B. Tech. (IT & Mathematical Innovations)

COURSE STRUCTURE
Semester VII
(Modifications proposed in the curriculum of Semester VII)
(Some of the DSE courses in italics are proposed to be shifted to semester VIII)

PS. No.	Course No.	Interactive Learning Modules (Course Title)	Credits			
			L	T	P	Total
1	DSC 19	Data Mining and Data Warehousing	3	1	0	4
2	DSE*	*Computer Graphics* (Shifted to 8th sem. Modified curriculum for approval attached)	3	1	0	4
		Theory of Computation				
		Computational Social Systems				
		Network Science				
		Business Intelligence and Advanced Data Analytics (Shifted to 8th sem)				
		Deep Learning and Applications				
		Internet and Web Technology (Shifted to 8th sem)				
		Natural Language Processing				
		Partial Differential Equations (Shifted to 8th sem)				
		Operation Research				
		Mathematical Modeling with emphasis on Robotics				
		Brain and Cognition: Computational Neurosciences (Shifted to 8th sem)				
		Biological Networks and Data Analysis	2	0	2	
		Systems Biology (Shifted to 8th sem)				
		IoT Security and Machine Learning[#]	1	0	3	
		Integral Transformation and Application[#]				
3	GE 7*	Environment Management	2	0	2	4
		Principles of Financial Decision Making	3	1	0	
		Biodefense and Bioengineering	2	0	2	
		Devices and Nanotechnology	3	1	0	
4	Project	Research Internship/Academic projects/ Entrepreneurial Ventures*	0	0	6	6

- **Key: L: Lecture, T: Tutorial, P: Project/Practical/Internships**
- **# These DSE courses are also offered in 5th Semester.**

*Note: Per the University of Delhi UGCF structure, students can choose 3 DSE OR 2 DSE and 1 GE OR 1 DSE and 2 GE from the provided list.
The courses in italics are proposed to be shifted to Semester VIII.

The Modified Curriculum of Semester VII

PS. No.	Course No.	Interactive Learning Modules (Course Title)	L	T	P	Total
1	DSC 19	Data Mining and Data Warehousing	3	1	0	4
2	DSE	Theory of Computation	0	0	4	4
		Computational Social Systems				
		Network Science				
		Deep Learning and Applications				
		Natural Language Processing				
		Operation Research				
		Mathematical Modeling with emphasis on Robotics				
		Biological Networks and Data Analysis	2	0	2	
		IoT Security and Machine Learning[#]	1	0	3	
		Integral Transformation and Application[#]				
3	GE 7*	Environment Management	2	0	2	4
		Principles of Financial Decision Making	3	1	0	
		Biodefense and Bioengineering	2	0	2	
		Devices and Nanotechnology	3	1	0	
4	Project	Research Internship/Academic projects/ Entrepreneurial Ventures*	0	0	6	6

- **Key: L: Lecture, T: Tutorial, P: Project/Practical/Internships**
- **# These DSE courses are also offered in 5th Semester.**
- ***Note: Per the University of Delhi UGCF structure, students can choose 3 DSE OR 2 DSE and 1 GE OR 1 DSE and 2 GE from the provided list.**

Curriculum of Semester VIII

PS. No.	Course No.	Interactive Learning Modules (Course Title)	Credits			
			L	T	P	Total
1	DSC 20	Complex Analysis and Algebra	3	1	0	4
2	DSE	Computer Art and Design Techniques	1	0	3	4
		Machine Learning for Business Intelligence	1	0	3	
		Crafting Digital Experiences: A Practical Approach to Web Design and Programming	0	0	4	
		Modeling Continuous Changes Through Partial Differential Equations	3	1	0	
		Brain and Cognition: Computational Neurosciences	1	0	3	
		Systems Biology	1	0	3	
		Virtual Reality#	0	0	4	
		Complex Systems#	0	0	4	
		Computational Analysis of OMICS data#	0	0	4	
3	GE 8*	Contribution of Indian Knowledge System to Science, Engineering and Technology	3	1	0	4
		Public Health and Health Informatics	2	0	2	
		Income Tax Essentials: From Basic Concepts to Tax Planning	3	0	1	
		Integrative Biology	3	0	1	
4	Project@	Academic Project/ Research Dissertation/ Entrepreneurship	0	0	6	6

- **Key: L: Lecture, T: Tutorial, P: Project/Practical/Internships**
- **# These DSE courses are also offered in 6th Semester.**
  *Note: As per the University of Delhi UGCF structure, students can choose either 3 DSE OR 2 DSE and 1 GE OR 1 DSE and 2 GE from the provided list.
  @: The expected outcomes of the Academic Project/ Research Dissertation/ Entrepreneurship enclosed along with the detailed syllabus.