Part 3: AECC - Ability Enhancement Compulsory Course

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC	ENVIRONMENTAL SCIENCE	2	2	40	10	50	2 Hrs

Marks -50marks

UNIT-I ECOSYSTEM, BIODIVERSITY AND NATURAL RESOURCES. 16Hours

Definition, Scope and basic principles of ecology and environment. Biological levels of organizationpopulation, community, ecosystem and biosphere.

Ecosystem types: Terrestrial, aquatic and artificial.

Organization of ecosystems: Biotic- Role of plants animals and microorganisms.

abiotic components- Role of Water, light & temperature. Food chain and food web.

Population and Community ecology- Population density, Natality, mortality, Growth curves - sigmoid growth curve. Community structure and species diversity-Diversity types and levels (alpha, beta and gamma). Study of western ghats as a Biodiversity hotspot.

UNIT-II ENVIRONMENTAL POLLUTION, GLOBAL ISSUES AND LEGISLATION. 16Hours

Causes, effects and control measures of air pollution, water pollution & soil pollution.

Concept of Global warming, Eutrophication, carbon sequestration and carbon foot printing.

Sustainable development & Ecological restoration. solid waste management, Water harvesting methods.

Forest conservation act, biodiversity bill (2002), Wildlife Protection act 1972.

Conservation Biology- Threats to Biodiversity, Wildlife trade.

Renewable and non-renewable resources, Biodiversity Conservation -Insitu and Exsitu methods.

Field visit to nearby Forest to study the Biodiversity.

Field visit to Industrial area to study impact of pollution on the Biodiversity.

References:

1. Ahmedullah, M. and M.P. Nayar, 1986. Endemic plants of the Indian region. Vol 1.Botanical Survey of India.
2. Biodiversity and its conservation in India. Indus Publishing Company, New Delhi Primack, Richard B 2006.
3. Essentials of conservation biology, 4th edition, Senaceer Associates, Sunderland, Mass.
4. Krishnamurthy K V 20014. An advanced text book of Biodiversity,
5. Principles and Practice. Oxford and IBH Publishing Co. Lvt. Ltd. Negi S S 1933.
6. Biodiversity in India (floristic aspects). Bishen Singh Mahendra Pal Singh, Dehradun.
7. Muller Dombois J. And Ellenberg, H. (1974) aims and methods of vegetation ecology,Wiley, new york.
8.Odum, E.P. 91971) fundamentals of Ecology, saunders, Philadelphia.
9. Kormondy, E. J. (1996) concepts of ecology, prentice hall, India, New Delhi.
10. Foin, T.C. (1976) ecological system and environment, Mifflin, boston.
11. Nobel B.J. and Wright, R.T. (1996) environmental science, prentice hall New Jersey.
12. Lillesand T.M. and Kiefer R.W. (1987) Remote sensing and image interpretation , John Wiley and sons, New York.
13. Agarwal, S.B. and Agarwal, M. (Ed.) (2000) environmental pollution and responses, CKC, press, London.
14. Koshoo, T. N. (1991) environmental concept and stragies ashish publ. House, new delhi.
15. Colinvaux P.C. (1993) ecology John Wiley and Sons, New york.
16.Indian Journal of Ecology by Indian Journal of Ecology
17.Ecology, Environment and Conservation journal.

Question paper pattern:

There will be two sections in a question paper of theory course for the semester end examination. (Part I and Part II).

Part I - There shall be 6 questions carrying 2marks each. Students should answer any 4 questions out of 6 questions.

Part II - There shall be 4 questions (two from each unit with sub questions a, b, & c) carrying 16 marks each. Students should answer any 2 questions out of 4 questions.

Part I (4x 2) : 08Marks

Part II (2 X 16) : 32 Marks

Distribution of Marks:

Theory Courses:	**a) Examination**	**:**	**40 Marks**
	b) Internal Assessment	**:**	**10 Marks**
	c) Total	**:**	**50 Marks**