



ST. JOSEPH'S DEGREE & PG COLLEGE


(Autonomous), Affiliated to Osmania University
Re-accredited by NAAC (3rd Cycle)
King Koti Road, Hyderabad

Programme Structure of B.Sc Data Science (Honors)


w.e.f. 2024-2025


FIRST SEMESTER									
Subject Code	Course Type	Course Title	Hours/Week		Credits	Max. Marks		Total Marks	Duration of Exam
			L	P/T		Int	Ext		
BCS-1-CS-24T	AECC	Basic Computer Skills	2	--	2	20	30	50	2
FE-1-EN-24T	CC	Functional English-I	4	1	5	40	60	100	3
PSP-1-CS-24T	DSC	Data Science-I: Problem Solving using Python (Theory)	4	--	4	40	60	100	3
BSP-1-ST-24T	DSC	Statistics-I: Basic Statistics and Probability (Theory)	4	--	4	40	60	100	3
DICA-1-MM-24T	DSC	Mathematics-I : Differential & Integral Calculus with Applications (Theory)	4	--	4	40	60	100	3
PSP-1-CS-24P	DSC	Data Science-I: Problem Solving using Python Lab (Practical)	--	3	1	20	30	50	3
BSP-1-ST-24P	DSC	Statistics-I: Basic Statistics and Probability (Practical)	--	3	1	20	30	50	3
DICA-1-MM-24P	DSC	Mathematics-I Differential & Integral Calculus with Applications (Practical)	--	3	1	20	30	50	3
		Total	18	10	22	240	360	600	

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SECOND SEMESTER

Subject Code	Course Type	Course Title	Hours/Week		Credits	Max. Marks		Total Marks	Duration of Exam
			L	P/T		Int	Ext		
EVS-2-EN-22T	AECC	Environmental Studies	2	--	2	20	30	50	2
FE-2-EN-24T	CC	Functional English – II	5	--	5	40	60	100	3
DEP-2-CS-24T	DSC	Data Science-II: Data Engineering with Python (Theory)	4	--	4	40	60	100	3
DCPD-2-ST-24T	DSC	Statistics-II Discrete and Continuous Probability Distributions (Theory)	4	--	4	40	60	100	3
DEA-2-MM-24T	DSC	Mathematics-II Differential Equations and Applications (Theory)	4	--	4	40	60	100	3
DEP-2-CS-24P	DSC	Data Science-II: Data Engineering with Python Lab (Practical)	--	3	1	20	30	50	3
DCPD-2-ST-24P	DSC	Statistics-II Discrete and Continuous Probability Distributions (Practical)	--	3	1	20	30	50	3
DEA-2-MM-2\$P	DSC	Mathematics-II Differential Equations and Applications (Practical)	--	3	1	20	30	50	3
	*Non CGPA	Co- curricular (Value Added Course –within Sem II)	--	-	*2				
		Total	19	9	22	240	360	600	

Total No of Credits by the end of First Year : 44

CC: Compulsory Course ; **AECC:** Ability Enhancement Compulsory Course; **DSC:** Discipline Specific Course; **T:** Theory; **P:** Practical; **I:** Internal Exam **E:** End Semester Exam

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Aditya

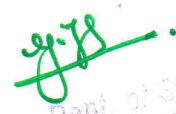


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THIRD SEMESTER									
Subject Code	Course Type	Course Title	Hours/Week		Credits	Max. Marks		Total Marks	Duration of Exam
			L	P/T		Int	Ext		
UHVGS-3-EN-22T LMS-3-BM-22T	SEC	UGC Specific: (a) Universal Human Values & Gender Sensitization (b) Leadership and Management Skills	2	--	2	40	60	100	2
RDBMS-3-CS-24T	DSC	Data Science-III: Relational Database Management System	4	--	4	40	60	100	3
DSA-3-CS-24T	DSC	Data Science - IV: Data Structures & Algorithms	4	--	4	40	60	100	3
DAT-3-ST-24T	DSC	Statistics-III Data Analysis Techniques (Theory)	4	--	4	40	60	100	3
RA-3-MM-24T	DSC	Mathematics-III Real Analysis (Theory)	4	--	4	40	60	100	3
RDBMS-3-CS-24P	DSC	Data Science-III: Relational Database Management System Lab	--	3	1	20	30	50	3
DSA-3-CS-24P	DSC	Data Science - IV: Data Structures & Algorithms Lab	--	3	1	20	30	50	3
DAT-3-ST-24P	DSC	Statistics-III Data Analysis Techniques (Practical)	--	3	1	20	30	50	3
RA-3-MM-24P	DSC	Mathematics-III Real Analysis (Practical)	--	3	1	20	30	50	3
		Total	18	12	22	280	420	700	


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FOURTH SEMESTER									
Subject Code	Course Type	Course Title	Hours/Week		Credits	Max. Marks		Total Marks	Duration of Exam
			L	P/T		Int	Ext		
EE-4-EN-22T BEN-4-EN-22T	SEC	UGC Specific: (a) English for Employability (b) Business English	2	--	2	40	60	50	2
AI-4-CS-24T	DSC	Data Science - V: Artificial Intelligence	4	--	4	40	60	100	3
NSD-4-CS-24T	DSC	Data Science - VI: NOSQL Databases	4	--	4	40	60	100	3
IS-4-ST-24T	DSC	Statistics-IV Inferential Statistics(Theory)	4	--	4	40	60	100	3
AA-4-MM-24T	DSC	Mathematics-IV Abstract Algebra (Theory)	4	--	4	40	60	100	3
AI-4-CS-24P	DSC	Data Science - V: Artificial Intelligence Lab (Practical)	--	3	1	20	30	50	3
NSD-4-CS-24P	DSC	Data Science - VI: NOSQL Databases Lab(Practical)	--	3	1	20	30	50	3
IS-4-ST-24P	DSC	Statistics-IV Inferential Statistics (Practical)	--	3	1	20	30	50	3
AA-4-MM-24P	DSC	Mathematics-IV Abstract Algebra (Practical)	--	3	1	20	30	50	3
	*Non CGPA	Internships (Within Semester V)	--	--	*4				
		Co- curricular (MOOCs) (Within Sem III)	--	--	*2				
		Extra-curricular (Within Sem III)	--	--	*2				
		Total	18	12	22	280	420	700	
Total No of Credits in the Second Year :: 44									
CC: Compulsory Course; AECC: Ability Enhancement Compulsory Course; SEC: Skill Enhancement Course; DSC: Discipline Specific Course; T: Theory; P: Practical; I: Internal Exam E: End Semester Exam									

FIFTH SEMESTER									
Subject Code	Course Type	Course Title	Hours/Week		Credits	Max. Marks		Total Marks	Duration of Exam
			L	P/T		Int	Ext		
MM-5-MM-24T/ LS-5-MM-24T	SEC	Mathematics: Mathematical Modeling / Logic & Sets	2	--	2	20	30	50	2
OT-5-ST-24T		Statistics: Optimization Techniques							
CSE-5-CS-24T		Data Science: Cyber Security Essentials							
----	GE	*Courses offered by other Departments	4	--	4	40	60	100	3
ML-5-CS-24T	DSC	Data Science - VII: Machine Learning (Theory)	4	--	4	40	60	100	3
LA-5-MM-24T	DSC	Mathematics-V: Linear Algebra	4	--	4	40	60	100	3
AS1-5-ST-24T	DSC	Statistics-V: Analytical Statistics I	4	--	4	40	60	100	3
ML-5-CS-24P	DSC	Data Science - VII: Machine Learning Lab	--	3	1	20	30	50	3
LA-5-MM-24P	DSC	Linear Algebra	--	3	1	20	30	50	3
ASI-5-ST-24P	DSC	Analytical Statistics I	--	3	1	20	30	50	3
		Total	18	9	21	240	360	600	

SEC: Skill Enhancement Course; **DSC:** Discipline Specific Course; **DSE:** Discipline Specific Elective; **GE:** Generic Elective; **T:** Theory; **P:** Practical; **I:** Internal Exam **E:** End Semester Exam

SIXTH SEMESTER

Subject Code	Course Type	Course Title	Hours/Week		Credits	Max. Marks		Total Marks	Duration of Exam
			L	P/T		Int	Ext		
TE-6-MM-24T /VC-6-MM-24T	SEC	Mathematics: Theory of Equations / Vector Calculus	1	2	2	20	30	50	2
RP-6-ST-24T		Statistics: R Programming							
TATDS-6-CS-24T		Data Science: Techniques and Tools for Data Science							
BDA-6-CS-24T	DSC	Data Science - VIII: Big Data Analytics	4	--	4	40	60	100	3
DL-6-CS-24T	DSC	Data Science -IX Deep Learning (Theory)	4	--	4	40	60	100	3
AS2-6-ST-24T	DSC	Statistics VI: Analytical Statistics II	4	--	4	40	60	100	3
BDA-6-CS-24P	DSC	Data Science - VIII: Big Data Analytics Lab	--	3	1	20	30	50	3
DL-6-CS-24P	DSC	Data Science -IX Deep Learning Lab	--	3	1	20	30	50	3
AS2-6-ST-24P	DSC	Statistics VI: Analytical Statistics II Lab	--	3	1	20	30	50	3
MPR-6-CS-24T	PR	Data Science: Mini Project	1	2	2	20	30	50	3
		Total	14	13	19	220	330	550	

Total No of Credits in the Third Year: 40

SEC: Skill Enhancement Course; **DSE:** Discipline Specific Elective; **T:** Theory; **P:** Practical;
I: Internal Exam **E:** End Semester Exam; **PR:** Project Report;

SEVENTH SEMESTER									
Subject Code	Course Type	Course Title	Hours/Week		Credits	Max. Marks		Total Marks	Duration of Exam
			L	P/T		Int	Ext		
CV-7-CS-24T	DSC	Data Science –X: Computer Vision	4	--	4	40	60	100	3
NLP-7-CS-24T	DSC	Data Science –XI: Natural Language Processing	4	--	4	40	60	100	3
SMNA-7-CS-24T HCA-7-CS-24T TAA-7-CS-24T	DSE	Elective I A. Social Media Network Analytics B. Health Care Analytics C. Banking & Financial Analytics	4	--	4	40	60	100	3
CV-7-CS-24P	DSC	Data Science –X: Computer Vision Lab	--	3	1	20	30	50	3
NLP-7-CS-24P	DSC	Data Science –XI: Natural Language Processing Lab	--	3	1	20	30	50	3
SMNA-7-CS-24P HCA-7-CS-24P TAA-7-CS-24P	DSE	Elective I A. Social Media Network Analytics B. Health Care Analytics C. Text Analytics	--	3	1	20	30	50	3
IS-7-CS-24T	PR	Internship	2	4	4	40	60	100	3
		Total	14	13	19	220	330	550	

SEC: Skill Enhancement Course; **DSC:** Discipline Specific Course; **DSE:** Discipline Specific Elective;
GE: Generic Elective; **T:** Theory; **P:** Practical; **I:** Internal Exam **E:** End Semester Exam

EIGHTH SEMESTER									
Subject Code	Course Type	Course Title	Hours/Week		Credits	Max. Marks		Total Marks	Duration of Exam
			L	P/T		Int	Ext		
ANN-8-CS-24T RL-8-CS-24T BACC-8-CS-24T	DSE	Elective II A. Artificial Neural Network B. Reinforcement Learning C. Big Data & Cloud Computing	4	--	4	40	60	100	3
ANN-8-CS-24P RL-8-CS-24P BACC-8-CS-24P	DSE	Elective II D. Artificial Neural Network Lab E. Reinforcement Learning Lab F. Big Data & Cloud Computing Lab	--	3	1	20	30	50	3
DSPR-8-CS-24T	DSC	Data Science: Major Project	4	8	8	40	60	100	3
		Total	8	11	13	100	150	250	
Total No of Credits in the Fourth Year :32									
SEC: Skill Enhancement Course; DSE: Discipline Specific Elective; T: Theory; P: Practical; I: Internal Exam E: End Semester Exam: PR: Project Report;									

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SUMMARY OF CREDITS


Sl. No.	Course Category	No. of Courses	Credits per Course	Total Credits
1	CC (English Language)	2	5	10
2	DSC	22 Mathamatics-5 Statistics-6 Data Science 11	5	110
3	DSE	2	5	10
4	GE	1	4	4
5	AECC	2	2	4
6	SEC	4	2	8
7	Mini Project	1	2	2
8	Internship	1	4	4
9	Major Project	1	8	8
	TOTAL	36		160
9	Non-CGPA courses	Value added course MOOC's & Extracurricular courses	*6	
		Internship	*2	

Year Wise Credits Summary

Year	Total Credits
First	44
Second	44
Third	40
Fourth	32
Total no. of Credits by the end of Fourth year 160	

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