

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

Faculty of Humanities

(Syllabus for As Per National Education Policy-NEP-2020)

Three Years-Six Semesters Bachelor's Degree Programme

Degree of Bachelor Arts

(B.A.Semester-III & IV Level – 5.0)

Department Specific Core (DSC)

Subject- Geography (Major)

(DSC-Code- 622)

Board of Study – Geography

(Revised From- Academic Year-2026-2027)

Level	Semester	Course Code	Course Name	Credits	Teaching Hours	Exam Duration	Max Marks
5.0	III	622205	Major III (T) Introduction of Climatology	2	30	2 Hrs	External -30 Internal - 20 Total -50
Course Objectives:		1) Explain the meaning, importance, and multidisciplinary scope of climatology in understanding atmospheric processes. 2) Analyze the key differences between weather and climate, and their significance in geographical and environmental studies. 3) Explore the layers, components, and functions of the Earth's atmosphere in relation to climatic phenomena. 4) Analyze the vertical, horizontal, and seasonal variations in atmospheric pressure and their implications for weather patterns. 5) Study the origin, characteristics, and classification of winds, including planetary, periodic, and local winds, and their role in heat and moisture distribution.					
Course Outcomes:		1) To know the definition and significance of Climatology 2) The students should be able to differentiate between weather and climate. 3) The students are able to interpret structure and composition of atmosphere. 4) Learn the interaction between the atmosphere and the earth's surface. 5) Understand the importance of the atmospheric pressure and winds.					
Unit System		Contents	Workload Allotted	Weightage of Marks Allotted	Incorporation of Pedagogies		
Unit I		Definition, Nature and scope of Climatology. significance of Climatology, Weather and Climate, Elements of Weather and Climate	8 Hrs	8 Marks	- Incorporate PowerPoint presentations, diagrams, flowcharts, and infographics to visualize atmospheric layers, heat balance, temperature distribution, pressure belts, and wind systems.. - Utilize climatic maps, temperature and pressure charts, wind maps, and globes		
Unit II		Composition and structure of the atmosphere, Insolation, Heat Budget of Earth	7 Hrs	7 Marks			

Unit III	Temperature: Distribution of temperature, factors effecting temperature Inversion of temperature, Range of temperature	8 Hrs	8 Marks	to demonstrate the spatial distribution of temperature, pressure, and wind systems. • Show simulations and animations (through software or videos) depicting atmospheric circulation, insolation processes, temperature inversion, and wind patterns.
Unit IV	Atmospherics pressure: Vertical, horizontal and Seasonal distribution of pressure, Winds: Planetary, periodic and local winds	7 Hrs	7 Marks	
References:	Books Recommended : 1) Ahirrao W. R., Alizad S. S. & Dhapte C. S. : Climatology and Oceanography , Nirali Publication, Pune 1997 2) Barry R.G. & Chorly R.J. : Atmosphere, Weather and Climate. Routledge. 1998 3) Critchfield. H. : General Climatology, Printice- Hall, New York. 1975 4) Das, P.K.. : The Monsoons, National Book Trust, New Delhi. 1968 5) Mather, J.R. : Climatology, McGraw- New York. 1974 6) Stringer, E.T. : Foundation of Climatology, Surect Publication, Delhi. 1982 7) Trewartha, G.T. : An Introduction to Climate, International Students edition, McGraw- New York. 1980 8) चतुर्भुज ममोरिया: भूविज्ञान, साहित्य भवन पब्लिकेशन, मेरठ 9) माजिद हुसेन: भौतिक भूगोल, रावत पब्लिकेशन, जयपुर डॉ. 10) डी.पी. उपाध्याय: जलवायु विज्ञान, वसुंधरा प्रकाशन, नागपूर 11) डॉ. विठ्ठल धारपुरे: हवामान शास्त्र, पिंपळापुरे प्रकाशन, नागपूर 12) डॉ. विठ्ठल धारपुरे, भूगोल परिचय, पिंपळापुरे प्रकाशन, नागपूर 13) प्रा. दाते व सौ दाते: प्राकृतिक भूविज्ञान, रावेल प्रकाशन, सातारा 14) प्रा. प्र. भा. नागतोडे: हवामानशास्त्र, म. वि. ग्र. नि. म., नागपूर 15) प्रा. के. ए. खतीब: हवामान परिचय, मेहता पब्लिकेशन हाऊस, पुणे			
Internal Assessment Theory (20 Marks)	Internal assessment shall be carried out by the respective course teacher by choosing variety of assessment tools/ methods such as class test, record book, seminar, case study, field work mini project work quiz or any innovative method, which may be deemed to be appropriate for assessing the relevant course outcomes.			

Level	Semester	Course Code	Course Name	Credits	Teaching Hours	Exam Duration	Max Marks
5.0	III	622206	Major III (P) Interpretation of IMD Weather Map	2	60 Hrs.	2 Hrs.	External-25 Internal-25 Total -50
Course Objectives:		1) To introduce the concept and purpose of weather maps. 2) To enable students to accurately identify and interpret these symbols in various weather scenarios. 3) To understand how these instruments collect data used for creating weather maps. 4) To develop skills in interpreting weather maps for different seasons					
Course Outcomes:		1) The Students will be able to do basic knowledge of techniques in weather map. 2) To know the importance of climatology in applied research. 3) Enhance interpretative skills of the students about techniques in weather maps. 4) Identifying the natural phenomena with the help of techniques in the weather map. 5) This course will place a strong emphasis on practical/ Skill experience about weather maps.					
		Contents	Workload Allotted	Weightage of Marks Allotted	Incorporation of Pedagogies		
A.		- Introduction of weather map - Study of Weather Symbols - Introduction of weather Instruments	28 Hrs.	7 Marks	Use real or digital weather maps Hands-on activity where students create a basic weather map using given data. Display actual or model weather instruments (thermometer, barometer, rain gauge, etc.).		
B.		Interpretation of weather map: - Rainy season - Winter season - Summer season	32 Hrs.	8 Marks	Explain how data is collected from these instruments and plotted on weather maps.		
C.		Practical Record	-----	5 Marks			

D.	Viva Voce	-----	5 Marks	Discuss patterns and interpret data (e.g., cyclones during rainy season, cold fronts in winter, and heat waves in summer).
References:	Reference Books: 1) Bara A. K. (2005), "Climatology" Dominant publisher & Distributors, New Delhi. 2) Borry R. G. & Charly R. J. " Atmosphere, weather and climate Rouiledga 1998. 3) Byers R. H. " Green Meteorology " Mcgrow Hill BK Co New York 1974. 4) Sellers W. D. " Physical Climatology " Ceniversity of Chicago Press 1965. 5) Trewartha G. T. " An Introduction to Climate " Mcgrow HillBk Co. NewYork 1968. 6) Das P. K. " The mansoon", Prayag Pustak Bhavan, Allahabad. 7) डॉ.जे.पी.शर्मा (२००८)प्रयोगात्मक भूगोल की रूपरेषा,रस्तोगो पब्लिकेशन्स मेरठ			
Internal Assessment Practical (25 Marks)	Internal assessment for practical work evaluates students' practical skills, fieldwork experience, record maintenance, and understanding of geographical techniques. It includes practical journal submission, field survey/report, viva-voce, and active participation in practical sessions. This assessment helps develop observational, analytical, and mapping skills.			

Level	Semester	Course Code	Course Name	Credits	Teaching Hours	Exam Duration	Max Marks
5.0	III	622207	Major IV (T) Applied Climatology and Monsoon Studies.	2	30 Hrs.	2 Hrs.	External -30 Internal - 20 Total -50
Course Objectives :		1. To understand the concept of atmospheric moisture, including humidity, evaporation, condensation, precipitation, and rainfall. 2. To study the causes, effects, and control measures of global warming, acidic rainfall, and ozone depletion. 3. To examine the meaning, origin, characteristics, and importance of monsoon systems in India. 4. To understand monsoon forecasting, variability, and the role of factors such as El Niño and La Niña. 5. To analyze the impact of monsoon, droughts, and floods on agriculture and the economy.					
Course Outcomes:		1. Explain the concept of atmospheric moisture, including humidity, evaporation, condensation, precipitation, and types of rainfall. 2. Analyze the causes, effects, and control measures of global warming, acidic rainfall, and ozone depletion. 3. Understand the origin, characteristics, and significance of monsoon systems in India. 4. Examine the factors affecting monsoon, including South-West and North-East monsoon patterns. 5. Evaluate monsoon forecasting methods, variability, and the role of El Niño and La Niña. 6. Assess the impact of monsoon, droughts, and floods on agriculture and the economy.					
Unit System	Contents			Workload Allotted	Weightage of Marks Allotted	Incorporation of Pedagogies	
Unit I	Atmospheric Moisture: Humidity, Evaporation and Condensation, Forms of Precipitation, Types of Rainfall.			8 Hrs	8 Marks	Lecture Method: Used for explaining concepts and theories. Group Discussion: Helps in understanding climate and environmental issues. Field Observation: Used to study weather and rainfall patterns. ICT-Based Learning: Use of maps, videos, and digital tools for teaching. Project and Assignment Method: Helps students	
Unit II	Global warming: Meaning / Definition: Causes , Effects and Control Measures Acidic Rainfall: Meaning/ Definition: Causes, Effects and Control Measures Ozone Deflection: Meaning / Definition, Causes , Effects and Control Measures			7 Hrs	7 Marks		

Unit III	Monsoon:- Meaning and Definition of Monsoon, Origin of Monsoon, Characteristics of Monsoon Climate, South-West Monsoon in India, North-East Monsoon in India, Factors Affecting Monsoon, Importance of Monsoon, Problems and Effects of Monsoon	8 Hrs	8 Marks	develop practical understanding through reports and case studies.
Unit IV	Monsoon Forecasting and Variability : Meaning and concept of monsoon forecasting, Factors affecting monsoon variability, El Niño and La Niña effects on monsoon, Impact of Monsoon on Agriculture and Economy: Importance of monsoon in agriculture.	7 Hrs	7 Marks	
References :	1. .Barry, Roger G., & Chorley, Richard J. (2009). <i>Atmosphere, Weather and Climate</i> (9th ed.). Routledge. 2. Savindra Singh (2015). <i>Physical Geography</i>. Prayag Pustak Bhawan. 3. Savindra Singh (2018). <i>Environmental Geography</i>. Prayag Pustak Bhawan. 4. Lal, D. S. (2012). <i>Climatology</i>. Chaitanya Publishing House. 5. Chandna, R. C. (2010). <i>Climatology</i>. Kalyani Publishers. 6. Intergovernmental Panel on Climate Change (2023). <i>Climate Change 2023: Synthesis Report</i>. 7. India Meteorological Department (2024). <i>Monsoon Reports and Forecasting Publications</i>. 8. National Council of Educational Research and Training (2022). <i>Fundamentals of Physical Geography (Class XI)</i>. 9. सविंद्र सिंह (2016). <i>भौतिक भूगोल</i>. प्रयाग पुस्तक भवन. 10. डी. एस. लाल (2014). <i>जलवायुविज्ञान</i>. किताब महल. 11. सविंद्र सिंह (2017). <i>पर्यावरण भूगोल</i>. प्रयाग पुस्तक भवन. 12. भौतिक भूगोल – डॉ. अनिल कटारे (2018). 13. हवामानशास्त्र व जलवायूशास्त्र – डॉ. बी. आर. जाधव (2019). 14. पर्यावरण भूगोल – डॉ. एस. बी. सावरकर (2017). 15. डॉ. विठ्ठल धारपुरेहवामान शास्त्र :, पिंपळापुरे प्रकाशन, नागपूर 16. डॉ.विठ्ठल धारपुरे ., भूगोल परिचय, पिंपळापुरे प्रकाशन, नागपूर 17. प्राभूविज्ञान प्राकृतिक :दाते व सौ दाते., रावेल प्रकाशन, सातारा 18. प्राहवामानशास्त्र :नागतोडे.भा.प्र ., म.म.नि.ग्र.वि.,नागपूर 19. प्राहवामान परिचय :खतीब .ए .के ., मेहता पब्लिकेशन हाऊस, पुणे			

Internal Assessment Theory (20 Marks)	Internal assessment shall be carried out by the respective course teacher by choosing variety of assessment tools/ methods such as class test, record book, seminar, case study, field work mini project work quiz or any innovative method, which may be deemed to be appropriate for assessing the relevant course outcomes.
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Level	Semester	Course Code	Course Name	Credits	Teaching Hours	Exam Duration	Max Marks
5.0	III	622272	Vocational Skill Course (VSEC) Plane Table Survey	2	60 Hrs.	2 Hrs.	External-30 Internal- 20 Total - 50
Course Objectives:		1. To understand the basic concepts, principles, and importance of Plane Table Survey in geographical studies. 2. To develop knowledge about different instruments used in plane table surveying and their proper use in fieldwork. 3. To learn various methods of Plane Table Survey such as radiation, intersection, traversing, and resection. 4. To develop practical skills in field mapping, observation, and preparation of simple maps using plane table techniques.					
Course Outcomes:		1. Students will be able to explain the concept, principles, and significance of Plane Table Survey in geographical fieldwork. 2. Students will be able to identify and effectively use the instruments required for plane table surveying. 3. Students will gain practical knowledge of different methods of plane table survey such as radiation, intersection, traversing, and resection. 4. Students will be able to conduct simple field surveys and prepare accurate sketch maps using plane table techniques.					
		Contents	Workload Allotted	Weightage of Marks Allotted	Incorporation of Pedagogies		
Unit I		Introduction to Plane Table Survey: 1. Meaning and definition of Plane Table Survey 2. Principles of Plane Table Survey 3. Importance of field surveying in Geography 4. Advantages and disadvantages of Plane Table Survey 5. Limitations of Plane Table Survey	16 Hrs	8 Marks	1. Field-Based Learning: Students will actively participate in outdoor fieldwork to understand and apply plane table surveying techniques. 2. Demonstration Method: Teacher will demonstrate the use of instruments and different methods before student practice. 3. Hands-on Practice: Students will individually and in groups practice surveying and map plotting using plane table		
Unit II		Instruments and Their Uses: 1. Plane table board and tripod stand 2. Alidade (plain and telescopic) 3. Plumbing fork and	14 Hrs	7 Marks			

	plumb bob 4. Spirit level 5. Trough compass 6. Accessories used in fieldwork			equipment. 4. Collaborative Learning: Group activities will be encouraged to improve coordination, discussion, and problem-solving during field exercises. 5. Problem-Solving Approach: Students will be given real field situations to identify errors and apply correct surveying methods.
Unit III	Methods of Plane Table Survey: 1. Radiation method 2. Intersection method 3. Traversing method 4. Resection method (One point and Two-point problems) 5. Procedure of each method (basic steps)	16 Hrs	8 Marks	
Unit IV	Fieldwork and Applications: 1. Steps in conducting Plane Table Survey in the field 2. Plotting of simple maps and sketches 3. Errors in plane table survey and precautions 4. Uses of plane table survey in geography 5. Importance of plane table survey in field studies and mapping	14 Hrs	7 Marks	
References:	1) Singh L.R. 2020: Fundamentals Of Practical Geography shrada Pustak + Allahbad 2) Singh R. I. And Datta : Elements of Practical Geography 3) Kannan Monika and Shilpi Yadav (2022): Practical Geography Rawat Publication Jaipur 4) Khullar D.R. (2022): Prayogatmak Bhugol Kalyani Publication 5) शर्मा जे.पी. (२०१९): प्रयोगात्मक भूगोल की रूपरेखा रस्तोगी पब्लिकेशन मेरठ 6) शिंतोळे तुषार(2020): प्रात्यक्षिक भूगोल डायमंड पब्लिकेशन Weblink to Equivalent MOOC on SWAYAM if relevant: Weblink to Equivalent Virtual Lab if relevant: Any pertinent media (recorded lectures, YouTube, etc.) if relevant:			

Internal Assessment Vocational Skill Course (20 Marks)	Internal assessment is designed to evaluate the continuous performance of students in vocational skill courses. It focuses on practical knowledge, skill development, project work, assignments, and active participation in training activities. The assessment helps students acquire professional competencies, technical skills, and employability attributes required in the workplace.
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Level	Semester	Course Code	Course Name	Credits	Teaching Hours	Exam. Duration	Max. Marks
5.0	III	622208	(IKS) Ancient Indian Geographical Knowledge and Thought	2	30 Hrs.	2 Hrs.	External-30 Internal-20 Total-50
Course Objectives:		1)To introduce students to the geographical references and concepts found in ancient Indian literature, including the Vedas, Ramayana, Mahabharata, Buddhist and Jain texts, and the Puranas. 2)To study the regional geography of ancient India, including the conceptualization of continents, Bharatvarsha, mountains, and rivers as understood by ancient scholars. 3)To examine the contributions of ancient Indian geographers and astronomers such as Aryabhata, Varahamihira, and Bhaskaracharya, and assess their influence on the evolution of geographical and astronomical knowledge.					
Course Outcomes:		1)Understand and explain the geographical references and descriptions present in ancient Indian literature, including the Vedas, epics like Ramayana and Mahabharata, Buddhist and Jain texts, and the Puranas. 2) Identify and describe the regional geography of ancient India, including the conceptualization of continents, Bharatvarsha, prominent mountains, and rivers. 3)Evaluate the contributions of ancient Indian geographers and astronomers such as Aryabhata, Varahamihira, and Bhaskaracharya to the field of geography and astronomy.					
Unit System		Contents	Workload Allotted	Weightage of Marks Allotted			
Unit I		A. Geographical Literature: Vaidikas, the Ramayana, the Mahabharata, the works of Buddhists, Jains, and. The Puranas B. Geographical concepts in Ancient India : Astronomical knowledge,Eclipses	8 Hrs	8 Marks	1)Use of structured lectures to introduce students to the key geographical concepts, literary references, and astronomical knowledge from ancient Indian texts and scholars.. 2)Use of structured lectures to introduce students to the key geographical concepts, literary references, and astronomical knowledge from ancient Indian texts and scholars. 3)Use of online archives, virtual museums, and academic databases to access ancient texts, maps, and scholarly resources for deeper study		
Unit II		A. Regional Geography of Ancient India : continents, Bharat Varsha, Mountains and rivers, b. History of The Survey of India-	7 Hrs	7 Marks			

Unit III	Ancient geographical concepts: Fundamental concepts in Geography: i) The Universe and its Origin ii) Earth: Size of Earth iii) Continents (Dwipas) and oceans iv) Latitudes and Longitudes v) Cardinal Points vi) Calendar	8 Hrs	8 Marks
Unit IV	Contribution of Ancient Philosophers: a) Kautilya, Aryabhatta, Varahmihira, Brahmagupta , Bhaskaracharya	7 Hrs	7 Marks
References:	Reference Books: 1) Evolution of Geographical thought , Majid Husain 2) Bhugolik Chintan ka Itihas , B.C. Jatt , Malik Book Company Jaipur. 3) Historical Geography of Ancient India , Bimbla Churn Law , Gyan Publishing House 4) प्राचीन भारतीय भौगोलिक ज्ञान व विचारधारा डॉ.आनंद धोटे,डॉ.ओमप्रकाश मुंदे,गौरव मेश्राम ज्ञानपथ प्रकाशन,अमरावती		
Internal Assessment (20 Marks)	Internal assessment shall be carried out by the respective course teacher by choosing variety of assessment tools/ methods such as class test, record book, seminar, Assignment, case study, field work, mini project work, quiz or any innovative method which may be deemed to be appropriate for assessing the relevant course outcomes.		

Level	Semester	Course Code	Course Name	Credits	Teaching Hours	Exam Duration	Max Marks
5.0	IV	622209	Major V (T) : Principle of Oceanography	2	30 Hrs.	2 Hrs.	External-30 Internal-20 Total-50
Course Objectives:		1. Introduce fundamental concept of oceanography. 2. Explore the structure and composition of the ocean 3. Understand Ocean circulation, wave and tides. 4. Understand sea surface temperature fluctuation.					
Course Outcomes:		1. The students will able to gate basic understanding of the science of oceanography. 2. The students will able to identify, explain, and interpret main features in spatial distributions of physical properties of seawater and sea flower. 3. Ability to analyze sea surface temperature fluctuation and its impact on southern oscillation. 4. The students will understand and assess the importance of Ocean in terms of resource utilization in a sustainable manner. 5. The students will discuss and differentiate between the various ocean waves, and tides.					
Unit System	Contents		Workload Allotted	Weightage of Marks Allotted	Incorporation of Pedagogies		
Unit I	Definition, Nature & Scope of Oceanography. Significance of Ocean.		8 Hrs	8 Marks	- To effectively teach oceanography, a blend and modern pedagogical approaches is employed. These methods aim to enhance conceptual understanding, develop scientific skill and foster environmental awareness. - Encouraging students to ask questions and investigate phenomena such as ocean floor, ocean current and waves. - Group discussion, debates and problem solving exercises related to oceanographic issues. - Students gain theoretical		
Unit II	Surface configuration of the ocean floor: continental shelf, Continental slope, Abyssal Plain, mid-oceanic and oceanic trenches. Relief of Atlantic, Pacific and Indian Oceans.		7 Hrs	7 Marks			
Unit III	Distribution of temperature of Oceans and Seas. Distribution of salinity of Oceans and Seas		8 Hrs	8 Marks			
Unit IV	Circulation of oceanic water: waves, tides and currents; currents of the Atlantic, Pacific and Indian Oceans.		7 Hrs	7 Marks			

				knowledge, practical skill, environmental sensitivity and a holistic understanding of oceanography.
Reference	1) Ahirrao W. R., Alizad S. S. & Dhapte C. S. : Climatology and Oceanography, Nirali Publication, Pune, 1997 2) Graldis: General Oceanography – An Introduction, John Wiley & Sons, New York, 1980 3) King C.A.M. : Oceanography for Geographers E. Arnold, London. 1975 4) Sharma, R.C. Vatel M. : Oceanography for Geographers, Chetnya Publishing House, Allahabad, 1970 5) Thurman H. B. : Introductory Oceanography, Charles Webber E. Merrill Publishing Co. 1984 6) डॉ. विठ्ठल धारपुरे., सागर विज्ञान, पिंपळापुरे प्रकाशन, नागपूर 7) डॉ. पाथरे बी.यु., डॉ. गजहंस एस.डी., हवामानशास्त्र व सागरविज्ञानविद्या बुक्स पब्लिकेशन्स, औरंगाबाद 8) डॉ. विजय खराते, दिलीप लांजेवार., प्राकृतिक भूगोल, नभ प्रकाशन, अमरावती. 9) बापट सुरेखा पंडित : भूरूपशास्त्र व सागरविज्ञान, श्री साईनाथ प्रकाशन, नागपूर 10) प्रा. दाते व सौ दाते: प्राकृतिक भूविज्ञान, रावेल प्रकाशन, सातारा 11) सवदी ए. बी.: हवामानशास्त्र व सागर शास्त्र, निराली प्रकाशन, पुणे			
Internal Assessment Theory (20 Marks)	Internal assessment shall be carried out by the respective course teacher by choosing variety of assessment tools/ methods such as class test, record book, seminar, Assignment, case study, field work, mini project work, quiz or any innovative method which may be deemed to be appropriate for assessing the relevant course outcomes.			

Level	Semester	Course Code	Course Name	Credits	Teaching Hours	Exam Duration	Max Marks
5.0	IV	622210	Major V (P) Oceanographic Maps	2	60 Hrs.	2 Hrs.	External-25 Internal-25 Total - 50
Course Objectives:		1. To understand the basic distribution of oceans and seas on the world map. 2. To study the major ocean floor relief features such as continental shelf, slope, abyssal plains, and trenches. 3. To develop map reading and map labelling skills related to oceans and ocean currents. 4. To learn the physical properties of ocean water such as temperature, salinity, and density. 5. To understand the movements of ocean water including waves, tides, and ocean currents through practical work					
Course Outcomes:		1. Students will be able to identify and locate major oceans, seas, and water bodies on the world map. 2. Students will understand and explain major ocean floor relief features through maps and diagrams. 3. Students will gain skill in map reading, labeling, and interpretation of oceanographic features. 4. Students will be able to describe the physical properties of ocean water such as temperature, salinity, and density. 5. Students will develop the ability to draw and interpret diagrams of ocean movements like waves, tides, and currents					
		Contents	Workload Allotted	Weightage of Marks Allotted	Incorporation of Pedagogies		
A.		Ocean Mapping and Identification 1. World Map Work Location of major oceans: Pacific Ocean , Atlantic Ocean ,Indian Ocean .Arctic Ocean ,Southern Ocean 2. Seas, Gulfs and Bays (Basic Identification) • Arabian Sea • Bay of Bengal • Mediterranean Sea • Red Sea • Persian Gulf • Gulf of Mexico 3. Map Skills • Proper labeling on outline world map • Use of directions and scale (basic	28 Hrs.	7 Marks	1. Map-based Learning: Students learn by identifying and labeling oceans, seas, and currents on world maps. 2. Learning by Doing (Practical Method): Hands-on practice in drawing maps, diagrams, and ocean relief features. 3. Demonstration Method: Teacher demonstrates map marking, diagram drawing, and use of atlas for better		

	understanding)			understanding. 4. Group Activity Method: Students work in groups for map exercises and identification tasks to improve cooperation and learning. 5. Visual Learning Method: Use of charts, diagrams, models, and multimedia to understand ocean floor and ocean movements.
B.	Ocean Relief, Currents and Diagram Work 1. Ocean Floor Relief (Map & Diagram) - Continental shelf - Continental slope - Abyssal plain - Ocean trench - Mid-ocean ridge 2. Ocean Currents (World Map) - Warm currents: Gulf Stream, Kuroshio - Cold currents: Labrador, Peru, Benguela 3. Ocean Processes (Diagram Work) - Waves (basic diagram) - Tides (Spring tide and Neap tide)	32 Hrs.	8 Marks	
C.	Practical Record	-----	5 Marks	
D.	Viva Voce	-----	5 Marks	

References:	Reference Books: 1. Garrison, T. – <i>Oceanography: An Invitation to Marine Science</i>, Cengage Learning. 2. Thurman, H.V. & Trujillo, A.P. – <i>Essentials of Oceanography</i>, Pearson Education. 3. Pinet, P.R. – <i>Invitation to Oceanography</i>, Jones & Bartlett Learning. 4. King, C.A.M. – <i>Oceanography for Geographers</i>, Longman. 5. Emery, K.O. & Aubrey, D.G. – <i>Oceanography and Coastal Processes</i>, Springer. 6. Sverdrup, K.A. et al. – <i>The Oceans: Their Physics, Chemistry and General Biology</i>. 7. Singh, S. – <i>Physical Geography</i>, Prayag Pustak Bhawan. 8. Khullar, D.R. – <i>Physical Geography</i>, Kalyani Publishers. Atlases & Maps: • Oxford Student Atlas • Survey of India Topographical Sheets (Basic reference) • Physical World Map (for ocean mapping exercises) E-Resources / Digital Learning: • NOAA (National Oceanic and Atmospheric Administration) – https://www.noaa.gov • UNESCO Ocean Literacy Portal – https://oceanliteracy.unesco.org • NASA Earth Observatory – https://earthobservatory.nasa.gov
Internal Assessment Practical (25 Marks)	Internal assessment for practical work evaluates students' practical skills, fieldwork experience, record maintenance, and understanding of geographical techniques. It includes practical journal submission, field survey/report, viva-voce, and active participation in practical sessions. This assessment helps develop observational, analytical, and mapping skills.

Level	Semester	Course Code	Course Name	Credits	Teaching Hours	Exam Duration	Max Marks
5.0	IV	622211	Major- VI (T) Fundamental of Physical Geography	4	60 Hrs.	3 Hrs	External 60 Internal 40 Total 100
Course Objectives:		1. To understand the meaning, nature, scope, branches and importance of Physical Geography. 2. To study the interior of the Earth, earthquakes and volcanoes. 3. To learn about endogenic movements like slow and sudden movements. 4. To understand types of rocks and Wegener's Continental Drift Theory. 5. To study sea waves and related landforms (erosional and depositional). 6. To understand the work of underground water and its landforms.					
Course Outcomes:		1. Students will understand the basic concepts of Physical Geography and its importance. 2. Students will be able to explain the structure of the Earth, earthquakes, and volcanoes. 3. Students will gain knowledge of endogenic movements and their effects on landforms. 4. Students will identify and describe types of rocks and Continental Drift Theory. 5. Students will understand coastal processes and landforms formed by sea waves. 6. Students will explain the role of underground water in forming landforms					
Unit System	Contents		Workload Allotted	Weightage of Marks Allotted	Incorporation of Pedagogies		
Unit I	Definition, Nature and scope of Physical Geography, Branches of Physical Geography, Importance's of Physical Geography		10 Hrs.	10 Marks	• Lecture Method: Clear explanation of concepts like Earth's interior, rocks, and landforms. • Map and Diagram Method: Use of maps and diagrams for better understanding of physical features. • Learning by Doing: Practical activities such as drawing diagrams of landforms and rock cycle. • Audio-Visual Method: Use of videos, charts, and models to explain earthquakes, volcanoes, and waves. • Group Discussion		
Unit II	Interior of the Earth, Earthquakes and Volcanos		10 Hrs.	10 Marks			
Unit III	Endogenic Earth Movements: slow movements and sudden movements		10 Hrs.	10 Marks			
Unit IV	Types and Characteristics of Rocks ,Continental Drift theory of Wegner.		10 Hrs.	10 Marks			
Unit V	Landforms Associated with Sea Waves, Erosional and Depositional Landforms		10 Hrs.	10 Marks			

Unit VI	The work of underground Water, landform associate with underground water	10 Hrs.	10 Marks	Method: Students discuss topics like Continental Drift Theory and coastal processes.
References:	1. Bunnell, R.B. (1992): <i>Physical Geography in Diagrams</i>, Harlow. 2. Dayal, P.A. (1996): <i>Text Book of Geomorphology</i>, Shukla Books Depot, Patna. 3. Dury, G.H. (1980): <i>The Face of the Earth</i>, Penguin Books. 4. Ernst, W.G. (2000): <i>Earth Systems: Processes and Issues</i>, Cambridge University Press. 5. ICSSR (1983): <i>A Survey of Research in Physical Geography</i>, Concept Publishing, New Delhi. 6. Kale, V. & Gupta, A. (2001): <i>Elements of Geomorphology</i>, Oxford University Press, Calcutta. 7. Monkhouse, F.J. (1960): <i>Principles of Physical Geography</i>, Hodder and Stoughton, London. 8. खुल्लर, डी. आर. (2012): <i>फिजिकल जिओग्राफी</i>, कल्याणी पब्लिकेशन्स, नई दिल्ली। 9. सिंह, एस. (2011): <i>भौतिक भूगोल</i>, प्रयाग पुस्तक भवन, इलाहाबाद। 10. सविन्द्र सिंह (1993): <i>भौतिक भूगोल</i>, वसुंधरा प्रकाशन, गोरखपुर। 11. तिवारी, विश्वनाथ (1973): <i>प्राकृतिक भूगोल का स्वरूप</i>, रामप्रसाद एण्ड सन्स, आगरा। 12. चौधरी, शं. रा. आणि चव्हाण, मि. भा. (2004): <i>प्राकृतिक भूगोल</i>, प्रशांत पब्लिकेशन्स, जळगाव. 13. दाते, सु. प्र. व दाते, संजीवनी (1975): <i>सुगम भूविज्ञान</i>, नरेंद्र प्रकाशन, पुणे. 14. धारपुरे, व्ही. टी. (2003): <i>भूरूपशास्त्र</i>, पिंपळापुणे पब्लिकेशन्स, नागपूर. 15. धारपुरे, व्ही. टी. (2017): <i>भूरूपशास्त्राचे मूलतत्त्वे</i>, पिंपळापुणे पब्लिकेशन्स, नागपूर. 16. लांजेवार, दिलीप आणि खराते, विजय (2011): <i>प्राकृतिक भूगोल</i>, नभ प्रकाशन, अमरावती. 17. पाटील, अरुणा प्र. आणि चव्हाण, अनिता जा. (2018): <i>भूरूपशास्त्र</i>, आधार पब्लिकेशन, अमरावती. 18. सारंग, एस. (2010): <i>प्राकृतिक भूविज्ञान</i>, विद्या प्रकाशन, नागपूर.			
Internal Assessment Theory (40 Marks)	Internal assessment shall be carried out by the respective course teacher by choosing variety of assessment tools/ methods such as class test, record book, seminar, case study, field work mini project work quiz or any innovative method, which may be deemed to be appropriate for assessing the relevant course outcomes.			

Level	Semester	Course Code	Course Name	Credits	Teaching Hours	Exam Duration	Max Marks
5.0	IV	622273	Vocational Skill Course (VSEC) Prismatic Compass Survey	2	60 Hrs.	2 Hrs.	Theory-30 Internal 20 Total 50
Course Objectives:		1. To understand the concept, structure and working of the prismatic compass. 2. To learn the principles of bearings, directions and magnetic measurements. 3. To develop basic skills in field surveying using the prismatic compass. 4. To apply compass survey techniques for simple field mapping and data collection.					
Course Outcomes:		1. Students will be able to explain the structure, working, and principles of the prismatic compass. 2. Students will be able to measure and interpret bearings and directions in field surveying. 3. Students will demonstrate basic skills in conducting compass surveys and recording field data. 4. Students will be able to prepare simple field maps using compass survey observations.					
		Contents	Workload Allotted	Weightage of Marks Allotted	Incorporation of Pedagogies		
Unit I		Introduction to Prismatic Compass: • Meaning and definition of prismatic compass • Principle of working • Structure and parts of prismatic compass • Uses in surveying	16 Hrs	8 Marks	1. Lecture Method with Demonstration: Explanation of compass parts, principles, and working with live demonstration of instrument. 2. Field-Based Learning: Hands-on practice of prismatic compass surveying in open field conditions. 3. Group Work/Collaborative Learning: Students work in small groups to conduct traverse surveys and record observations. 4. Problem-Solving Method:		
Unit II		Bearings and Angles: • Concept of bearing • Types of bearings: Whole Circle Bearing (WCB) and Quadrantal Bearing (QB) • Conversion of bearings • Magnetic north and true north • Magnetic declination	14 Hrs	7 Marks			
Unit III		Field Surveying					

	Methods: • Traversing (open and closed traverse) • Measurement of angles and directions • Recording field observations • Sources of errors in compass survey	16 Hrs	8 Marks	Identification and correction of errors in bearings and field measurements through practice exercises. 5. Practical Training: Step-by-step training in plotting survey data and preparing simple maps from field readings.
Unit IV	Applications and Practical Use: • Compass survey procedure in field • Plotting of compass survey data • Advantages and limitations • Importance of prismatic compass in geography fieldwork in field studies and mapping	14 Hrs	7 Marks	
References:	Reference Books: 1) Singh L.R. 2020: Fundamentals Of Practical Geography shrada Pustak Bhawan Allahbad 2) Singh R. I. And Datta : Elements of Practical Geography 3) Kannan Monika and Shilpi Yadav (2022): Practical Geography Rawat Publication Jaipur 4) शिंतोळे तुषार(2020): प्रात्यक्षिक भूगोल डायमंड पब्लिकेशन 5) Khullar D.R. (2022): Prayogatmak Bhugol Kalyani Publication 6) शर्मा जे.पी. (२०१९): प्रयोगात्मक भूगोल की रूपरेखा रस्तोगी पब्लिकेशन मेरठ Weblink to Equivalent MOOC on SWAYAM if relevant: Weblink to Equivalent Virtual Lab if relevant: Any pertinent media (recorded lectures, YouTube, etc.) if relevant:			
Internal Assessment Vocational Skill Course (20 Marks)	Internal assessment is designed to evaluate the continuous performance of students in vocational skill courses. It focuses on practical knowledge, skill development, project work, assignments, and active participation in training activities. The assessment helps students acquire professional competencies, technical skills, and employability attributes required in the workplace			