EVS Syllabus of Maharshi Dayanand University

FIRST SEMESTER
ENVIRONMENTAL STUDIES
(QUALIFYING SUBJECT)
PAPER CODE:BA1009-I

Max Marks: 80
Time: 3Hrs
Assignment: 20

Note: - The Examiner shall set nine questions in all covering the whole syllabus. Question No.1 will be compulsory covering all the units and shall carry 8 small questions of 2 marks each. The rest of the eight questions will be set from all the four units. The examiner will set two questions from each unit out of which the candidate shall attempt four questions selecting one question from each unit. All the questions shall carry 16 marks each.

Unit I

The Multidisciplinary nature of environmental studies. Definition, scope and importance. Need for Public awareness

Unit II
Natural Resources

Renewable and non-renewable resources:
Natural resources and associated problems: Forest resources : Use and over-exploitation : deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people.
Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams benefits & problems, Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.
Food resources: World food problems, changes, caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.
Energy resources : Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources.
Case studies. Land resources : Land as a resource, land degradation, man induced landslides, soil erosion and desertification. Role of and individual in conservation of natural resources. Equitable use of resources for sustainable life styles.

Unit III
Ecosystems

Concept of an ecosystem.
Structure and function of an ecosystem.
Producers, consumers and decomposers.
Energy flow in the ecosystem.
☐ Ecological succession.
☐ Food chains, food webs and ecological pyramids,
☐ Introduction, types, characteristic features, structure and function of the following ecosystem :
a. Forest ecosystem.
b. Grassland ecosystem.
c. Desert ecosystem.
d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries).

Unit IV
Biodiversity and Its Conservation

☐ Introduction - Definition: Genetic, species and ecosystem diversity.
☐ Biogeographically classification of India.
☐ Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values.
☐ Biodiversity at global, National and local levels.

☐ India as a mega-diversity nation.
☐ Hot-spots of biodiversity.
☐ Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts.
☐ Endangered and endemic species of India.
☐ Conservation of biodiversity: In-situ and ex-situ conservation of biodiversity. (8 lectures)

Unit V
Environmental Pollution

Definition, causes, effects and control measures of:
(a) Air pollution
(b) Water pollution
(c) Soil pollution
(d) Marine pollution
(e) Noise pollution
(f) Thermal pollution
(g) Nuclear hazards
Solid waster management: Causes, effects and control measures of urban and industrial wastes.
Role of an individual in prevention of pollution.
Pollution case studies Disaster management: floods, earthquake, cyclone and landslides.

Unit VI
Social Issues and the Environment

☐ From unsustainable to sustainable development.
☐ Urban problems related to energy.
☐ Water conservation, rain water harvesting, watershed management.
☐ Resettlement and rehabilitation of people: its problems and concerns, Case studies.
☐ Environmental ethics: Issues and possible solutions. Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, Case studies.
☐ Wasteland reclamation.
☐ Consumerism and waste products.
☐ Environment Protection Act.
☐ Air (Prevention and Control of Pollution) Act.
☐ Water (Prevention and control of Pollution) Act.
☐ Wildlife Protection Act.
☐ Forest conservation Act.
☐ Issues involved in enforcement of environmental legislation.
☐ Public awareness.

Unit VII
Human population and the Environment

Population growth, variation among nations. Population explosion - Family Welfare Programme. Environment and human
health. Human Rights. Value Education.
– HIV/AIDS.
– Woman and Child Welfare.
Role of Information Technology in Environment and human health.
Case Studies.

Unit VIII
Field Work

- Visit to a local area to document environmental assets river/forest/grassland/hill/mountain.
- Visit to a local polluted site-urban/Rural/industrial/ Agricultural.
- Study of common plants, insects, birds.
- Study of simple ecosystem-pond, river, hill slopes, etc.

References

1. Agarwal, K.C. 2001, Environmental Biology, Nidi Pub. Ltd. Bikaner.
2. Bharucha, Frach, The Biodiversity of India, Mapin Publishing Pvt: Ltd. Ahmedabad 380013, India, Email: mapin(g)jcenet.net (R).
3. Brunner R.C. 1989, Hazardous Waste Incineration, Mc.Graw Hill Inc. 480p.
4. Clark R.S., Marine Pollution, Slanderson Press Oxford (TB).
5. Cunningham, W.P. Cooper, T.H. Qorhani, E. & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Pub. House,
Mumbai 1196p.
6. De A.K. Environmental Chemistry, Wiley Eastern Ltd.
7. Down to Earth, Centre for Science and Environment (R).
8. Gleick, H.P., 1993. Water in crisis, Pacific Institute for Studies in Dev., Environment & Security. Stockholm Env. Institute. Oxford Univ. Press. 473p.
9. Hawkins R.E, Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay. (R)
10. Heywood, V.H. & Watson, R.T 1995. Global Biodiversity Assessment. Cambridge Uni.
11. Jadtrav, H and Bhosale.-VM-. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284p.
12. Mckinney, M.L. and Schoch, RM 1996. Environmental Science Systems & Solutions, Web enhanced edition. 639p.
13. Mhaskar A.K., Matter Hazardous, Tekchno-Science Publications (TB).
14. Miller T.G. Jr. Environmental Sciences, Wadsworth Publishing Co. (TB).
15. Odum, E.P. 1971. Fundamentals of Ecology. W.B. Saunders Co. USA, 574p.
16. Rao M.N. and Datta, A.K; 1987. Waste Water Treatment. Oxford & IBH Publ. Co: Pvt. Ltd.
17. Sharma, B.K. 2001, Environmental Chemistry, Goel Publication House, Meerut.
18. Survey of the Environment, The Hindu (M).
19. Townsend C, Harper J, and Michael Begon, Essentials of Ecology, Blackwell Science (TB).

LII

LIST OF STUDENTS UNDERTAKING PROJECT WORK IN EVS

CLASS   -   Bachelor of Computer Application (BCA)

Total students   - 70

Course	Class	List of students undertaking project work/field work/internship	Place of Work	Duration
BCA (EVS)	BCA 1st YEAR	DEEPIKA	GC Meham	1 Day
	BCA 1st YEAR	MANISHA	GC Meham	1 Day
	BCA 1st YEAR	MANNU	GC Meham	1 Day
	BCA 1st YEAR	MINAKSHI SHARMA	GC Meham	1 Day
	BCA 1st YEAR	NEETU	GC Meham	1 Day
	BCA 1st YEAR	NEHA	GC Meham	1 Day
	BCA 1st YEAR	RICHA SHRAMA	GC Meham	1 Day
	BCA 1st YEAR	SHIVANI	GC Meham	1 Day
	BCA 1st YEAR	ASHISH	GC Meham	1 Day
	BCA 1st YEAR	ABHISHEK	GC Meham	1 Day
	BCA 1st YEAR	ABHISHEK	GC Meham	1 Day
	BCA 1st YEAR	AJAY	GC Meham	1 Day
	BCA 1st YEAR	AJAY KUMAR	GC Meham	1 Day
	BCA 1st YEAR	AKHIL	GC Meham	1 Day
	BCA 1st YEAR	AMAN	GC Meham	1 Day
	BCA 1st YEAR	AMAN	GC Meham	1 Day
	BCA 1st YEAR	ANKIT	GC Meham	1 Day
	BCA 1st YEAR	ANKIT	GC Meham	1 Day
	BCA 1st YEAR	ANUJ	GC Meham	1 Day
	BCA 1st YEAR	ARUN KUMAR	GC Meham	1 Day
	BCA 1st YEAR	ASHISH	GC Meham	1 Day
	BCA 1st YEAR	CHIRAG	GC Meham	1 Day
	BCA 1st YEAR	DEEPAK	GC Meham	1 Day
	BCA 1st YEAR	DEEPAK KUMAR	GC Meham	1 Day
	BCA 1st YEAR	GAURAV	GC Meham	1 Day
	BCA 1st YEAR	HARISH	GC Meham	1 Day
	BCA 1st YEAR	HARISH	GC Meham	1 Day
	BCA 1st YEAR	HARISH	GC Meham	1 Day
	BCA 1st YEAR	JAGDEEP SINGH	GC Meham	1 Day
	BCA 1st YEAR	JATIN	GC Meham	1 Day
	BCA 1st YEAR	KHUSHAL ROHILLA	GC Meham	1 Day
	BCA 1st YEAR	MANISH	GC Meham	1 Day
	BCA 1st YEAR	MANISH	GC Meham	1 Day
	BCA 1st YEAR	MANJEET SINGH	GC Meham	1 Day
	BCA 1st YEAR	MOHIT	GC Meham	1 Day
	BCA 1st YEAR	MOHIT KUMAR	GC Meham	1 Day
	BCA 1st YEAR	NIKHIL	GC Meham	1 Day
	BCA 1st YEAR	OMVEER	GC Meham	1 Day
	BCA 1st YEAR	PARVEEN KUMAR	GC Meham	1 Day
	BCA 1st YEAR	PYUSH	GC Meham	1 Day
	BCA 1st YEAR	PULKIT	GC Meham	1 Day
	BCA 1st YEAR	RAHUL	GC Meham	1 Day
	BCA 1st YEAR	RAJGURU	GC Meham	1 Day

BCA 1st YEAR	RAMBIR	GC Meham	1 Day
BCA 1st YEAR	RITIK	GC Meham	1 Day
BCA 1st YEAR	RITIK	GC Meham	1 Day
BCA 1st YEAR	ROHIT	GC Meham	1 Day
BCA 1st YEAR	ROHIT	GC Meham	1 Day
BCA 1st YEAR	ROHIT	GC Meham	1 Day
BCA 1st YEAR	ROHIT	GC Meham	1 Day
BCA 1st YEAR	SACHIN	GC Meham	1 Day
BCA 1st YEAR	SACHIN	GC Meham	1 Day
BCA 1st YEAR	SAHIL	GC Meham	1 Day
BCA 1st YEAR	SAHIL	GC Meham	1 Day
BCA 1st YEAR	SAHIL	GC Meham	1 Day
BCA 1st YEAR	SAHIL	GC Meham	1 Day
BCA 1st YEAR	SUBHAM	GC Meham	1 Day
BCA 1st YEAR	SONU	GC Meham	1 Day
BCA 1st YEAR	SOURAV SIWACH	GC Meham	1 Day
BCA 1st YEAR	SUMIT	GC Meham	1 Day
BCA 1st YEAR	SUNIL	GC Meham	1 Day
BCA 1st YEAR	SURAJ	GC Meham	1 Day
BCA 1st YEAR	SURENDER	GC Meham	1 Day
BCA 1st YEAR	TUSHAR	GC Meham	1 Day
BCA 1st YEAR	VIKRANT	GC Meham	1 Day
BCA 1st YEAR	VINAY	GC Meham	1 Day
BCA 1st YEAR	VINAY	GC Meham	1 Day
BCA 1st YEAR	VISHAL	GC Meham	1 Day
BCA 1st YEAR	VISHWASH	GC Meham	1 Day
BCA 1st YEAR	VIVEK NEHRA	GC Meham	1 Day

<u>Photo Gallery</u>

Introduction

Pollution can be defined as the undesirable change in natural system. It may also define as the unwanted change in the characteristics of air, water, soil and other environmental factors. Pollution adversely affects the health, survival or other activities of human and other animals. It is the main problem at present both at local level as well as at a global level In Nepal, the pollution is the growing concern. But there are only limited studies done so far to quantify the level of pollution. Thus the availability of the data is very poor. The monitoring activities are virtually insignificant. However, with the movement of industrialization and urbanization the pollution situation has become quite visible in some industrial locations and major urban Centers.

 Pollutants, the components of pollution, can be either foreign substances/energies or naturally occurring contaminants. Pollutants include solid, liquid or gaseous substances present in greater than natural abundance produced due to human activity, which have detrimental effect on our environment. Pollution can affect: air, water, soil and biodiversity that directly affect the plant and animal life.

There are various types of pollution. Some are listed below: air pollution, water pollution, land pollution and noise pollution.

CONCEPTUAL FRAMEWORK/BACKGROUND

In ancient time, geography was considered as mother of all sciences. With the diffusion of knowledge, various branches of Geography are developing into specialized disciplines. The present work i.e. "ATTRIBUTES OF POLLUTION OF A SMALL TOWN: MEHAM (DISTT. ROHTAK, HARYANA)", falls in "EVS" which is an important branch of "Geography". The present "Field Methods Report" is an attempt to deal with various aspects of "Pollution".

STATEMENT OF PROBLEM

Present report deals with market place. The word "Pollution" has been derived [rom the Latin word "Polluere.

STUDY AREA

The study area "Meham Bus stand", is a part of Meham tehsil. According to 2001 census, total population of Meham was 181060, and density of population was 450 persons per km?

RESEARCH QUESTIONS

The basic research questions are:

1 What are the factors behind the evolution of "Meham Bus stand"?

2 What is "Polluted area of "Meham "?

3 What factors is responsible for the present morphological patterns of the Pollution of Meham?

SIGNIFICANCE OF THE STUDY

Bus stand are center of most of the Pollution activities. In Meham town, no such analytical micro-level study on Bus stand has been done.

GEOGRAPHICAL PERSPECTIVE

The geographical study is different from the study of other disciplines because in geographical study we mainly focus on spatial aspects in space.

Evolutions of Pollution area forward and backward linkages of Meham Bus stand etc. have been studied in the following context:-
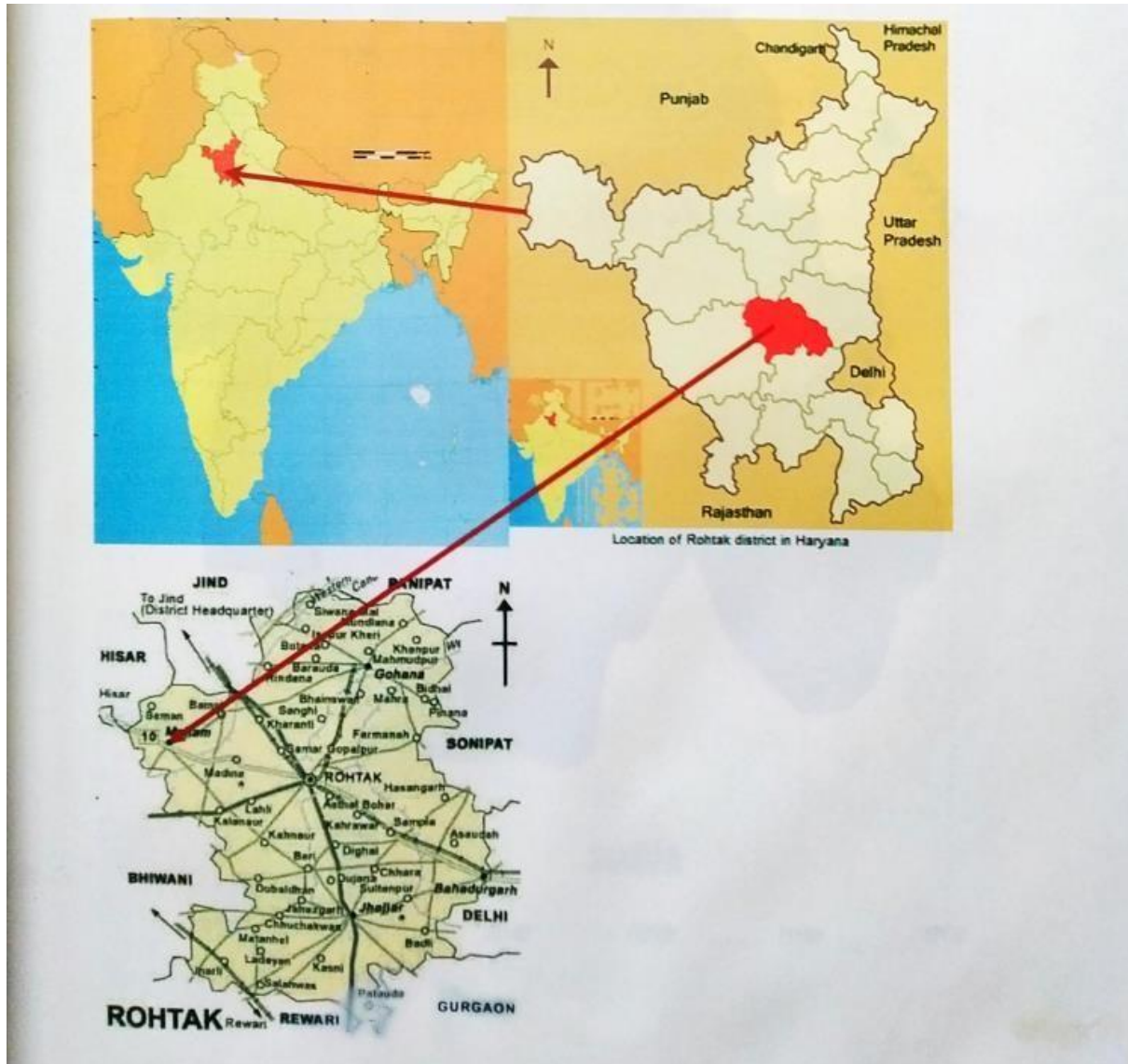
(1) Location:

(2) Distribution:

(3) Spatial Association

LOCATION OF MEHAM BUS STAND POLLUTION AREA

Meham is located at28°98'N And 76.3°E It has an average elevation of 214 metres (702 feet).It is situated on N.H 9.

Location of Rohtak district in Haryana

Water pollution

Water pollution is defined as the contamination of water by harmful substances which is detrimental to living beings. Industrial wastes, household garbages, non-decomposable materials from schools, chemicals, pesticides releasing from agricultural activities are major cause to pollute water

bodies. The effects of water pollution include decreasing the quantity of drinkable water available, lowering water supplies for crop irrigation, and impacting fish and wildlife populations that require water of a certain purity for survival. Consumption of polluted water causes various water borne diseases which are effecting the human health in long term and short term.

Land Pollution

Soil or land pollution is contamination of the soil that prevents natural growth and balance in the land. Many micro and macro flora and fauna are affected by land pollution since they obtain minerals, nutrition from soil itself. Soil contamination can lead to poor growth and reduced crop yields, loss of wildlife habitat, water and visual pollution, soil erosion, and desertification.

Noise Pollution

Noise pollution refers to undesirable levels of noises caused by human activity that disrupt the standard of living in the affected area. Noise pollution cause mental stress, depression, damage to the ear drum which can cause deafness. Other forms of pollution include radioactive pollution, thermal pollution, light pollution and plastic pollution. But our concern during our visit was Water Pollution. There has grown up a serious concern all over

a) Point sources: It refers to the contaminants that enter the waterway from a single identifiable source Such as pipe or ditch. E.g.: discharge from factory

b) Non-point sources: It means pollutants are emitted from multiple sources. E.g.: surface run off from agricultural land.

Objectives:

- To identify the major reason, extent and type of the pollution near the visited site.
- To identify the adverse effect of pollution in that vicinity.
- To explore the extent of pollution in the given specified region.
- To study the present situation of environment.
- To study the visible effects of pollution.
- To study about the direct and indirect causes of pollution
- To formulate the possible strategies in order to control various pollution
- To suggest control measures to minimize pollution.

Methodology:

A. Primary method:
   The polluted site was properly observed and information was gathered up.
B. Secondary method: Different literary books and journals related to pollution were consulted. Internet sites were also cited and desk study was done for obtaining different information about the polluted place.

Morphometry of site:

Latitude: 28.8955°N

Longitude: 76.6066°E

Altitude: 214m

Population: 2,03,050

Total houses: 38,767

Observation in polluted site:

Most people around the river are unaware and illiterate. They are unknown about waste management practices so they don't care about biodegradable and non-biodegradable substances.

Conclusion for pollution in Meham,
you might want to focus on the following elements:

1. *Extent of Pollution:*
   - Summarize the severity and types of pollution observed, whether it's air, water, soil, or noise pollution.

2. *Causes and Sources:*
   - Identify the main contributors to pollution in Meham. This could include industrial activities, vehicular emissions, waste disposal, etc.

3. *Impact on Health and Environment:*
   - Discuss the potential health and environmental consequences of the observed pollution, emphasizing the importance of addressing these issues.

4. *Community Awareness:*
   - Evaluate the level of awareness within the community regarding pollution and its effects. Highlight any community-based initiatives or awareness programs.