

**Shri. Sangameshwar Education Society's
Sangameshwar College, Solapur
(Autonomous)**

**FINAL SYLLABUS OF CURRICULUM
FOR UNDER GRADUATE COURSE
CBCS w.e.f. 2021**



**Course: B.A.II, B.Com II, B.Sc. II, B.B.A II, B.C.A, B.Sc. (ECS) II
(Semester IV)**

**For All Faculty
Syllabus of Environmental Studies**

(Syllabus as Per UGC Guidelines UGC Letter – File No. 13-01/2000 (EA/ENV/COS-01 Dated 14th May, 2019)

For All UG Second year Semester IV

With effect from June -2021

Academic Council 3(3.3)
10th August, 2021

All UG for Fourth Semester Compulsory Paper
Environmental Studies (CBCS - Syllabus) – 2021
ENVIRONMENTAL STUDIES (2100433)

- 1) **Title of the Paper:** Environmental Studies
- 2) **Total Hours:** 60 hours

Structure for Environmental Studies

	Name and type of the paper		L/P	Credits	Total Marks	SEE	CA*
	Type	Name					
Class& code	For All UG Semester IV (Second year)						
All UG II Year (4th Semester) (EVS)	Ability Enhancement Course (AECC)	Environmental Studies	60	04	50	35	15

Compulsory: *Unit Test / Assignment/ Seminar/ Nature Visits / Field Work / Field Tour/ Industrial visits of 1-2 days and submission of report is compulsory under internals marks (CA)

1. This course is not considered as a passing head for counting passing heads for ATKKT
2. Student must pass this subject for award of the degree

Evaluation Scheme:

Theory paper has 50 marks out of which 35 marks will be for Term End examination (SEE) and 15 marks for College Internal Assessment (CA). The candidate has to appear for internal evaluation of 15 marks and external evaluation (College Examination) of 35 marks.

A) College Internal Evaluation:

In case of theory paper, internal examination has to conduct by CollegeMarks for internal assessment shall be given based on Unit Test / Assignment/ Seminar/ Nature Visits / Field Work / Field Tour/ Industrial visits of 1-2 days and submission of report is compulsory under internals marks (CA)

B) External Evaluation (End of Term College Examination):

Nature of Theory question paper:

- 1) Theory paper is of 35 marks.
- 2) Theory paper will be of 2 hours duration
- 3) Students have to attempt all the questions.

Structure of the Course

CBCS BA PART II SEMESTER – IV AECC – EVS

ENVIRONMENTAL STUDIES (2100433)

Paper: Environmental Studies

(Theory 35 + Internal 15 = 50 Marks)

COURSE CREDIT:- 3L + 1T/H=4 COURSE CONTACT HOUR :- 50 L+ 10T/H=60

Sr. No.	Module	Module contact hours
1	Introduction to environmental studies	04
2	Ecosystems	06
3	Natural Resources: Renewable and Non-renewable Resources	08
4	Biodiversity and Conservation	08
5	Environmental Pollution	08
6	Environmental Policies & Practices	08
7	Human Communities and the Environment	08
8	Field work	10
	Total	60

Environment Studies (AECC)

Learning Objectives:

- To acquaint students with the concept of environmental studies
- To compare the relation between human and environment
- To analyze the resources and biodiversities
- To aware with environmental issues and policies

Outcomes:

- Explain the basic concepts in Environmental Studies
- Categorize Ecosystems in different regions
- Examine Natural Resources and Associated Problems
- Motivate people for the conservation of environment
- Justify the need of sustainable development,
- Field study to a local area to document environmental assets

Module 1: Introduction to environmental studies 04

- 1.1 Multidisciplinary nature of environmental studies
- 1.2 Scope and importance of environmental studies
- 1.3 Concept of sustainability and sustainable development

Module 2: Ecosystems 06

- 2.1 Concept, Structure and function of ecosystem
- 2.2 Energy flow in an ecosystem: food chains, food webs and ecological succession.
- 2.3 Case studies of the following ecosystems: Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Module 3: Natural Resources: Renewable and Non-renewable Resources 08

- 3.1 Land resources and land use change; Land degradation, soil erosion and desertification.
- 3.2 Deforestation: Causes and impacts due to mining, dam building on environment, forests, biodiversity and Tribal populations.
- 3.3 Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water International & inter-state.
- 3.4 Energy resources: Renewable and non-renewable energy sources, use of alternate energy sources, growing Energy needs, case studies

Module 4: Biodiversity and Conservation 08

- 4.1 Levels of biological diversity: genetic, species and ecosystem diversity; Biogeographic zones of India; Biodiversity patterns and global biodiversity hot spots
- 4.2 India as a mega-biodiversity nation; Endangered and endemic species of India
- 4.3 Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological

invasions;

4.4 Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

4.5 Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value.

Module 5: Environmental Pollution

08

5.1 Environmental pollution: types, causes, effects and controls; Air, water, soil and noise pollution
Nuclear hazards and human health risks

5.2 Solid waste management: Control measures of urban and industrial waste.

5.3 Pollution case studies.

Module 6: Environmental Policies & Practices

08

6.1 Climate change, global warming, ozone layer depletion, acid rain and impacts on human communities and agriculture

6.2 Environment Laws: Environment Protection Act; Air (Prevention & Control of Pollution) Act; Water (Prevention and control of Pollution) Act; Wildlife Protection Act; Forest Conservation Act. International agreements: Montreal and Kyoto protocols and Convention on Biological Diversity (CBD).

6.3 Nature reserves, tribal populations and rights, and human wildlife conflicts in Indian context.

Module 7: Human Communities and the Environment

08

7.1 Human population growth: Impacts on environment, human health and welfare.

7.2 Resettlement and rehabilitation of project affected persons; case studies.

7.3 Disaster management: floods, earthquake, cyclones and landslides.

7.4 Environmental movements: Chipko, Silent valley, Bishnois of Rajasthan.

7.5 Environmental ethics: Role of Indian and other religions and cultures in environmental conservation.

7.6 Environmental communication and public awareness, case studies (e.g., CNG vehicles in Delhi).

Module 8: Field work

10

Visit to an area to document environmental assets: river/ forest/ flora/fauna, etc.

Visit to a local polluted site: Urban/Rural/Industrial/Agricultural.

Study of common plants, insects, birds and basic principles of identification.

Study of simple ecosystems: pond, river, Delhi Ridge, etc.

Suggested Readings:

1. Carson, R. 2002. *Silent Spring*. Houghton Mifflin Harcourt.
2. Gadgil, M., & Guha, R. 1993. *This Fissured Land: An Ecological History of India*. Univ. of California Press.
3. Gleeson, B. and Low, N. (eds.) 1999. *Global Ethics and Environment*, London, Routledge.
4. Gleick, P.H. 1993. *Water in Crisis*. Pacific Institute for Studies in Dev., Environment & Security, Stockholm Env. Institute, and Oxford Univ. Press.
5. Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. *Principles of Conservation Biology*. Sunderland: Sinauer Associates, 2006.
6. Grumbine, R. Edward, and Pandit, M.K. 2013. Threats from India's Himalaya dams. *Science*, 339: 36--37.
7. McCully, P. 1996. *Rivers no more: the environmental effects of dams* (pp. 29--64). Zed Books.
8. McNeill, John R. 2000. *Something New Under the Sun: An Environmental History of the Twentieth Century*.
9. Odum, E.P., Odum, H.T. & Andrews, J. 1971. *Fundamentals of Ecology*. Philadelphia: Saunders.
10. Pepper, I.L., Gerba, C.P. & Brusseau, M.L. 2011. *Environmental and Pollution Science*. Academic Press.
11. Rao, M.N. & Datta, A.K. 1987. *Waste Water Treatment*. Oxford and IBH Publishing Co. Pvt. Ltd.
12. Raven, P.H., Hassenzahl, D.M. & Berg, L.R. 2012. *Environment*. 8th edition. John Wiley & Sons.
13. Rosencranz, A., Divan, S., & Noble, M.L. 2001. *Environmental law and policy in India. Tripathi 1992*.
14. Sengupta, R. 2003. *Ecology and economics: An approach to sustainable development*. OUP.
15. Singh, J.S., Singh, S.P. and Gupta, S.R. 2014. *Ecology, Environmental Science and Conservation*. S. Chand Publishing, New Delhi.
16. Sodhi, N.S., Gibson, L. & Raven, P.H. (eds.) 2013. *Conservation Biology: Voices from the Tropics*. John Wiley & Sons.
17. Thapar, V. 1998. *Land of the Tiger: A Natural History of the Indian Subcontinent*.
18. Warren, C.E. 1971. *Biology and Water Pollution Control*. WBSaunders.
19. Wilson, E.O. 2006. *The Creation: An appeal to save life on earth*. New York: Norton.
20. World Commission on Environment and Development. 1987. *Our Common Future*. Oxford University Press.
21. पर्यावरण अभ्यास, डॉ. एन. बी. तेली, डॉ. एन. एन. चक्रदेव इत्यादी
22. पर्यावरण अभ्यास, डॉ. बलभीम चव्हाण

Chairman
BOS in Environment Studies