FACULTY OF SCIENCE

COURSE STRUCTURE

(Choice Based Credit System)

MASTER OF SCIENCE (GEOINFORMATICS)

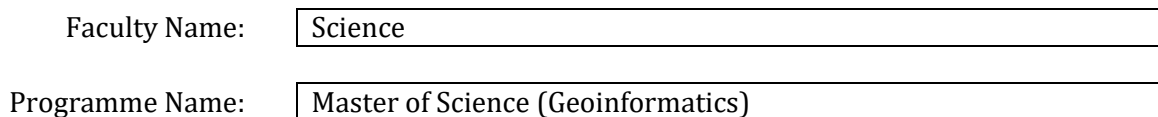**Effective from Academic Year: 2022-23**

Programme Structure Summary

Course Group	Course Name	Cr	Teaching Scheme				INT(T) Max./ Passing	EXT(T) Max./ Passing	INT(P) Max./ Passing	EXT(P) Max./ Passing	Grand Total Max./ Passing
			T	P	Tu	Cont. Hrs					
Core	Principles of Geographical Information System	4	4	0	0	4	50/20	50/20			100/40
Core	Principles and Applications of GPS	4	4	0	0	4	50/20	50/20			100/40
Core	Principles of Remote Sensing	4	4	0	0	4	50/20	50/20			100/40
Core	Comprehensive Viva-Voce	1	0	0	0	-				50/20	50/20
*Elective	Python Programming	4	4	0	0	4	50/20	50/20			100/40
*Elective	Photogrammetry	4	4	0	0	4	50/20	50/20			100/40
Core	RDBMS and Python Programming Lab	4	0	8	0	8			50/20	50/20	100/40
Core	GIS Lab	4	0	8	0	8			50/20	50/20	100/40

SEMESTER 1 header row spans the table above.

* Any One Elective

Course Group	Course Name	Cr	Teaching Scheme				INT(T) Max./ Passing	EXT(T) Max./ Passing	INT(P) Max./ Passing	EXT(P) Max./ Passing	Grand Total Max./ Passing
			T	P	Tu	Cont. Hrs					
Core	Digital Image Processing	4	4	0	0	4	50/20	50/20			100/40
Core	Spatial Analysis and Modelling	4	4	0	0	4	50/20	50/20			100/40
Core	Web Programming	4	4	0	0	4	50/20	50/20			100/40
Core	Comprehensive Viva-Voce	1	0	0	0	-				50/20	50/20
*Elective	Natural Resources Management	4	4	0	0	4	50/20	50/20			100/40
*Elective	Disaster Management	4	4	0	0	4	50/20	50/20			100/40
Core	Image Processing Lab	4	0	8	0	8			50/20	50/20	100/40
Core	Web Programming Lab	4	0	8	0	8			50/20	50/20	100/40

SEMESTER 2 header row spans the table above.

* Any One Elective

		SEMESTER 3									
Course Group	Course Name	Cr	Teaching Scheme				INT(T) Max./ Passing	EXT(T) Max./ Passing	INT(P) Max./ Passing	EXT(P) Max./ Passing	Grand Total Max./ Passing
			T	P	Tu	Cont. Hrs					
Core	Spatial Data Infrastructure & Web GIS Services	4	4	0	0	4	50/20	50/20			100/40
Core	QGIS Tools and Applications Development	4	4	0	0	4	50/20	50/20			100/40
Core	Mobile GIS	4	4	0	0	4	50/20	50/20			100/40
Core	QGIS Lab	4	0	8	0	8			50/20	50/20	100/40
Core	Mobile GIS Lab	4	0	8	0	8			50/20	50/20	100/40
Core	Comprehensive Viva- Voce	1	0	0	0	-				50/20	50/20
*Elective	Geoinformatics Application in Governance	4	4	0	0	4	50/20	50/20			100/40
*Elective	Geoinformatics Application in Utility Management	4	4	0	0	4	50/20	50/20			100/40

* Any One Elective

		SEMESTER 4									
Course Group	Course Name	Cr	Teaching Scheme				INT(T) Max./ Passing	EXT(T) Max./ Passing	INT(P) Max./ Passing	EXT(P) Max./ Passing	Grand Total Max./ Passing
			T	P	Tu	Cont. Hrs					
Core	Project Work	24							300/ 120	300/ 120	600/ 240
Core	Comprehensive Viva-Voce	1								50/20	50/20

Faculty Name:	Science

Programme Name:	Master of Science (Geoinformatics)

Programme Outcomes (PO)

PO-1	To create professionals in the field of Geospatial Technology
PO-2	To develop Hand on Learning experience to provide solutions to solve real life geospatial problems.
PO-3	An ability to share theoretical and practical knowledge in both teaching and research as well as in industries.
PO-4	Foster cooperation among students enabling them to connect and contribute towards teamwork activities.
PO-5	The comprehensive syllabus promotes and develops a thorough knowledge of concepts, methods, and theory.
PO-6	Students will learn how to prepare map based on GIS by using the modern geographical map-making techniques.
PO-7	Acquire the ability to engage in independent and life-long learning in the broadest context social, environmental, and technological changes
PO-8	Take informed actions after identifying the assumptions that frame our thinking and actions, checking out the degree to which these assumptions are accurate and valid, and looking at our ideas and decisions from different perspectives.

Faculty Name:	Science

Programme Name:	Master of Science (Geoinformatics)

Programme Specific Outcomes (PSO)

PSO-1	Apply fundamental and advanced concepts of GIS, GPS, Remote Sensing, and Photogrammetry to collect, process, analyze, and visualize spatial data effectively.
PSO-2	Develop practical skills in using contemporary geospatial tools such as QGIS, Mobile GIS applications, Spatial Data Infrastructure, and Web GIS services for real-world problem solving.
PSO-3	Design and implement geospatial solutions for diverse domains including disaster management, governance, and utility services through independent project work and internships.
PSO-4	Demonstrate proficiency in programming languages and database management relevant to geoinformatics, enhancing capability to develop custom GIS tools and web applications.

Faculty Name:	Science
Programme Name:	Master of Science (Geoinformatics)
Semester:	I

Academic Batch: 2022-23

Course Group	Board of Studies / Faculty Ownership	Course Code	Course Name	Cr	Teaching Scheme				Assessment/ Evaluation Type		External Exam Duration (Hrs.)		INT(T) Max./ Passing	EXT(T) Max./ Passing	INT(P) Max./ Passing	EXT(P) Max./ Passing	Grand Total Max./ Passing
					T	P	Tu	Cont. Hrs	T	P	T	P					
Core	Interdisciplinary	201400101	Principles of Geographical Information System	4	4	0	0	4	T		2		50/20	50/20			100/40
Core	Interdisciplinary	201400102	Principles and Applications of GPS	4	4	0	0	4	T		2		50/20	50/20			100/40
Core	Interdisciplinary	201400103	Principles of Remote Sensing	4	4	0	0	4	T		2		50/20	50/20			100/40
Core	Interdisciplinary	201400104	Comprehensive Viva-Voce	1	0	0	0	-		P						50/20	50/20
*Elective	Interdisciplinary	201400107	Python Programming	4	4	0	0	4	T		2		50/20	50/20			100/40
*Elective	Interdisciplinary	201400108	Photogrammetry	4	4	0	0	4	T		2		50/20	50/20			100/40
Core	Interdisciplinary	201400109	RDBMS and Python Programming Lab	4	0	8	0	8		P		3			50/20	50/20	100/40
Core	Interdisciplinary	201400110	GIS Lab	4	0	8	0	8		P		3			50/20	50/20	100/40

 # T = Theory, P = Practical, Tu = Tutorial

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Faculty Name: Science

Programme Name: Master of Science (Geoinformatics)

Semester: II

Academic Batch: 2022-23

Course Group	Board of Studies / Faculty Ownership	Course Code	Course Name	Cr	Teaching Scheme				Assessment/ Evaluation Type		External Exam Duration (Hrs.)		INT(T) Max./ Passing	EXT(T) Max./ Passing	INT(P) Max./ Passing	EXT(P) Max./ Passing	Grand Total Max./ Passing
					T	P	Tu	Cont. Hrs	T	P	T	P					
Core	Interdisciplinary	201400201	Digital Image Processing	4	4	0	0	4	T		2		50/20	50/20			100/40
Core	Interdisciplinary	201400202	Spatial Analysis and Modelling	4	4	0	0	4	T		2		50/20	50/20			100/40
Core	Interdisciplinary	201400203	Web Programming	4	4	0	0	4	T		2		50/20	50/20			100/40
Core	Interdisciplinary	201400204	Comprehensive Viva-Voce	1	0	0	0	-		P						50/20	50/20
*Elective	Interdisciplinary	201400207	Natural Resources Management	4	4	0	0	4	T		2		50/20	50/20			100/40
*Elective	Interdisciplinary	201400208	Disaster Management	4	4	0	0	4	T		2		50/20	50/20			100/40
Core	Interdisciplinary	201400209	Image Processing Lab	4	0	8	0	8		P		3			50/20	50/20	100/40
Core	Interdisciplinary	201400210	Web Programming Lab	4	0	8	0	8		P		3			50/20	50/20	100/40

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Faculty Name: Science

Programme Name: Master of Science (Geoinformatics)

Semester: III

Academic Batch: 2022-23

Course Group	Board of Studies / Faculty Ownership	Course Code	Course Name	Cr	Teaching Scheme				Assessment/ Evaluation Type		External Exam Duration (Hrs.)		INT(T) Max./ Passing	EXT(T) Max./ Passing	INT(P) Max./ Passing	EXT(P) Max./ Passing	Grand Total Max./ Passing
					T	P	Tu	Cont. Hrs	T	P	T	P					
Core	Interdisciplinary	201400301	Spatial Data Infrastructure & Web GIS Services	4	4	0	0	4	T		2		50/20	50/20			100/40
Core	Interdisciplinary	201400302	QGIS Tools and Applications Development	4	4	0	0	4	T		2		50/20	50/20			100/40
Core	Interdisciplinary	201400303	Mobile GIS	4	4	0	0	4	T		2		50/20	50/20			100/40
Core	Interdisciplinary	201400304	QGIS Lab	4	0	8	0	8		P		3					50/20
Core	Interdisciplinary	201400305	Mobile GIS Lab	4	0	8	0	8		P		3	50/20	50/20			100/40
Core	Interdisciplinary	201400306	Comprehensive Viva- Voce	1	0	0	0	-		P						50/20	100/40
*Elective	Interdisciplinary	201400307	Geoinformatics Application in Governance	4	4	0	0	4	T		2		50/20	50/20			100/40
*Elective	Interdisciplinary	201400308	Geoinformatics Application in Utility Management	4	4	0	0	4	T		2		50/20	50/20			100/40

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Faculty Name:	Science
Programme Name:	Master of Science (Geoinformatics)
Semester:	IV

Academic Batch: 2022-23

Course Group	Board of Studies / Faculty Ownership	Course Code	Course Name	Cr	Teaching Scheme				Assessment/ Evaluation Type		External Exam Duration (Hrs.)		INT(T) Max./ Passing	EXT(T) Max./ Passing	INT(P) Max./ Passing	EXT(P) Max./ Passing	Grand Total Max./ Passing
					T	P	Tu	Cont. Hrs	T	P	T	P					
Core	Interdisciplinary	201400401	Project Work	24								2			300/120	300/120	600/240
Core	Interdisciplinary	201400402	Comprehensive Viva-Voce	1								2				50/20	50/20

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