H11CA333	
4	Image Processing and Computer Vision			25H11CA334	
5	Natural Language processing			25H11CA335	
6	Deep Learning and Neural Networks			25H11CA336	
7	Reinforcement Learning			25H11CA337	
	Cyber Security				
S. No	**Subject Names**			**Codes**	
1	Fundamental of information Theory			25H11CA431	
2	Database security and access control			25H11CA432	
3	Introduction to cryptography			25H11CA433	
4	Python Programming-I and AI for cyber security			25H11CA434	
5	Computer and Network security			25H11CA435	
6	Security Assessment & Risk analysis			25H11CA436	
6	Cyber Treat intelligence			25H11CA437	
	Data Science and Data Analytics				
S. No	**Subject Names**			**Codes**	
1	Machine Learning Basics			25H11CA531	
2	Fundamentals of Cloud computing			25H11CA532	
3	Data Mining and Analytics			25H11CA533	
4	Artificial Intelligence & Application			25H11CA534	
5	Data Modelling and Visualization			25H11CA535	

6	Introduction to Data Science			25H11CA536	

Codes

Electives: Minor Choice 25H11CA631

S. No	Subject Names			Codes	
1	Big data Analytics -Advance			25H11CA631	
2	Knowledge Management			25H11CA632	
3	Mobile application Development			25H11CA633	
4	Java Application Development			25H11CA634	
5	Social Media and Text Analytics			25H11CA635	

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