

# SHIVAJI UNIVERSITY, KOLHAPUR



Established: 1962

A++ Accredited by NAAC (2021) With CGPA 3.52

## Geography

Under

Faculty of Science and Technology

Semester – I and II

OTHER ELECTIVE COURSE (OE)

STRUCTURE AND SYLLABUS IN ACCORDANCE WITH

NATIONAL EDUCATION POLICY – 2020

HAVING CHOICE BASED CREDIT SYSTEM

WITH MULTIPLE ENTRY AND MULTIPLE EXIT OPTIONS

TO BE IMPLEMENTED FROM ACADEMIC YEAR 2024-2025 ONWARDS

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**Shivaji University, Kolhapur**

**Other Elective (OE) Course from Geography**

<b>Course Category</b>		<b>Course Name</b>	<b>Course Code</b>	<b>Credits</b>
IDC/MDC / GEC/OE	OE- I	1) Natural Disaster Management 2) Science, Technology and Development (STD)	BAU0325OEH222A01	2

**A-I) B. A. / B. A. B. Ed. – I: Semester-II (Total Credits-02):**

<b>Course Category</b>		<b>Course Name</b>	<b>Course Code</b>	<b>Credits</b>
IDC/MDC / GEC/OE	OE-II	1) Manmade Disaster Management 2) Science, Technology and Development (STD)	BAU0325OEH222B02	2

## Shivaji University, Kolhapur

### OE (OPEN ELECTIVE COURSE) as per NEP 2020

<b>Name of the Programme</b>	:	B. A. / B. A. B. Ed. (Geography)
<b>Class</b>	:	B.Com.-I/ B. Sc.-I
<b>Semester</b>	:	I
<b>Name of Vertical Group</b>	:	OE (OPEN ELECTIVE COURSE) (V-3)
<b>Course Code</b>	:	BAU0325OELP222A01
<b>Course Title</b>	:	<b>Natural Disaster Management -I</b>
<b>Total Credit</b>	:	02
<b>Workload</b>	:	02 credits theory X 15 Hours= 30 hours in semester
<b>Duration</b>	:	Semester
<b>Medium of instruction</b>	:	Marathi / English
<b>Eligibility of Admission</b>	:	As per eligibility criteria prescribed by the University
<b>Examination of Pattern</b>	:	40:10
<b>Nature of Question Paper</b>	:	

#### Preamble:

The paper "Natural Disaster Management and field work" offers students a comprehensive exploration of the fundamental concepts and principles in the field of Disaster Management. This paper aims to provide students an understanding of the definitions and concepts related to natural hazards and disaster risk reduction. Through a series of modules, students will gain insights into the introductory concepts and classification of natural hazards, identification of natural hazards, historical and contemporary examples of natural disasters. By the end of this paper, students will have a well-rounded understanding of the key components of disaster risk reduction and preparedness.

#### General Objectives of the Course:

1. To inculcate the definitions and concepts related to natural hazards and disaster risk reduction.
2. To develop skills in identifying natural hazards and conducting hazard and risk assessments.
3. To understand vulnerability assessment and mapping techniques to identify areas at risk.
4. To familiarize students with early warning systems and their role in disaster preparedness.

#### Course Outcomes:

By the end of the course, students would be able to:

1. Students will define and explain key concepts related to natural hazards and disaster risk reduction.
2. Students will understand the frameworks and strategies used in disaster risk reduction to mitigate and prevent the impacts of natural hazards.
3. Students will identify natural hazards and conduct hazard and risk assessments using appropriate methodologies.
4. Students will apply principles of emergency planning and management in the context of disaster risk reduction and develop strategies for capacity building and training to enhance preparedness and response capabilities.

#### Nature of Question Paper:

The student's examination and evaluation methods are as per the guidelines of the Shivaji University, Kolhapur.

- Internal evaluation should be based on Home Assignment/Unit Test/Case Study

### Natural Disaster Management -I

Theory Modules				
Module No.	Module Name	Sub-module	No. of hours	Credit
1	Introduction to Natural Hazards and Disasters	1.1 Meaning and concepts of natural hazards and disasters 1.2 Classification of natural hazards and disasters 1.3 Contemporary natural disasters 1.4 The economic, social, and environmental impact of disasters	15	01
2	Understanding Natural Hazards and Risk Assessment	2.1 Identification of natural hazards 2.2 Hazard and risk assessment methodologies 2.3 Vulnerability assessment and mapping 2.4 Hazard mitigation and prevention strategies	15	01

#### Suggested Readings

1. Alexander, D. (2013). Resilience and disaster risk reduction: an etymological journey. *Natural Hazards and Earth System Sciences*, 13(11), 2707-2716.

2. Blaikie, P., Cannon, T., Davis, I., et al. 1994: At Risk: Natural Hazards, People's Vulnerability and Disasters, Routledge, London.
3. Burton, I., Kates, R. W., & White, G. F. (1993). The environment as hazard. Guilford Press.
4. Edwards, B., (2005). Natural Hazards, Cambridge University Press, Cambridge.
5. Guha-Sapir, D., Hargitt, D., & Hoyois, P. (2004). Thirty years of natural disasters, 1974-2003: The numbers. Centre for Research on the Epidemiology of Disasters (CRED).
6. Gupta, H.K., (2010). Disaster Management, Universities Press India, Hyderabad.
7. Morrisawa, M. (Ed.) (1994): Geomorphology and Natural Hazards, Elsevier, Amsterdam.
8. Paraswamam, S. and Unikrishnan, P. V. (2000): India Disaster Report, Oxford University Press, New Delhi.
9. Singh, J., (2007). Disaster Management, Future Challenges and Opportunities, I.K. International Pvt. Ltd., New Delhi.
10. Singh, R.B., (2005). Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi.
11. Singh, R.B., (2006). Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, Jaipur.
12. Sinha, A., (2001). Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi
13. Smith, K., (2011). Natural Hazards, Routledge, London.
14. Stoltman, J.P. et al., (2004). International Perspectives on Natural Disasters, Kluwer Academic Publications, Dordrecht.
15. UNISDR. (2015). Sendai Framework for Disaster Risk Reduction 2015-2030.
16. अलीझाड सु. व इतर (२००५) : पर्यावरण विज्ञान, निराली प्रकाशन, पुणे
17. पवार सी.टी. व इतर (१९९८) : पर्यावरण भूगोल, सप्रेम प्रकाशन, कोल्हापूर
18. पाटील वाय.व्ही. (२००५) : पर्यावरण अभ्यास, अक्षरलेण प्रकाशन, सोलापूर

**Shivaji University, Kolhapur**  
**OE (OPEN ELECTIVE COURSE) as per NEP 2020**

<b>Name of the Programme</b>	:	B. A. / B. A. B. Ed. (Geography)
<b>Class</b>	:	B.Com.-I / B. Sc.-I
<b>Semester</b>	:	II
<b>Name of Vertical Group</b>	:	OE (OPEN ELECTIVE COURSE) - II
<b>Course Code</b>	:	BAU0325OELP222B02
<b>Course Title</b>	:	<b>Manmade Disaster Management -II</b>
<b>Total Credit</b>	:	02
<b>Workload</b>	:	02 credits Theory X 15 Hours = 30 hours in semester
<b>Duration</b>	:	Semester
<b>Medium of instruction</b>	:	Marathi / English
<b>Eligibility of Admission</b>	:	As per eligibility criteria prescribed by the University
<b>Examination of Pattern</b>	:	40:10
<b>Nature of Question Paper</b>	:	

**Preamble:**

The paper "Manmade Disaster Management and Surveying" offers students a comprehensive exploration of the fundamental concepts and principles in the field of Disaster Management. This paper aims to provide students an understanding of the definitions and concepts related to manmade hazards and disaster risk reduction. Through a series of modules, students will gain insights into the introductory concepts and classification of manmade hazards, historical and contemporary examples of manmade disasters. By the end of this paper, students will have a well-rounded understanding of the key components of disaster risk reduction and preparedness.

**General Objectives of the Course:**

1. To inculcate definitions and concepts related to manmade hazards and disaster risk reduction.
2. To introduce disaster risk reduction strategies and frameworks used to mitigate and prevent the impacts of manmade hazards.
3. To develop knowledge and skills in identifying manmade hazards and conducting hazard and risk assessments.

**Course Outcomes:**

By the end of the course, students would be able to:

1. Students will define and explain key concepts related to manmade hazards and disaster risk reduction.

2. Students will understand the frameworks and strategies used in disaster risk reduction to mitigate and prevent the impacts of manmade hazards.
3. Students will identify manmade hazards and conduct hazard and risk assessments using appropriate methodologies.
4. Students will apply principles of emergency planning and management in the context of disaster risk reduction and develop strategies for capacity building and training to enhance preparedness and response capabilities.

### Nature of Question Paper:

The student's examination and evaluation methods are as per the guidelines of the Shivaji University, Kolhapur.

- Internal evaluation should be based on Home Assignment/Unit Test/Case Study

## Manmade Disaster Management -II

Theory Modules				
Module No.	Module Name	Sub-module	No. of hours	Credit
1	Human-induced Hazards	1.1 Meaning & concept of Human-induced Hazards 1.2 Physical Hazards - Cause and effects of Landslides, Soil erosion, forest fires, desertification etc. 1.3 Chemical Hazards - Nuclear Hazards, release of toxic elements in the air, soil and water; oil spills. 1.4 Accident, Crowd	15	01
2	Disaster Risk Reduction and Preparedness	2.1 Emergency planning and management 2.2 Early warning systems 2.3 Community participation and resilience 2.4 Risk communication and awareness	15	01

### Suggested Readings

1. Alexander, D. (2013). Resilience and disaster risk reduction: an etymological journey. *Natural Hazards and Earth System Sciences*, 13(11), 2707-2716.
2. Blaikie, P., Cannon, T., Davis, I., et al. 1994: *At Risk: Natural Hazards, People's Vulnerability and Disasters*, Routledge, London.
3. Burton, I., Kates, R. W., & White, G. F. (1993). *The environment as hazard*.

Guilford Press.

4. Edwards, B., (2005). Natural Hazards, Cambridge University Press, Cambridge.
5. Guha-Sapir, D., Hargitt, D., & Hoyois, P. (2004). Thirty years of natural disasters, 1974-2003: The numbers. Centre for Research on the Epidemiology of Disasters (CRED).
6. Gupta, H.K., (2010). Disaster Management, Universities Press India, Hyderabad.
7. Morrisawa, M. (Ed.) (1994): Geomorphology and Natural Hazards, Elsevier, Amsterdam.
8. Paraswamam, S. and Unikrishnan, P. V. (2000): India Disaster Report, Oxford University Press, New Delhi.
9. Singh, J., (2007). Disaster Management, Future Challenges and Opportunities, I.K. International Pvt. Ltd., New Delhi.
10. Singh, R.B., (2005). Risk Assessment and Vulnerability Analysis, IGNOU, New Delhi.
11. Singh, R.B., (2006). Natural Hazards and Disaster Management: Vulnerability and Mitigation, Rawat Publications, Jaipur.
12. Sinha, A., (2001). Disaster Management: Lessons Drawn and Strategies for Future, New United Press, New Delhi
13. Smith, K., (2011). Natural Hazards, Routledge, London.
14. Stoltman, J.P. et al., (2004). International Perspectives on Natural Disasters, Kluwer Academic Publications, Dordrecht.
15. UNISDR. (2015). Sendai Framework for Disaster Risk Reduction 2015-2030.
16. अलीझाड सु. व इतर (२००५) : पर्यावरण विज्ञान, निराली प्रकाशन, पुणे
17. पवार सी.टी. व इतर (१९९८) : पर्यावरण भूगोल, सप्रेम प्रकाशन, कोल्हापूर
18. पाटील वाय.व्ही.(२००५) : पर्यावरण अभ्यास, अक्षरलेण प्रकाशन, सोलापूर



**Shivaji University, Kolhapur**  
**Open Elective - Science, Technology and Development (STD) – I & II**  
**as per NEP 2020**

<b>Name of the Programme</b>	:	B. A. / B. A. B. Ed. (Geography)
<b>Class</b>	:	B. Com. I / B.Sc. I
<b>Semester</b>	:	I and II
<b>Name of Vertical Group</b>	:	Open Elective
<b>Course Code</b>	:	BAU0325IDH222A01
<b>Course Title</b>	:	<b>Science, Technology and Development (STD)</b>
<b>Total Credit</b>	:	02 each semester
<b>Workload</b>	:	Theory: 02 credit X 15 Hours = 30 hours in each semester
<b>Duration</b>	:	Semester
<b>Medium of instruction</b>	:	Marathi / English
<b>Eligibility of Admission</b>	:	As per eligibility criteria prescribed by the University
<b>Examination of Pattern</b>	:	80:20
<b>Nature of Question Paper</b>	:	

**Preamble:**

This paper is specially designed to cater to foundation building of the students by imparting knowledge about the science, technology and development. Students of B. Sc. Part-I can betterly understand all latest concepts in Science, Technology and Development in brief but in adequate manner. The objective of this course is to introduce the latest concepts in Science, Technology and Development, specifically fundamental concepts in scientific thinking, human health, disaster management, communication and space research.

**General Objectives of the Course:**

- 1) To study the fundamental concepts of science, technology and development.
- 2) To study impact of science and technology on human health.
- 3) To study various types of disasters and its management.
- 4) To study means of communication and space research.

**Course Outcomes:**

By the end of the course, students will be able to:

- 1) Understand in-depth about the concepts of science, technology and development.
- 2) Understand impact of science and technology on human health.
- 3) Understand types of disasters and its management.
- 4) Understand means of communication and space research.

### Nature of Question Paper:

The student's examination and evaluation methods are as per the guidelines of the Shivaji University.

- Internal evaluation should be based on Home Assignment/Unit Test/Case Study

### Semester - I

### Open Elective - Science, Technology and Development (STD) -I as per

### NEP 2020

### Course I

Module No.	Module Name	Sub-module	No. of hours	Credit
1	<b>Introduction to Science and Technology</b>	1.1 Science and Technology: Definitions, Nature and Scope 1.2 Fundamental Concepts in Scientific Thinking 1.3 Stages in the Study of Science: Observation, Experiment, Analysis, Result and Hypothesis. 1.4 Science and Superstitions 1.5 Development of Science and Technology in India 1.6 Impact of Science and Technology on Society	15	01
2	<b>Science, Technology and Human Health</b>	2.1 Human Blood: Blood Groups, Importance of Matching Blood Groups in Human Health 2.2 Addiction a Social Problem: Types, Causes, Effects and Solutions 2.3 AIDS: A Challenge before World, Facts, Figures, Causes, Effects, Treatment, Social Outlook. 2.4 Cancer: concept, causes, symptoms, types and treatment. 2.5 Need of Cleanliness: Swachh Bharat Abhiyan	15	01

### Suggested Readings

1. Annual Review of Information Science and Technology (ARIST) 39. By Blaise Cronin, Information Today, 2004.

2. Bagila A.V. (Ed) Science and Society, Lavani Publication House, 1972. Encyclopaedia of Computer Science and Technology (Facts on File Science Library) – Import, 15 Jan 2009
3. Bose D.M (Ed), A Concise History Science in India, Indian National Science Academy, 1971.
4. Butle J.A.V, Science and Human Life, Pergamon Press, London. (Year)
5. Encyclopaedia of Space Science and Technology, Wiley Online Library.
6. Encyclopaedia Britannica.
7. Flower W.S, The Development of Scientific Method, Pergamon Press, London, 1962.

#### मराठी पुस्तके

1. विज्ञानाचा समाज धारणेवरील परिणाम – दीक्षित कमलाकर, समाज प्रबोधन संस्था
2. शास्त्रीय विचार पद्धती - अ.भि. शहा, समाज प्रबोधन संस्था
3. जीवनाभिमुख विज्ञान – शिवाजी विद्यापीठ प्रकाशन
4. वैज्ञानिक अभ्यासाची गाथा - शिवाजी विद्यापीठ प्रकाशन
5. विज्ञान, तंत्रज्ञान आणि प्रगती - डॉ. पवार जयसिंगराव, प्रा. सूयवंशी निशांत फडके प्रकाशन कोहापूर
6. विज्ञान, तंत्रज्ञान आणि प्रगती – प्रा. पाटील हरिश्चंद्र, प्रा. घस्ते अनिल, प्रा. पाटील अरुण, प्रा. माने देशमुख रामराजे, निराली प्रकाशन, पुणे
7. मराठी विश्वकोश

#### Websites

e-PG Pathshala: <https://epgp.inflibnet.ac.in/>

MOOCS - NPTEL: <https://nptel.ac.in/>

MOOCS - SWAYAM: <https://swayam.gov.in/>

National Digital Library of India: <https://ndl.iitkgp.ac.in/>

Shivaji University Library (E-Resources): <http://www.unishivaji.ac.in/library/E-Resources>

**Semester - II**  
**Open Elective - Science, Technology and Development (STD) - II as per**  
**NEP 2020**  
**Course II**

Module No.	Module Name	Sub-module	No. of hours	Credit
1	<b>Disaster Management</b>	1.1 Disaster: Concept and Types 1.2 Earthquake 1.3 Flood 1.4 Drought 1.5 Fire 1.6 Accident 1.7 Crowd	15	01
2	<b>Means of Communication and Space Research</b>	2.1 A Brief History of Communication 2.2 Origin, Development and Importance of Computer 2.3 Computer Network 2.4 Internet 2.5 Indian Space Research Organization (ISRO) 2.6 Introduction of: a) Remote Sensing b) Geographical Information System (GIS)	15	01

**Suggested Readings**

1. Annual Review of Information Science and Technology (ARIST) 39. By Blaise Cronin, Information Today, 2004.
2. Bagila A.V. (Ed) Science and Society, Lavani Publication House, 1972.
3. Bose D.M (Ed), A Concise History Science in India, Indian National Science Academy, 1971.
4. Butle J.A.V, Science and Human Life, Pergamon Press, London. (Year)
5. Disaster Management in India, Kadambari Sharma and Chiranjeev Avinash, Jnanda Prakashan, 2010.

6. Encyclopaedia Britannica.
7. Encyclopaedia of Computer Science and Technology (Facts on File Science Library) – Import, 15 Jan 2009
8. Encyclopaedia of Space Science and Technology, Wiley Online Library.
9. Maguire, D.J.: Computers in Geography, Longman Scientific and Technical Publication, London, 1989.
10. Mathur, P.M.: Computer Application in Geography, John Wiley and Sons, New York, 1993.

### मराठी पुस्तके

1. विज्ञानाचा समाज धारणेवरील परिणाम – दीक्षित कमलाकर, समाज प्रबोधन संस्था
2. शास्त्रीय विचार पद्धती - अ.भि. शहा, समाज प्रबोधन संस्था
3. जीवनाभिमुख विज्ञान – शिवाजी विद्यापीठ प्रकाशन
4. वैज्ञानिक अभ्यासाची गाथा - शिवाजी विद्यापीठ प्रकाशन
5. विज्ञान, तंत्रज्ञान आणि प्रगती - डॉ. पवार जयसिंगराव, प्रा. सूयवंशी निशांत फडके प्रकाशन कोहापूर
6. विज्ञान, तंत्रज्ञान आणि प्रगती – प्रा. पाटील हरिश्चंद्र, प्रा. घस्ते अनिल, प्रा. पाटील अरुण, प्रा. माने देशमुख रामराजे, निराली प्रकाशन, पुणे
7. मराठी विश्वकोश
8. डॉ. संजय चकणे, डॉ. प्रमोद पात्रेकर: आपत्ती व्यवस्थापनाचे आव्हान, जेनेरीक पब्लिकेशन, २०११.
9. भोळे, पाटील आणि जाधव: आपत्ती व्यवस्थापन, अथर्व पब्लिकेशन, २०२०.

### Websites

e-PG Pathshala: <https://epgp.inflibnet.ac.in/>

MOOCS - NPTEL: <https://nptel.ac.in/>

MOOCS - SWAYAM: <https://swayam.gov.in/>

National Digital Library of India: <https://ndl.iitkgp.ac.in/>

Shivaji University Library (E-Resources): <http://www.unishivaji.ac.in/library/EResources>