ADAMAS UNIVERSITY

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UNDERGRADUATE PROGRAM

Course Structure and Syllabus

B. Tech (Computer Science and Engineering)

W.e.f. AY 2022-23

ADAMAS UNIVERSITY

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

UG Program: B.Tech (Computer Science and Engineering)

COURSE STRUCTURE

FIRST YEAR

(Common for all streams)

SEMESTER I							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1		Engineering Mathematics-I	3	1	0	4	4
2		Applied Science	3	0	0	3	3
3		Introduction to Programming/ Electrical and Electronics Technology	3	0	0	3	3
4		English Communication	3	0	0	3	3
5		Life Sciences	3	0	0	3	3
6		Design Thinking	2	0	0	2	2
7		Applied Science Lab	0	0	2	2	1
8		Programming Lab/ Electrical and Electronics Technology Lab	0	0	3	3	2
9		Engineering Drawing and CAD/ Engineering Workshop	0	0	4	4	2
10		Communication and Collaboration Skill –I	0	0	2	2	1
Semester I Total			**17**	**1**	**11**	**29**	**24**

SEMESTER II							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1		Engineering Mathematics– II	3	1	0	4	4
2		Electrical and Electronics Technology/ Introduction to Programming	3	0	0	3	3
3		Engineering Mechanics	3	0	0	3	3
4		Environmental Science	3	0	0	3	3
5		Basic Civil and Mechanical Engineering	3	0	0	3	3
6		Electrical and Electronics Technology Lab/ Programming Lab	0	0	3	3	2
7		Engineering Workshop/ Engineering Drawing and CAD	0	0	4	4	2
8		Communication and Collaboration Skill -II	0	0	2	2	1
Semester II Total			**15**	**1**	**9**	**25**	**21**

1st Year Credits = 45

SECOND YEAR

SEMESTER III							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1		Engineering Mathematics – III C	3	1	0	4	4
2		Discrete Structures and Boolean Logic	3	0	0	3	3
3		**Professional Core - I** Principles of Programming Language	3	0	0	3	3
4		**Professional Core - II** Data Structure and Algorithms	3	0	0	3	3
5		**Professional Core - III** Switching Circuits and Logic Design	3	0	0	3	3
6		Venture Ideation	2	0	0	2	2
7		**Professional Core Lab - I** Principles of Programming Language	0	0	2	2	1
8		**Professional Core Lab - II** Data Structure and Algorithms Lab	0	0	2	2	1
9		Numerical Techniques Lab	0	0	2	2	1
10		Interdisciplinary Project	0	0	5	5	3
11		Community Service #	0	0	0	0	1
Semester III Total			**17**	**1**	**11**	**29**	**25**

#Community Service will be taken up during the summer break after 2th semester, and will be evaluated in the 3rd semester.

SEMESTER IV							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1		**Professional Core – IV** Database Management Systems	3	0	0	3	3
2		**Professional Core – V** Object Oriented Programming	3	0	0	3	3
3		**Professional Core – VI** Design and Analysis of Algorithms	3	0	0	3	3
4		**Professional Core -VII** Formal Language and Automata	3	0	0	3	3
5		**Professional Core – VIII** Introduction to Artificial Intelligence	3	0	0	3	3
6		Human Values, Ethics and Psychology	2	0	0	2	2
7		**Professional Core Lab – III** Database Management Systems Lab	0	0	2	2	1
8		**Professional Core Lab – IV** Object Oriented Programming Lab	0	0	2	2	1
Semester IV Total			**17**	**0**	**4**	**21**	**19**

2nd Year Credits : 44

THIRD YEAR

SEMESTER V							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1		**Professional Core – IX** Computer Networks	3	0	0	3	3
2		**Professional Core – X** Computer Organization and Architecture	3	0	0	3	3
3		**Professional Core – XI** Software Engineering	3	0	0	3	3
4		**Professional Elective - I**	3	0	0	3	3
		Introduction to Python					
		Optimization and Game Theory					
		Introduction to Data Science					
		Distributed Systems and Cloud					
		Introduction to Cyber Security					
5		**Professional Elective - II**	3	0	0	3	3
		Full Stack Software Development					
		Pattern Recognition and Soft Computing					
		Data Mining and Warehousing					
		Cloud Security					
		Cyber Law and Governance					
6		**Professional Core Lab – V** Computer Networks Lab	0	0	2	2	1
7		**Professional Core Lab – VI** Computer Organization and Architecture Lab	0	0	2	2	1
8		**Professional Core Lab – VII** Applied Computing Lab	0	0	2	2	1
Semester V Total			**15**	**0**	**6**	**21**	**18**

SEMESTER VI							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1		**Professional Core – XII** Web Technology	3	0	0	3	3
2		**Professional Core – XIII** Compiler Design	3	0	0	3	3
3		**Professional Elective - III**	3	0	0	3	3
		Mobile Computing and Android					
		Machine Learning					
		Real-time Analytics					
		Virtualization and Applied Cloud Computing					
		Network Security					
4		**Professional Elective - IV**	3	0	0	3	3
		Application Development with Python					
		Neural Networks and Deep Learning Application					
		Statistical Modelling for Data Analytics					
		Cloud Management					
		Malware Analysis					
5		**Open Elective - I**	3	0	0	3	3
		Disaster Management					
		Digital Signal Processing					
		VLSI System Design					
6		Economics for Engineers	3	0	0	3	3
7		**Professional Core Lab – VIII** Web Technology Lab	0	0	2	2	1
8		**Professional Core Lab – IX** Seminar	0	0	2	2	1
9		**Professional Elective Lab - I**	0	0	2	2	1
		Android Application Development Lab					
		Machine Learning Lab					
		Statistical Modelling for Data Analytics Lab					
		Virtualization and Applied Cloud Computing Lab					
		Network Security Lab					
Semester VI Total			**18**	**0**	**6**	**24**	**21**

3rd Year Credits : 39

FOURTH YEAR

SEMESTER VII							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1		Industrial Management	3	0	0	3	3
2		**Professional Core – XIV** Operating Systems	3	0	0	3	3
3		**Professional Elective - V**	3	0	0	3	3
		Advanced Web Technologies					
		Applied Machine Intelligence					
		Data Analysis					
		Cloud Architecture and Deployment					
		Application Security					
4		**Open Elective - II**	3	0	0	3	3
		Medical Imaging and Image Processing					
		Sensors and Actuators for IoT					
		Robotics based Industrial Automation					
5		**Open Elective - III**	3	0	0	3	3
		Smart Vehicles					
		Microcontrollers and Interfacing					
		Bioinformatics					
6		**Professional Core Lab – X** Operating Systems Lab	0	0	2	2	1
7		**Professional Elective Lab - II**	0	0	2	2	1
		Advanced Web Technologies Lab					
		Applied Machine Intelligence Lab					
		Data Analysis Lab					
		Cloud Architecture and Deployment Lab					
		Application Security Lab					
8		Summer Internship #	0	0	0	0	2
9		Minor Project	0	0	6	6	3
Semester VII Total			**15**	**0**	**10**	**25**	**22**

#Summer Internship will be taken up during the summer break after 6th semester, and will be evaluated in the 7th semester.

SEMESTER VIII							
S.No.	**Course Code**	**Course Title**	**L**	**T**	**P**	**H**	**C**
1		Industry Work experience/SIRE*/Major Project	0	0	12	12	6
2		Comprehensive Viva Voce	0	0	0	0	2
Semester VIII Total			**0**	**0**	**12**	**12**	**8**

***SIRE: Scientific Investigation and Research Experience**

4th Year Credits: 30(22+8)

CREDIT DISTRIBUTION (SEMESTER-WISE)

SEM I	SEM II	SEM III	SEM IV	SEM V	SEM VI	SEM VII	SEM VIII	TOTAL
24	21	25	19	18	21	22	8	158

CREDIT DISTRIBUTION(YEAR-WISE)

YEAR I	YEAR II	YEAR III	YEAR IV	TOTAL
45	44	39	30	158