



Date :- 01/08/2024

NOTIFICATION

Sub :- CBCS Syllabi of B. Sc. in Geography (Sem. I & II)

Ref. :- Decision of the Academic Council at its meeting held on 27/07/2024.

The Syllabi of B. Sc. in Geography (First and Second Semesters) as per **NATIONAL EDUCATION POLICY – 2020 (2024 Pattern)** and approved by the Academic Council as referred above are hereby notified for implementation with effect from the academic year 2024-25.

Copy of the Syllabi Shall be downloaded from the College Website
(www.kcesmjcollege.in)

Sd/-
Chairman,
Board of Studies

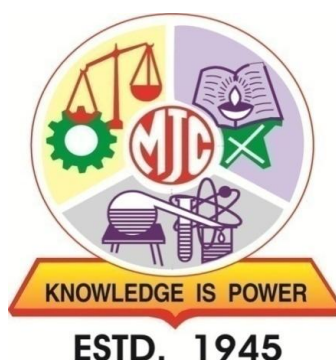
To :

- 1) The Head of the Dept., M. J. College, Jalgaon.
- 2) The office of the COE, M. J. College, Jalgaon.
- 3) The office of the Registrar, M. J. College, Jalgaon.

Knowledge is Power

Khandesh College Education Society's
Moolji Jaitha College, Jalgaon
An "Autonomous College"

Affiliated to
Kavayitri Bahinabai Chaudhari
North Maharashtra University, Jalgaon-425001



STRUCTURE AND SYLLABUS

B.Sc. Honours/Honours with Research (F.Y.B.Sc. Geography)

**Under Choice Based Credit System (CBCS)
and
as per NEP-2020 Guidelines**

[w.e.f. Academic Year:2024-25]

Preface

Geography, as a subject, is an ancient discipline that explores the interactions between humans and their environment. Over the years, geography has evolved and incorporated various technological advancements, leading to significant developments in the field. One such noteworthy transformation has been the integration of Remote Sensing (RS), Geographic Information Systems (GIS), and Global Positioning System (GPS) technologies. These cutting-edge tools have revolutionized how geographers collect, analyze, and interpret spatial data, making geography an even more dynamic and relevant subject in contemporary times.

The Department of Geography at M. J. College (Autonomous), Jalgaon, is at the forefront of embracing these recent trends in geography. Through the courses offered, including B.A. Geography, B.Sc. Geography, M.A/M.Sc. Geography, and Ph.D., the department equips students with comprehensive knowledge and practical skills to navigate the complexities of modern geography. Additionally, the Certificate Course in Geoinformatics serves as a valuable platform for students to delve deeper into the applications of RS, GIS, and GPS technologies.

One of the standout characteristics of the Department is its team of expert and qualified faculties. These educators not only possess extensive academic knowledge but also have hands-on experience in utilizing geospatial technologies effectively. Their guidance empowers students to explore and understand the intricacies of geographical phenomena using the latest tools and methodologies. The Department boasts state-of-the-art facilities, including smart laboratories for practicals, a central library supplemented with a departmental library, and a well-equipped GIS computer lab with internet access. The availability of these resources ensures that students have ample opportunities to engage in hands-on learning and conduct research, contributing to a comprehensive understanding of geographic concepts. Moreover, the Department has been recognized as a research center for Ph.D. studies, encouraging scholarly pursuits in the realm of geography. This designation highlights the institution's commitment to pushing the boundaries of geographical knowledge and fostering innovative research in the field. The integration of technology in geography education is further augmented by the presence of smart classrooms and advanced geographical instruments. These resources enable interactive learning and support students in developing a deep appreciation for the spatial dimensions of various phenomena. In addition to academic excellence, the Department is devoted to providing specialized coaching for national-level exams such as NET/SET and competitive examinations. This emphasis on exam preparation equips students with the necessary skills to excel in their careers and become leading professionals in the field of geography. The collaboration with the Indian Institute of Remote Sensing (IIRS) as an Outreach Training Program center is a testament to the Department's commitment to keeping abreast of the latest advancements in geospatial technology. This association allows students and faculties to participate in training programs conducted by experts in the field, enhancing their knowledge and skills in RS, GIS, and GPS applications. Furthermore, the Department of Geography at M. J. College (Autonomous), Jalgaon, proudly boasts access to the best telescopes for sky watching. This unique feature provides students with an opportunity to explore celestial phenomena and their connections with the Earth, bridging the gap between the terrestrial and astronomical realms.

Finally, the Department's focus on career opportunities in geography ensures that graduates are well-prepared to enter various professional fields. The interdisciplinary nature of geography opens doors to careers in environmental management, urban planning, disaster management, cartography, geospatial analysis, and more. The versatility of geography as a subject makes it a rewarding and promising choice for students seeking diverse and impactful career paths. The Department of Geography at M. J. College (Autonomous), Jalgaon, stands as a vibrant and progressive hub for geography education. The integration of RS, GIS, and GPS technologies, coupled with expert faculty, modern facilities, and extensive research opportunities, equips students to become adept geographers, ready to address the pressing challenges of our ever-changing world.

Program Outcomes (PO) for B.Sc. Program:

Program outcomes associated with a B.Sc. degree are as follows:

PO No.	PO
PO1	Graduates should have a comprehensive knowledge and understanding of the fundamental principles, theories, and concepts in their chosen field of study.
PO2	Graduates should possess the necessary technical skills and competencies related to their discipline, including laboratory techniques and data analysis.
PO 3	Graduates should be able to identify, analyze, and solve complex problems using logical and critical thinking skills. They should be able to apply scientific methods and principles to investigate and find solutions.
PO4	Graduates should be proficient in effectively communicating scientific information, both orally and in writing.
PO 5	Graduates should have a basic foundation in research methods and be capable of designing and conducting scientific investigations.
PO 6	Graduates should be able to work effectively as part of a team, demonstrating the ability to collaborate with others, respect diverse perspectives, and contribute to group projects.
PO 7	Graduates should recognize the importance of ongoing learning and professional development. They should be equipped with the skills and motivation to engage in continuous learning, adapt to new technologies and advancements in their field, and stay updated with current research.

Program Specific Outcome PSO (B.Sc. Geography):

After completion of this course, students are expected to learn/understand the:

PO No.	PSO
PSO1	Geographical terms, concepts, and theories and will be able to explain and find out the relation between geographical factors and processes.
PSO2	Develop and prepare various thematic maps and map reading skills.
PSO 3	How their life is related to different geographical factors such as environmental, economic, social, and cultural at the local and global scale. He/she will be able to evaluate factors such as environmental, economic, social, and cultural, with respect to spatial dimensions from a local to global scale.
PSO 4	Interpretation of thematic maps through visual and/or digital interpretation of topographic maps, weather maps, aerial photographs, and satellite images.
PSO 5	Remote sensing concepts, and techniques in various fields of earth and environment sciences.
PSO 6	Geographical distribution of the global human population and factors affecting human populations including human settlement and economic activities and transport networks. The students will be able to understand the impacts of human activities on the physical environment.

Multiple Entry and Multiple Exit options:

The multiple entry and exit options with the award of UG certificate/ UG diploma/ or three-year degree depending upon the number of credits secured;

Levels	Qualification Title	Credit Requirements		Semester	Year
		Minimum	Maximum		
4.5	UG Certificate	40	44	2	1
5.0	UG Diploma	80	88	4	2
5.5	Three Year Bachelor's Degree	120	132	6	3
6.0	Bachelor's Degree- Honours Or Bachelor's Degree- Honours with Research	160	176	8	4

Credit distribution structure for Three/ Four year Honors/ Honors with Research Degree Programme with Multiple Entry and Exit

F.Y. B.Sc.

Year (Level)	Sem	Subject-I (M-1)	Subject-II (M-2)	Subject-III (M-3)	Open Elective (OE)	VSC, SEC (VSEC)	AEC, VEC, IKS	CC, FP, CEP, OJT, RP	Cumulative Credits/Sem	Degree/ Cumulative Credit
I (4.5)	I	DSC-1(2T) DSC-2(2P)	DSC-1(2T) DSC-2(2P)	DSC-1(2T) DSC-2(2P)	OE-1(2T)	---	AEC-1(2T) (Eng) VEC-1(2T) (ES) IKS(2T)	CC-1(2T)	22	UG Certificate
	II	DSC-3(2T) DSC-4(2P)	DSC-3(2T) DSC-4(2P)	DSC-3(2T) DSC-4(2P)	OE-2(2T) OE-3(2P)	---	AEC-2(2T) (Eng) VEC-2(2T) (CI)	CC-2(2T)	22	
	Cum. Cr.	8	8	8	6	---	10	4	44	
Exit option: Award of UG Certificate with 44 credits and an additional 4 credits core NSOF course/ Internship OR Continue with Major and Minor.										

S.Y. B.Sc.

Year (Level)	Sem	Subject-I (M-1) Major*		Subject-II (M-2) Minor #	Subject-III (M-3)	Open Elective (OE)	VSC, SEC (VSEC)	AEC, VEC, IKS	CC, FP, CEP, OJT/Int/RP	Cumulative Credits/Sem	Degree/ Cumulative Credit
		Mandatory (DSC)	Elective (DSE)	(MIN)							
2 (5.0)	III	DSC-5(2T) DSC-6(2T) DSC-7(2P)	---	MIN-1(2T) MIN-2(2T) MIN-3(2P)	---	OE-4(2T)	SEC-1(2T)	AEC-3(2T) (MIL)	CC-3(2T) CEP(2)	22	UG Diploma
	IV	DSC-8(2T) DSC-9(2T) DSC-10(2P)	---	MIN-4(2T) MIN-5(2P)	---	OE-5(2T)	SEC-2(2T) SEC-2(2P)	AEC-4(2T) (MIL)	CC-4(2T) ⊗ FP(2)	22	
	Cum . Cr.	12	---	10	---	4	6	4	8	44	
Exit option: Award of UG Diploma in Major and Minor with 88 credits and an additional 4 credits core NSQF course/ Internship OR Continue with Major & Minor.											

* Student must choose one subject as a Major subject out of M-1, M-2 and M-3 that he/she has chosen at First year

Student must choose one subject as a Minor subject out of M-1, M-2 and M-3 that he/she has chosen at First year (Minor must be other than Major)

⊗ OJT/Internship/CEP should be completed in the summer vacation after 4th semester

T.Y. B.Sc.

Year (Level)	Sem	Subject-I (M-1) Major		Subject-II (M-2) Minor	Subject-III (M-3)	Open Elective (OE)	VSC, SEC (VSEC)	AEC, VEC, IKS	CC, FP, CEP, OJT/Int/RP	Cumulative Credits/Sem	Degree/ Cumulative Credit
		Mandatory (DSC)	Elective (DSE)	(MIN)							
3 (5.5)	V	DSC-11(2T) DSC-12(2T) DSC-13(2T) DSC-14(2P) DSC-15(2P)	DSE-1A/B (2T) DSE-2A/B (2P)	---	---	---	VSC-1(2T) VSC-2(2P)	---	OJT/Int (4)	22	UG Degree
	VI	DSC-16(2T) DSC-17(2T) DSC-18(2T) DSC-19(2T) DSC-20(2T) IKS DSC-21(2P) DSC-22(2P)	DSE-3A/B (2T) DSE-4A/B (2P)	---	---	---	VSC-3(2T) VSC-4(2P)	---	---	22	
	Cum . Cr.	24	8	---	---	---	8	---	4	44	
		Exit option: Award of UG Degree in Major with 132 credits OR Continue with Major and Minor									

Fourth Year B.Sc. (Honours)

Year (Level)	Sem	Major Core Subjects		Research Methodology (RM)	VSC, SEC (VSEC)	OE	AEC, VEC, IKS	CC, FP, CEP, OJT/Int/RP	Cumulative Credits/Sem	Degree/ Cumulative Credit
IV (6.0)	VII	DSC-23(4T) DSC-24(4T) DSC-25(4T) DSC-26(2P)	DSE-5A/B (2T) DSE-6A/B (2P)	RM(4T)	---	---	---	---	22	UG Honours Degree
	VIII	DSC-27(4T) DSC-28(4T) DSC-29(4T) DSC-30(2P)	DSE-7A/B (2T) DSE-8A/B (2P)	---	---	---	---	OJT/Int (4)	22	
	Cum. Cr.	28	8	4	---	---	---	4	44	
Four Year UG Honors Degree in Major and Minor with 176 credits										

Fourth Year B.Sc. (Honours with Research)

Year (Level)	Sem	Major Core Subjects		Research Methodology (RM)	VSC, SEC (VSEC)	OE	AEC, VEC, IKS	CC, FP, CEP, OJT/Int/RP	Cumulative Credits/Sem	Degree/ Cumulative Credit
IV (6.0)	VII	DSC-23(4T) DSC-24(4T) DSC-26(2P)	DSE-5A/B (2T) DSE-6A/B (2P)	RM(4T)	---	---	---	RP(4)	22	UG Honours with Research Degree
	VIII	DSC-27(4T) DSC-28(4T) DSC-30(2P)	DSE-7A/B (2T) DSE-8A/B (2P)	---	---	---	---	RP(8)	22	
	Cum. Cr.	20	8	4	---	---	---	12	44	
Four Year UG Honours with Research Degree in Major and Minor with 176 credits										

Sem- Semester, **DSC-** Department Specific Course, **DSE-** Department Specific Elective, **OE/GE-** Open/Generic elective, **VSC-** Vocational Skill Course, **SEC-** Skill Enhancement Course, **VSEC-** Vocation and Skill Enhancement Course, **AEC-** Ability Enhancement Course, **IKS-** Indian Knowledge System, **VEC-** Value Education Course, **T-** Theory, **P-** Practical, **CC-** Co-curricular **RM-** Research Methodology, **OJT-** On Job Training, **FP-** Field Project, **Int-** Internship, **RP-** Research Project, **CEP-** Community Extension Programme, **ENG-** English, **CI-** Constitution of India, **MIL-** Modern Indian Language

- Number in bracket indicate credit
- The courses which do not have practical 'P' will be treated as theory 'T'
- If student select subject other than faculty in the subjects M-1, M-2 and M-3, then that subject will be treated as Minor subject, and cannot be selected as Major at second year.

Details of F.Y. B.Sc. (Geography)

Course	Course Type	Course Code	Course Title	Credits	Teaching Hours/ Week			Marks			
					T	P	Total	Internal		External	
								T	P	T	P
Semester I, Level – 4.5											
DSC-1	DSC	GEO-DSC-111	General Cartography	2	2	---	2	20	---	30	---
DSC-2	DSC	GEO-DSC-112	Practical in Cartography	2	---	4	4	---	20	---	30
OE-1	OE	GEO-OE-111	Sky Observation and Solar System	2	2	---	2	20	---	30	---
Semester II, Level – 4.5											
DSC-3	DSC	GEO-DSC-121	Natural Disaster Management	2	2	---	2	20	---	30	---
DSC-4	DSC	GEO-DSC-122	Practical in Map Projections	2	---	4	4	---	20	---	30
OE-2	OE	GEO-OE-121	Noise Pollution	2	2	---	2	20	---	30	---
OE-3	OE	GEO-OE-122	Practical in Noise Pollution	2	---	4	4	---	20	---	30

Examination Pattern

Theory Question Paper Pattern:

- 30 (External) +20 (Internal) for 2 credits
 - External examination will be of 1½ hours duration
 - There shall be 3 questions Q1 carrying 6 marks and Q2, Q3 carrying 12 marks each. while the tentative pattern of question papers shall be as follows;
 - Q1 Attempt any 2 out of 3 sub-questions; each 3 marks
 - Q 2 and Q3 Attempt any 3 out of 4 sub-question; each 4 marks.

Rules of Continuous Internal Evaluation:

The Continuous Internal Evaluation for theory papers shall consist of two methods:

1. Continuous & Comprehensive Evaluation (CCE): CCE will carry a maximum of 30% weightage (30/15 marks) of the total marks for a course. Before the start of the academic session in each semester, the subject teacher should choose any three assessment methods from the following list, with each method carrying 10/5 marks:

- i. Individual Assignments
- ii. Seminars/Classroom Presentations/Quizzes
- iii. Group Discussions/Class Discussion/Group Assignments
- iv. Case studies/Case lets
- v. Participatory & Industry-Integrated Learning/Field visits
- vi. Practical activities/Problem Solving Exercises
- vii. Participation in Seminars/Academic Events/Symposia, etc.
- viii. Mini Projects/Capstone Projects
- ix. Book review/Article review/Article preparation
- x. Any other academic activity
- xi. Each chosen CCE method shall be based on a particular unit of the syllabus, ensuring that three units of the syllabus are mapped to the CCEs.

2. Internal Assessment Tests (IAT): IAT will carry a maximum of 10% weightage (10/5 marks) of the total marks for a course. IAT shall be conducted at the end of the semester and will assess the remaining unit of the syllabus that was not covered by the CCEs. The subject teacher is at liberty to decide which units are to be assessed using CCEs and which unit is to be assessed on the basis of IAT.

The overall weightage of Continuous Internal Evaluation (CCE + IAT) shall be 40% of the total marks for the course. The remaining 60% of the marks shall be allocated to the semester-end examinations. The subject teachers must communicate the chosen CCE methods and the corresponding syllabus units to the students at the beginning of the semester to ensure clarity and proper preparation.

Practical Examination Credit 2: Pattern (30+20)

External Practical Examination (30 marks):

- Practical examination shall be conducted by the respective department at the end of the semester.
- Practical examination will be of 3 hours duration and shall be conducted as per schedule.
- Where an incubation condition is required, a practical examination shall be conducted for 2 consecutive days for 2 hours/day.
- There shall be 05 marks for journal and viva voce. A certified journal is compulsory to appear for practical examination.
- The external practical examination of SEC will be of 25 marks, and there will be no internal exam for SEC practical.

Internal Practical Examination (20 marks):

- Internal practical examination of 10 marks will be conducted by the department as per the schedule given.
- For internal practical examination, students must produce the laboratory journal of practicals completed along with the completion certificate signed by the concerned teacher and the Head of the department.
- There shall be continuous assessment of 30 marks based on student performance throughout the semester. This assessment can include quizzes, group discussions, presentations and other activities assigned by the faculty during regular practicals. For details, refer to internal theory examination guidelines.
- Finally, 40 (10+30) marks of performance of the student will be converted into 20 marks.

**F.Y.B.Sc.
(Geography)
Semester I**

F.Y. B.Sc. (Geography)
Semester-I
GEO-DSC-111: General Cartography

Total Hours: 30

Credits: 2

Course Objectives	- To acquaint the students with cartographic Techniques. - To study importance of scale and imaginary distribution of Erath. - To understand the Erath spherical shape and structure and impact - To understand Purpose and Classification of map	
Course outcomes	After successful completion of this course, students are expected to: - Develop the uses of cartographic Techniques. - Understand importance of scale and imaginary distribution of Erath in map making - Knowledge with spherical shape and structure and impact on location of Erath - Understand importance implementation in map.	
Unit	Topic Particular	Hours
Unit I	Introduction - Introduction to cartography, Nature and scope of cartography - History and development of Cartography - Elements of cartography	07
Unit II	Scale and earths grid - Determination of latitude, longitude and azimuth of celestial bodies - Scales: Types, significance and applications - Coordinate systems: Polar and rectangular. - Bearing: Magnetic and true whole-circle and reduced - Geoid, Spheroid, Ellipsoid, Datum, M.S.L	08
Unit III	Statistical Diagram for data analysis - One dimensional - Two dimensional - Three dimensional - Graph	08
Unit IV	Maps: Purpose, Classification with justification - According to scale - According to number of topographic details, - According to purpose	07
Study Resources	Anson, R. W. and Ormeling, F. J., (Ed.) 1993: Basic Cartography for Students and Dickinson, G. C. 1977: Statistical Mapping and the Presentation of Statistics, Edward Arnold Ltd., London. Hodgkiss, A. G. 1970: Maps for Books and Theses, David and Charles Publishers Ltd., London. Misra R. P. and A. Ramesh,1969: Fundamentals of Cartography, Prasaranga, University of Mysore. Monkhouse, F. J. and H. R. Wilkinson, 1971: Maps and Diagrams, Methuen & Co. Ltd., London.	

	• Robinson, A. H. and Others 1995: Elements of Cartography, VI Edition, John Wiley & Sons, New York. • Technicians, Vol.I, International Cartographic Association and Elseiver Applied Science Publishers, London.
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F.Y. B.Sc. (Geography)
Semester-I
GEO-DSC-112: Practical in Cartography

Total Hours: 60

Credits: 2

Course Objectives	- To acquaint the students with cartographic Techniques. - To study importance of scale and imaginary distribution of Erath. - To understand the Erath spherical shape and structure and impact - To understand Purpose and Classification of map	
Course Outcomes	After successful completion of this course, students are expected to: - Develop the uses of cartographic Techniques. - Understand importance of scale and imaginary distribution of Erath in map making - Knowledge with spherical shape and structure and impact on location of Erath - Understand importance implementation in map.	
Sr. No.	Topic Particular	Hours
1	Concept of scale	4
2	Methods of measurement and type of scale	4
3	Representing of Verbal scale	4
4	Representing of Numerical scale	4
5	Representing of Graphical scale	4
6	Determination of North	4
7	Cartographic Symbols: Point Symbols	4
8	Cartographic Symbols: line Symbols	4
9	Cartographic Symbols: Area Symbols	4
10	Cartographic Representation of Data Two Dimensional	4
11	Meaning of Distributional Maps Types of Distribution Maps	4
12	Prepare of Dot Maps	4
13	Prepare of Choropleth Maps	4
14	Prepare of Isopleth Maps	4
15	Advantages & disadvantages of Distribution Maps	4
Study Resources	Anson, R. W. and Ormeling, F. J., (Ed.) 1993: Basic Cartography for Students and Dickinson, G. C. 1977: Statistical Mapping and the Presentation of Statistics, Edward Arnold Ltd., London. Hodgkiss, A. G. 1970: Maps for Books and Theses, David and Charles	

	Publishers Ltd., London. • Misra R. P. and A. Ramesh,1969: Fundamentals of Cartography, Prasaranga, University of Mysore. • Monkhouse, F. J. and H. R. Wilkinson, 1971: Maps and Diagrams, Methuen & Co. Ltd., London. • Robinson, A. H. and Others 1995: Elements of Cartography, VI Edition, John Wiley & Sons, New York. Technicians, Vol.I, International Cartographic Association and Elseiver Applied Science Publishers, London.
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F.Y. B.Sc. (Geography)
Semester-I
GEO-OE-111: Sky Observation and Solar System

Total Hours: 30

Credits: 2

Course Objectives	• To introduce about our galaxy. • To introduce orbit system. • To introduce recent techniques & methods for study of sky observation • To give awareness with sky observation telescope	
Course outcomes	After successful completion of this course, students are expected to: • Familiar with our galaxy. • Will know how orbit system. • Knowledge with recent techniques & methods for study of sky observation • To give awareness with sky observation telescope	
Unit	Topic Particular	Hours
Unit I	Introduction astronomy • Meaning and definitions of astronomy • Significance of study of solar system • Meaning, Definitions and Importance of sky observation	07
Unit II	Sky Observation • Ideal conditions for sky observation • Types of telescope and binoculars for sky observation • Steps for sky observation • Lunar Mission in India	09
Unit III	Solar System • Definition and concept of galaxy • Introduction: Solar system • Sun and Moon-Characteristics	07
Unit IV	Composition of Solar System • Star, Orbits and Planets • Asteroids and comets • Interplanetary medium	07
Study Resources	• Dickinson, T., & Dyer, A. 2016: The Backyard Astronomer's Guide (3rd ed.). Firefly Books. • Pasachoff, J. M., & Kutner, M. L. 2017: The Cambridge Guide to the Solar System (2nd ed.). Cambridge University Press. • Cox, B. 2015: Wonders of the Universe. HarperCollins Publishers. • Aguilar, D. A., (Ed.). 2017: The International Atlas of Mars Exploration: Volume 2, 2004 to 2014: From Spirit to Curiosity. Cambridge University Press. • Rothery, D. A., 2015: Mercury. Springer Praxis Books. • Baker, D. 2017: The Science of Astronomy and Space. Chelsea House Publishers. • Sinclair, I., 2018: The Complete Guide to the Universe: From the	

	Discovery of the Solar System to Exoplanets, Galaxies, and Beyond. Princeton University Press. • Bell, J. F., & Porco, C. (Eds.) 2016: The Saturn System: Through the Eyes of Cassini. University of Arizona Press. • Beatty, J. K., Petersen, C. C., & Chaikin, A. 2016: The New Solar System (4th ed.). Cambridge University Press. • Moore, P., & Tirion, W. 2016: Astronomy: A Complete Introduction. Teach Yourself.
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**F.Y. B.Sc.
(Geography)
Semester II**

F.Y. B.Sc. (Geography)
Semester-II
GEO-DSC-121: Natural Disaster Management

Total Hours: 30

Credits: 2

Course Objectives	- To acquaint the students with basic knowledge of natural and manmade disasters. - To understand impacts of disasters. - To know the fundamental concepts of disaster management. - To understand vulnerable zone in India	
Course outcomes	After successful completion of this course, students are expected to: - To create awareness among students about disasters. - To acquire the knowledge of preparedness and mitigation. - To understand manifesting the mitigation. - To know the role of individual in disaster management.	
Unit	Topic Particular	Hours
Unit I	Introduction to Disaster - Concept and Definitions of Disaster, Hazards, Risk and Vulnerability - Classification of Disaster - Importance of the Study of Disaster - Management - Difference between Disaster and Hazards	08
Unit II	Physical and Atmospheric Disaster - Causes, Impact and Management - Physical - Earthquake - Landslide - Hydrological - Tsunami - Atmospheric - Flood - Droughts - Cyclone	06
Unit III	Disaster Risk Reduction - Mitigation and Preparedness: Survival Kit, Medicinal Kit, Warning and Alarm System - Community Based Disaster Management: Do's and Don'ts during and Post Disaster Role and Responsibilities of GO's and NGO's	08
Unit IV	Disaster in India (Case Studies) - Earthquake - Landslide - Forest fire - Flood	08

Study Resources	• Ed: Jagbir Singh K: Disaster Management; Future challenges and opportunities, International Publishing House Pvt. Ltd., New Delhi, Mumbai, Bangalore. • P.P. Marathe, 1691: Concept and Practices in Disaster Management, Colonel Retd Diamond Publications, Sadashiv Peth, Near Grahak peth, Pune 411030 • Mc Grow Hill: Hand Book of Effective Disaster: Recovery, Planning, Publ., London. • The Book of Natural Disaster: Alladin Books Ltd., London. • Ed. Vinod Sharma: Disaster Management, National Center for Disaster Management, Indian Institute of Public Administration, Indraprastha Estate, Ring Road New Delhi. • A.K.R. Hemmody,: Earthquake: NBT of India. • Disaster Preparedness, Council for Advancement of Peoples Action and Rural Technology, D- Block, Ponkha Road Janakpuri, New Delhi, 110075. • AnuKapur and Neeta Meena: Disaster in India studies of grim Reality, Deeplima, Roshani, Debhanjal, Rawat Publication, Jaipur. • A.A. Pirazizi: Environmental Geography and Natural Hazards, Concept Publication Co., New Delhi. • P. P. Marathe; Practical Disaster Management: Col. Diamond Publication, Pune. • Ahmad Husain: Natural Disaster, Sumit Enterprises, New Delhi.
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F.Y. B.Sc. (Geography)
Semester-II
GEO-DSC-122: Practical in Map Projections

Total Hours: 60

Credits: 2

Course Objectives	- To know the imaginary distribution of earth - To introduce the map projections. - To develop the map making skill. - To understand use of projection according to location	
Course Outcomes	After successful completion of this course, students are expected to: - Enhance knowledge with imaginary distribution of earth - Understand the methods of construction of various projections - Understand map making process using basic Projections. - Have capability to use appropriate projection according to location for map preparation	
Sr. No.	Topic Particular	Hours
1	Definition of Map and Globe Coordinates	4
2	Major Latitudes and Longitude	4
3	Introduction to Map Projection Classification of Map Projection based on their Development	4
4	Perspective Projections Non-Perspective Projections Conventional	4
5	Construction of projections: Zenithal projection: zenithal Polar Gnomonic projection	4
6	Zenithal Polar Stereographic projection	4
7	Conical projection: Simple conical projection with one standard parallel	4
8	Simple conical projection with two standard parallel	4
9	Bonne's Projection	4
10	Cylindrical Projection: Cylindrical equal area Projection	4
11	Mercator's Projection	4
12	Construction of projections: Sinusoidal Projection, Mollweide's projection	4
13	Choice of Map projections	4
14	Usefulness of all projections. Problems with the choice of map projection	4
15	Choice of Map projections for different Purposes and Regions. Distortion (shape, size, direction, area)	4
Study Resources	James Alfred Steers: An Introduction to the Study of Map Projections, University of London Press, Robbinson A.H. & Sleep R.D. Erwin Raisz Elements of Cartography: 12.	

	Elements of Practical Geography: • Kellaway, G.P., 1979: Map Projections, B.I. Publications, New Delhi • Monkhouse, F.J. and Wilkinson, H.R. 1980: Maps and Diagrams • Singh, R.L. and Singh, R.P.B. 1992: Elements of practical Geography. • Steers, J.A.1954: An Introduction to the Study of Map Projections University of, New York. • R. Sing & Kanaujia : Map work and Practical Geography • R.C. Sing & Dutta : Elements of Practical Geography • F. J. Mankhouse & H. R. Wilkinson: Map & Diagrams • Gopal Singh: Map work and Practical Geography George Kallawy: Map Projection: London Press, London. Publications Private Limited, New Delhi. 36.
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F.Y. B.Sc. (Geography)
Semester-II
GEO-OE-121: Noise Pollution

Total Hours: 30

Credits: 2

Course Objectives	- To study the basic concepts and terminologies noise pollution. - To study the sources and effects of noise pollution on environment. - To study the noise pollution status of World and India. - To aware the student with laws of noise pollution.	
Course outcomes	After successful completion of this course, students are expected to: - Will understand the basic concepts of Noise pollution - Able to find out the sources of noise pollution. - Able to know the measurement and controls of noise pollution. - Student have aware with laws of noise pollution.	
Unit	Topic Particular	Hours
Unit I	Introduction to noise pollution - Meaning, Definition and Concept - Difference between Sound and Noise - Significance study of Noise Pollution - Sound power sound intensity and sound pressure levels	08
Unit II	Sources and type of noise Pollution - Types of Noise Pollution - Causes of Noise Pollution - Noise standard - WHO and Central Pollution Control Board of India, guidelines for noise	08
Unit III	Effects and solution on Noise Pollution - Effect of noise pollution - Solution to reduce noise pollution - Role and responsibility of CPCB in controlling noise pollution	08
Unit IV	Regulation and control - The Noise Pollution (Regulation and Control Rules, 2000) - Noise Pollution Examples in World and India.	06
Study Resources	C. S. Rao, “Environmental Pollution Control Engineering”, Wiley Eastern Limited, 2000. G.K. Nagi, M.K. Dhillon, G.S. Dhaliwal, Commonwealth Publishers, Noise Pollution. S.K. Garg, Khanna publishers, Sewage Disposal and Air Pollution Engineering. S.M. Khopkar, Environmental pollution analysis, New Age International Publications Savindra Singh, 2006: Environmental Geography, Prayag Pustak Bhawan	

F.Y. B.Sc. (Geography)
Semester-II
GEO-OE-122: Practical in Noise Pollution

Total Hours: 60

Credits: 2

Course Objectives	• Student should acquire knowledge cc related to noise level measurement. • To study the sources and effects of noise pollution on environment. • Student should acquire actual practical knowledge to handle sound level meter.	
Course Outcomes	After successful completion of this course, students are expected to: • Student acquire knowledge related to the noise pollution and its control • Able to find the sources and measure noise pollution. • Will able to measure noise level by Sound level meter (Decibel meter)	
Sr. No.	Topic Particular	Hours
	Noise level measurement	
1	Decibel Concept, Definition of decibel	4
2	Decibel Meter, Decibel scale	4
3	Noise level Chart,	4
	Noise level measurement Procedure	
4	Pre-requisites for noise level measurement.	4
5	Identification of location and its types	4
6	Types of instruments to measure the sound level and use of sound level meter, oscilloscope and spectrum analyzer	4
	Actual Measurement of Noise	
7	Measure the sound and Compare to the recommended sound level.	4
8	Experiment of Noise level measurement of different areas	4
9	Report of a noisy area of your city - Preparation and presentation of report.	4
	Practical Applications of Noise Control	
10	Office spaces	4
11	Residential Environments (Ensuring Peace and quiet)	4
12	Transportation: Reducing Noise Pollution.	4
	Field data collection and report	
13	Practice in conducting on-site collection of Noise pollution data	4
14	Documentation and reporting of Noise data pollution data	4
15	Report writing and presentation	4

Study Resources	• C. S. Rao, “Environmental Pollution Control Engineering”, Wiley Eastern Limited, 2000. • G.K. Nagi, M.K. Dhillon, G.S. Dhaliwal, Commonwealth Publishers, Noise Pollution. • S.K. Garg, Khanna publishers, Sewage Disposal and Air Pollution Engineering. • S.M. Khopkar, Environmental pollution analysis, New Age International Publications • Savindra Singh,2006: Environmental Geography, Prayag Pustak Bhawan
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