

**Scheme**  
**M.Sc. (Geospatial Science) 2025-2027**

## PROPOSED SCHEME FOR M.Sc (GEOSPATIAL SCIENCE) FIRST SEMESTER

Teaching Scheme						Contact Hours/ Week			Exam Duration		Relative Weightage %				
S. No.	Subject Code	Course Title	Course Name	Course Type	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1	MSGS101	DCC-1	Introduction to Geospatial Science, Physics, Cognition and Spatial Thinking	DCC	4	3	1	0	3	0	25	-	25	50	-
2	MSGS103	DCC-2	Mathematics-I: Foundational Spatial Mathematics	DCC	4	3	1	0	3	0	25	-	25	50	-
3	MSGS105	DCC-3	RS -I Principles of Photogrammetry, and Remote Sensing in Geospatial Science (P)	DCC	4	3	0	2	3	2	15	25	20	40	-
4	MSGS107	DCC – 4	GIS -I Fundamentals of Geographical Information Science and Spatial Analysis (P)	DCC	4	3	0	2	3	2	15	25	20	40	-
5	MSGS109	DCC – 5	Survey – I: Principles of Surveying, Cartography, and Mapping in Geospatial Science (P)	DCC	4	3	0	2	3	2	15	25	20	40	-
6	MSGS111	DCC - 6	Basic Physical and Satellite Geodesy	DCC	2	0	0	2	0	2	15	25	20	40	-
7	MSGS113 (Non-CGPA)	SEC- 1	Geospatial Programming and AI/ML for Scientific Computing (MATLAB, GEE and Simple App Development) (P)	Skill	2	0	0	2	0	2	15	25	20	40	-
8	MSGS115 (Non-CGPA)	AEC - 1	Scientific Communication and Research Methodology	Ability	2	2	0	0	3	0	25	-	25	50	-
<b>Total</b>					<b>26</b>										

### Credits

Total	Core	Generic Electives (GEC)	Skill	Ability
26	22	-	2	2

## PROPOSED SCHEME FOR M.Sc (GEOSPATIAL SCIENCE) SECOND SEMESTER

Teaching Scheme						Contact Hours/ Week			Exam Duration		Relative Weightage %				
S. No.	Subject Code	Course Title	Course Name	Course Type	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1.	MSGS 202	DEC-1	(i) Foundations of Earth and Environmental Sciences (ii) Foundations of Physical and Planetary Sciences (iii) Foundations of Life and Biological Sciences	DEC	4	3	1	0	3	0	25	-	25	50	-
2.	MSGS 204	DCC-7	Mathematics – II : Advanced Spatial Mathematics	DCC	4	3	1	0	3	0	25	-	25	50	-
3.	MSGS 206	DCC-8	Remote Sensing – II Thermal and Hyperspectral Remote Sensing in Geospatial Science (P)	DCC	4	3	0	2	3	2	15	25	20	40	-
4.	MSGS 208	DCC – 9	GIS – II Advanced Geographical Information Science and Web-Based Spatial Analysis (P)	DCC	4	3	0	2	3	2	15	25	20	40	-
5.	MSGS 210	DCC – 10	Fundamentals of Digital Image Processing (P)	DCC	4	3	0	2	3	2	15	25	20	40	-
6.	MSGS 212	DCC – 11	Navigational Sciences – GNSS and PNT	DCC	2	0	0	2	0	3	-	50	-	-	50
7.	MSGS 214 (Non-CGPA)	SEC – 2	Geospatial Programming and AI/ML for Scientific Computing (Python, R and Simple App Development) (P)	Skill	2	0	0	2	0	3	-	50	-	-	50
8.	MSGS 216 (Non-CGPA)	AEC - 2	Dissertation - I	Ability	2	0	0	4	0	4	-	50	-	-	50
<b>Total</b>					<b>26</b>										

### Credits

Total	Core	Generic Electives (GEC)	Skill	Ability
26	22	-	2	2

**PROPOSED SCHEME FOR M.Sc (GEOSPATIAL SCIENCE) THIRD SEMESTER (OPTION -1 )**

Teaching Scheme						Contact Hours/ Week			Exam Duration		Relative Weightage %				
S. No.	Subject Code	Course Title	Course Name	Course Type	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1	MSGS 301	DCC – 12	Mathematics- III- Probability and Statistics in Geospatial Science	DCC	4	3	1	0	3	0	25	-	25	50	-
2	MSGS 303	DCC – 13	Microwave and LiDAR Remote Sensing: Principles and Applications in Geospatial Science (P)	DCC	4	3	0	2	3	2	15	25	20	40	-
3	MSGS 305	DCC – 14	Survey – II : Integrated Advanced Geodesy and Surveying for Geospatial Science: Terrestrial, Subsurface, Under-Water, and Aerial (Including UAVs) (P)	DCC	4	3	0	2	3	2	15	25	20	40	-
4	MSGS 307	DSE – 1	(i)Agricultural Sciences (ii)Geology and Geophysics (iii)Disaster Management	DSE	4	3	1	0	3	0	25	-	25	50	-
5	MSGS 309	DSE - 2	(i) Exploring Lunar Surface and Environment (ii) Exploring Martian Surface and Environment (iii) Exploring Suns inner and outer environment (P)	DSE	4	3	0	2	3	2	15	25	20	40	-
6	MSGS 311	DSE – 3	(i) Geospatial Application in Meteorology (ii) Geospatial Application in Hydrology (iii) Geospatial Application in Atmosphere Science and Climate	DSE	4	3	1	0	3	0	25	-	25	50	-
<b>Total</b>					<b>24</b>										

**PROPOSED SCHEME FOR M.Sc (GEOSPATIAL SCIENCE) FOURTH SEMESTER OPTION - 1 )**

Teaching Scheme						Contact Hours/ Week			Exam Duration		Relative Weightage %				
S. No.	Subject Code	Course Title	Course name	Course Type	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1	MSGS 402	DCC – 15	Dissertation	DCC	4	0	0	4	0	2	-	50	-	-	50
2	MSGS 404	DSE – 4	(i) Advanced Geospatial Programming and AI/ML in Geospatial Science (Python, R, MATLAB, Java) (P) (ii) Mobile App Development for Geospatial Science (P) (iii) High-Performance Computing for Remote Sensing, API Integration, and Web GIS in Geospatial Science (P)	DSE	4	3	0	2	0	3	15	25	20	40	-
3	MSGS 406	DSE – 5	(i) Digital Image Processing in Geospatial Science (ii) Pattern Recognition and Machine Learning for Geospatial Data Analysis (iii) Multi-Sensor and Multi-Resolution Image Analysis in Geospatial Science (P)	DSE	4	3	0	2	3	2	15	25	20	40	-
4	MSGS 408	DSE -6	(i) Geospatial Applications in Security and Geointelligence (ii) Geospatial Applications in Public Health (iii) Geospatial Applications in	DSE	4	3	0	2	3	2	15	25	20	40	-

			Commerce and Business (P)													
5	MSGGS 410	DSE – 7	(i) Advanced Physical and Satellite Geodesy (ii) Advanced Earth and Planetary Navigation (iii) Underwater, Subsurface, and Aerial Navigation in GNSS-Denied Environments	DSE	4	3	1	0	3	0	25	-	25	50	-	
6	MSGGS 412	DSE – 8	(i) Photogrammetry & 3D Modelling, (ii) Geospatial Data Standards & Interoperability (iii) Digital Twins and Building Information Modeling (BIM)	DSE	2	3	1	0	3	0	25	-	25	50	-	
	<b>Total</b>				<b>22</b>											

**PROPOSED SCHEME FOR M.Sc (GEOSPATIAL SCIENCE) THIRD SEMESTER (OPTION - 2 )**

Teaching Scheme						Contact Hours/ Week			Exam Duration		Relative Weightage %				
S. No.	Subject Code	Course Title	Course Name	Course Type	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1	MSGS 301	DCC – 12	Mathematics- III- Probability and Statistics in Geospatial Science	DCC	4	3	1	0	3	0	25	-	25	50	-
2	MSGS 303	DCC – 13	Microwave and LiDAR Remote Sensing: Principles and Applications in Geospatial Science (P)	DCC	4	3	0	2	3	2	15	25	20	40	-
3	MSGS 305	DCC – 14	Survey – II : Integrated Advanced Geodesy and Surveying for Geospatial Science: Terrestrial, Subsurface, Under-Water, and Aerial (Including UAVs) (P)	DCC	4	3	0	2	3	2	15	25	20	40	-
4	MSGS 307	DSE – 1	(i)Agricultural Sciences (ii)Geology and Geophysics (iii)Disaster Management	DSE	4	3	1	0	3	0	25	-	25	50	-
5	MSGS 309	DSE - 2	(i) Exploring Lunar Surface and Environment (ii) Exploring Martian Surface and Environment (iii) Exploring Suns inner and outer environment (P)	DSE	4	3	0	2	3	2	15	25	20	40	-
6	MSGS 311	DSE – 3	(i) Geospatial Application in Meteorology (ii) Geospatial Application in Hydrology (iii) Geospatial Application in Atmosphere Science and Climate	DSE	4	3	1	0	3	0	25	-	25	50	-
<b>Total</b>					<b>24</b>										

**PROPOSED SCHEME FOR M.Sc (GEOSPATIAL SCIENCE) FOURTH SEMESTER (OPTION - 2)**

Teaching Scheme						Contact Hours/ Week			Exam Duration		Relative Weightage %				
S. No.	Subject Code	Course Title	Course Name	Course Type	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1	MSGC 402	DCC- 15	Research Thesis / Project Work	DCC	22	0	0	12	0	2	-	50	-	50	-
		<b>Total</b>			22										

**PROPOSED SCHEME FOR M.Sc (GEOSPATIAL SCIENCE) THIRD SEMESTER (OPTION - 3)**

Teaching Scheme						Contact Hours/ Week			Exam Duration		Relative Weightage %				
S. No.	Subject Code	Course Title	Course Name	Course Type	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1	MSGC 402	DCC- 15	Research Thesis / Project Work	DCC	22	0	0	12	0	2	-	50	-	50	-
<b>Total</b>					<b>22</b>										

**PROPOSED SCHEME FOR M.Sc (GEOSPATIAL SCIENCE) FOURTH SEMESTER (OPTION - 3 )**

Teaching Scheme						Contact Hours/ Week			Exam Duration		Relative Weightage %				
S. No.	Subject Code	Course Title	Course Name	Course Type	Credit	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1	MSGC 402	DCC- 15	Research Thesis / Project Work	DCC	22	0	0	12	0	2	-	50	-	50	-
<b>Total</b>					<b>22</b>										