

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's

**New Arts, Commerce, and Science College
Ahmednagar (Autonomous)**

(Affiliated to Savitribai Phule Pune University, Pune)



**National Education Policy (NEP)
Choice Based Credit System (CBCS)**

**Programme Framework and Syllabus for
Open Elective: Environmental
Science**

खुला वैकल्पिक विषय: पर्यावरण शास्त्र

(For Students of Arts and Commerce Faculty)

(कला व वाणिज्य शाखेतील विद्यार्थ्यांकरिता)

Implemented from

Academic Year 2024-25

Ahmednagar Jilha Maratha Vidya Prasarak Samaj's
**New Arts, Commerce and Science College, Ahmednagar
(Autonomous)**

Introduction of Open Electives (Marathi): For Arts and Commerce Faculty

Open Electives refer to the subjects and topics that students can opt for in addition to their primary area of study. These offer students greater autonomy over their curriculum, giving them the opportunity to customise it to reflect their passions and interests. Open Electives refer to the subjects and topics that students can opt for in addition to their primary area of study. These offer students greater autonomy over their curriculum, giving them the opportunity to customise it to reflect their passions and interests. The system of Open Electives also encourages cross and multidisciplinary learning, as students pick and choose subjects from across different faculties and streams.

खुला वैकल्पिक विषय हे विषय आणि विषयांचा संदर्भ देतात जे विद्यार्थी त्यांच्या प्राथमिक अभ्यासाच्या क्षेत्राव्यतिरिक्त निवडू शकतात. हे विद्यार्थ्यांना त्यांच्या अभ्यासक्रमावर अधिक स्वायत्तता देतात, त्यांना त्यांची आवड आणि स्वारस्ये प्रतिबिंबित करण्यासाठी सानुकूलित करण्याची संधी देतात. ओपन इलेक्टिव्ह हे विषय आणि विषयांचा संदर्भ देतात जे विद्यार्थी त्यांच्या प्राथमिक अभ्यासाच्या क्षेत्राव्यतिरिक्त निवडू शकतात. हे विद्यार्थ्यांना त्यांच्या अभ्यासक्रमावर अधिक स्वायत्तता देतात, त्यांना त्यांची आवड आणि स्वारस्ये प्रतिबिंबित करण्यासाठी सानुकूलित करण्याची संधी देतात. खुला वैकल्पिक विषय प्रणाली क्रॉस आणि बहुविद्याशाखीय लर्निंगला प्रोत्साहन देते, कारण विद्यार्थी विविध विद्याशाखा आणि प्रवाहांमधून विषय निवडतात .

Open Elective/ Generic Elective Framework and Course Distribution:

Subject: Environmental Science (For Arts and Commerce Faculty)

Sr. No.	Year	Semester	Level	Course Type	Course Code	Title	Credits
1.	I	I	4.5	OE-01	OE-EN 01T/P	Urban Environmental Management शहरी पर्यावरण व्यवस्थापन	02
2.	I	II	5.0	OE-02	OE-EN 02T/P	Global Environmental Issues जागतिक पर्यावरणीय समस्या	02
3.	II	III	5.5	OE-03	OE-EN 03T/P	Basics in Watershed Management पाणलोट व्यवस्थापनातील मूलभूत गोष्टी	02
4.	II	IV	6.0	OE-04	OE-EN 04T/P	Eco tourism निसर्ग पर्यटन	02
Total							08

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Syllabus of Open Elective: Environmental Science

Title of the Course: Urban Environmental Management								
Year: I				Semester: I				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
OE-01	OE-EN 01	02	00	02	30	15	35	50

Learning Objectives:

1. To understand the concepts of Urban Environment
2. To understand the urban environmental parameters and its importance s.
3. To acquaint the knowledge of causes and effects in urban environment
4. To make students well aware and understanding of urban environmental Management.

Course Outcomes (Cos)

1. Students will understand the concepts of urban environmental Management
2. Students will well aware of the causes and effects of urban environmental Management
3. Students will acquaint with the knowledge of causes and effects in urban environmental Management
4. Understand through the Case studies and field Visit

Unit. No.		Course Content	Number of Lectures
1.	Urban settlement	<ul style="list-style-type: none"> ❖ Definition, Challenges of urban societies ❖ Site Of settlement ❖ Types of site <ul style="list-style-type: none"> • Defensive site, Resource site • River bank site • Rail, road , border Air Route site • Cultural site, • Port, state and national capital site 	8
2.	Situation and types of Urban Settlement	Types of situation <ul style="list-style-type: none"> • Linear situation • Frontier situation 	6

		<ul style="list-style-type: none"> • Central Situation • Types of rural and urban settlement <p>Settlement pattern</p>	
3.	Stages of Development and functional classification	<ol style="list-style-type: none"> 1. Stages of Development 2. Administrative, industrial , Mining, Transfer and distribution centers, cultural , Tourism and multifunctional classification 	6
4.	Problems of Urbanization	<ol style="list-style-type: none"> a) Migration b) Slum area c) Population d) Resource management e) Pollution : air , water , Soil and solid waste 	5
5.	Sustainable Environmental Practices	<ol style="list-style-type: none"> a) Smart city b) Swachata Abhiyan c) Solar alliance d) Organic farming e) MNREGA 	5

Unit. No.		Course Content	Number of Lectures
1.	नागरी वस्ती	<ul style="list-style-type: none"> • व्याख्या, शहरी समाजातील आव्हाने ❖ सेटलमेंटची जागा ❖ साइटचे प्रकार • बचावात्मक साइट, संसाधन साइट • नदी किनारी साइट • रेल्वे, रस्ता, सीमा हवाई मार्ग साइट • सांस्कृतिक स्थळ, • बंदर, राज्य आणि राष्ट्रीय राजधानी साइट 	8
2.	शहरी वस्तीची परिस्थिती आणि प्रकार	<p>परिस्थितीचे प्रकार</p> <ul style="list-style-type: none"> • रेखीय परिस्थिती • सीमावर्ती परिस्थिती • मध्यवर्ती स्थिती • ग्रामीण आणि शहरी वस्तीचे प्रकार • सेटलमेंट पॅटर्न 	6
3.	विकास आणि कार्यात्मक वर्गीकरणाचे टप्पे	<p>विकासाचे टप्पे</p> <ul style="list-style-type: none"> • प्रशासकीय, औद्योगिक, खाणकाम, हस्तांतरण आणि वितरण केंद्रे, सांस्कृतिक, पर्यटन आणि बहुकार्यात्मक वर्गीकरण 	6
4.	नागरीकरणाच्या समस्या	<ul style="list-style-type: none"> • स्थलांतर • झोपडपट्टी क्षेत्र • लोकसंख्या 	5

		<ul style="list-style-type: none"> • संसाधन व्यवस्थापन • प्रदूषण : हवा, पाणी, माती आणि घनकचरा 	
4.	शाश्वत पर्यावरणीय पद्धती	<ul style="list-style-type: none"> • स्मार्ट सिटी • स्वच्छता अभियान • सौर युती • सेंद्रिय शेती • मनरेगा 	5

Suggested Readings:

- D'Monte, Darryl. 1985. Industry versus Environment Temples or Tombs. Three Controversies, Delhi, CSE.
- Ernstson, H. 2011. Re-translating nature in post-apartheid Cape Town: The material semiotics of people and plants at Bottom Road. In: Heeks, R., (Ed.) Conference on "Understanding Development through Actor-Network Theory", London School of Economics, 30 June, London.
- Grimm, N. B., Faeth, S. H., et al. 2008. Global Change and the Ecology of Cities. Science 319: 756-760.
- Hinchliffe, S. & Whatmore, S. 2006. Living cities: Towards a politics of conviviality. Science as Culture 15: 123–138. 18
- McIntyre, N.E. 2000. Urban ecology as an interdisciplinary field: differences in the use of 'urban' between the social and natural sciences. Urban Ecosystems 4: 5-24.
- Montgomery, M.R. 2009. Urban Transformation of the developing world. Science 319: 761-764.

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Syllabus of Open Elective: Environmental Science

Title of the Course: Global Environmental Issues								
Year: I				Semester: II				
Course Type	Course Code	Credit Distribution		Credits	Allotted Hours	Allotted Marks		
		Theory	Practical			CIE	ESE	Total
OE-02	OE-EN 02	02	00	02	30	15	35	50

Learning Objectives:

1. **1** To understand the concepts of Global environmental Issues
2. To understand the urban environmental parameters and its importance s.
3. To acquaint the knowledge of causes and effects of global environment problems
4. To make students well aware and understanding of global environment problems and its impact

Course Outcomes (Cos)

1. Understand the Man and environment relation
2. Understand the impact of environmental issues on economic development
3. To know the policy and its implementation at global and national levels

Unit. No.		Course Content	Number of Lectures
1.	CLIMATE CHANGE	<ul style="list-style-type: none"> • Structure of atmosphere • Green house Gases • Global warming • Effects of GHG • El Nino and La Nina Effect • Kyoto protocol and Paris Agreement 	8
2.	ENVIRONMENTAL MOVEMENTS	<ul style="list-style-type: none"> • Ecological conflicts and the environmental movements in India: • Narmada Bachao Andolan, • Appiko Movement, • Chipko movement, • Silent Valley Movement, • Tehri Dam conflicts, • Almatti dam, • Bhopal gas tragedy, 	8
3.	BIODIVERSITY CONSERVATION	<ul style="list-style-type: none"> • Definition and types of biodiversity • In situ and ex situ conservation methods • Hot spot in India and its importance 	6

		<ul style="list-style-type: none"> • Red data book 	
4.	Environmental problems	<ul style="list-style-type: none"> • The green revolution, • food crisis and population explosion, • Pastoralism • Energy crisis and conservation, 	8

Unit No.		Course Content	Number of Lectures
1.	हवामान बदल	वातावरणाची रचना <ul style="list-style-type: none"> • हरितगृह वायू • जागतिक तापमानवाढ • हरितगृह वायूचे परिणाम • एल निनो आणि ला निना प्रभाव • क्योटो प्रोटोकॉल आणि पॅरिस करार 	8
2.	पर्यावरणीय चळवळी	भारतातील पर्यावरणीय संघर्ष आणि पर्यावरणीय हालचाली: <ul style="list-style-type: none"> • नर्मदा बचाव आंदोलन, • अँपिको चळवळ, • चिपको आंदोलन, • सायलेंट व्हॅली चळवळ, • टिहरी धरण संघर्ष, अलमट्टी धरण, • भोपाळ गॅस शोकांतिका, 	8
3.	जैवविविधता संवर्धन	जैवविविधतेची व्याख्या आणि प्रकार <ul style="list-style-type: none"> • In situ आणि and ex situ संवर्धन पद्धती • भारतातील हॉट स्पॉट आणि त्याचे महत्त्व • लाल डेटा बुक • 	6
4.	पर्यावरणीय समस्या	हरित क्रांती, <ul style="list-style-type: none"> • अन्न संकट आणि लोकसंख्या विस्फोट, • पशुपालन • ऊर्जा संकट आणि संवर्धन, • 	8

Suggested reading :

- 1.Environmental Governance: The Global Challenge; By Lamont C. Hempel; Island Press (1996) 72.
- 2.Environmental Issues in India – A Reader; By Mahesh Rangrajan; Pearson-Longman Publ. (2007)
- 3.Introduction to Environmental Biotechnology; by AK Chatterji (2002); Prantice-Hall of India.
- 4.. Handbook of Environmental Law, Acts, Guidelines, Compliances, and Standards: Vol. I and II; by R.K. Trivedy; BS publ (2004).

5. International Environmental Law, Fairness, Effectiveness and World Order; by Elli Louka, Cambridge, (2006)
6. Global Environmental Governance: A Reform Agenda; by Adil Najam, Mihaela Papa, and Nadaa Taiyab (2006), International Institute for Sustainable Development (IISD), Canada
7. Environmental Governance and Regulation in India: by Atiyah Curmally; (Environment and Rehabilitation) India Infrastructure Report 2002