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).

List of students undertaking project work in EVS
Course- Bachelor of Science
Strength of students -25

Programme name	Class	List of students undertaking project work/field work/internship	Place of Work	Duration
BSC Pass Course (EVS)	BSc 1st YEAR	ANJALI	GC Meham	1 Day
	BSc 1st YEAR	ANJLI	GC Meham	1 Day
	BSc 1st YEAR	ANU	GC Meham	1 Day
	BSc 1st YEAR	DIKSHA	GC Meham	1 Day
	BSc 1st YEAR	HIMANSHI	GC Meham	1 Day
	BSc 1st YEAR	MINAKSHI	GC Meham	1 Day
	BSc 1st YEAR	NISHA	GC Meham	1 Day
	BSc 1st YEAR	RAVINA	GC Meham	1 Day
	BSc 1st YEAR	SAKSHI	GC Meham	1 Day
	BSc 1st YEAR	AMAN	GC Meham	1 Day
	BSc 1st YEAR	AMAN	GC Meham	1 Day
	BSc 1st YEAR	ASHISH	GC Meham	1 Day
	BSc 1st YEAR	ASHU	GC Meham	1 Day
	BSc 1st YEAR	ATUL	GC Meham	1 Day
	BSc 1st YEAR	CHIRAG	GC Meham	1 Day
	BSc 1st YEAR	DEEPANSHU	GC Meham	1 Day
	BSc 1st YEAR	HARSH	GC Meham	1 Day
	BSc 1st YEAR	HITEN	GC Meham	1 Day
	BSc 1st YEAR	PRATHAM	GC Meham	1 Day
	BSc 1st YEAR	PRIXIT KUMAR	GC Meham	1 Day
	BSc 1st YEAR	SAHIL	GC Meham	1 Day
	BSc 1st YEAR	SHUBHAM	GC Meham	1 Day
	BSc 1st YEAR	SOURABH	GC Meham	1 Day
	BSc 1st YEAR	SUMIT	GC Meham	1 Day
	BSc 1st YEAR	SUMIT	GC Meham	1 Day

Photo Gallery


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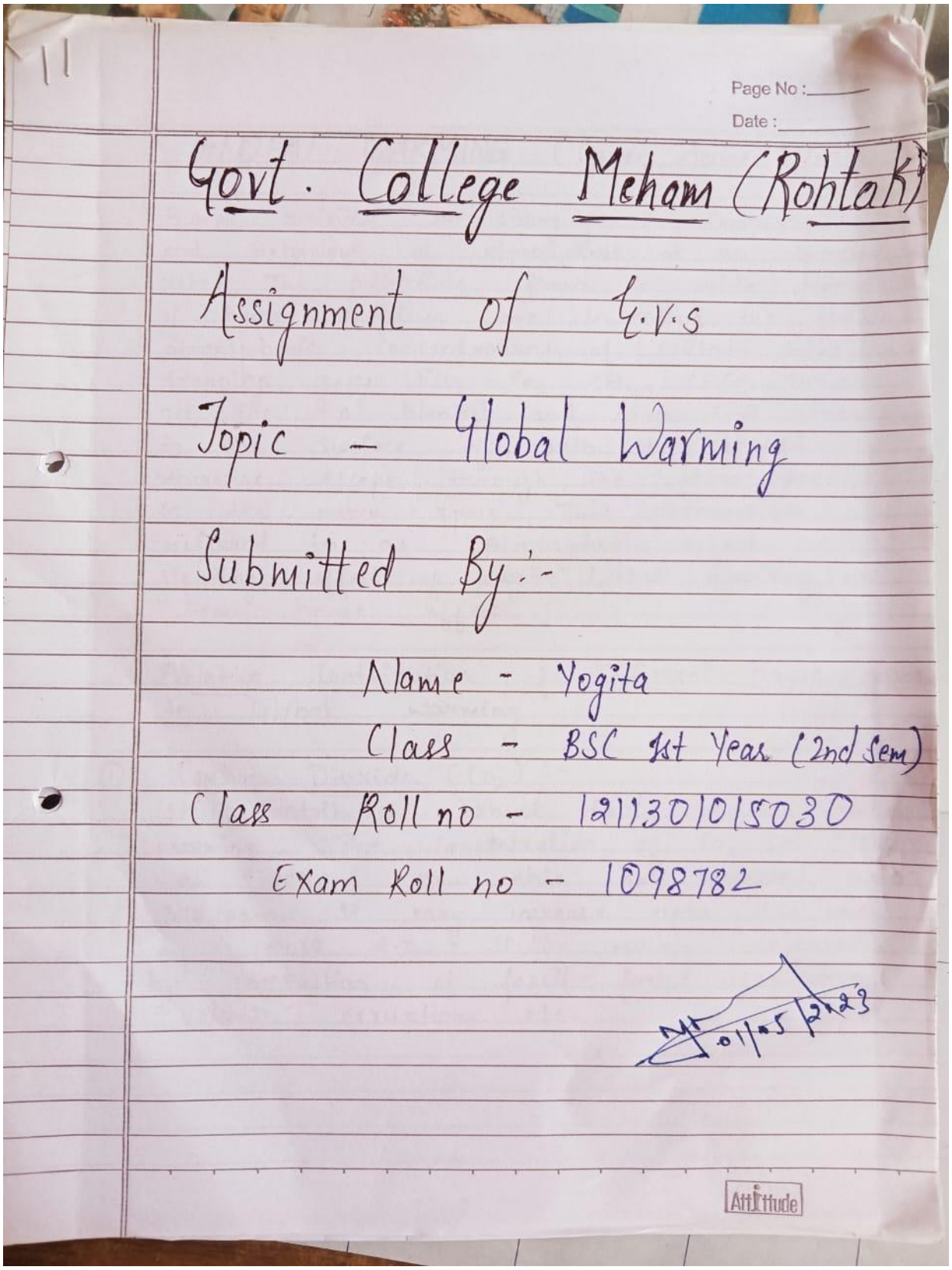
Report prepared by Student



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Date :

Govt. College Meham (Rohtak)

Assignment of E.V.S

Topic - Global Warming

Submitted By :-

Name - Yogita

Class - BSC 1st Year (2nd Sem)

Class Roll no - 121130101503O

Exam Roll no - 1098782

01/05/2023

Attitude

Page No :
Date :

GLOBAL WARMING (Green House Effect)

Human activities are changing the composition and behaviour of atmosphere at an alarming rate. The pollutants from a wide range of human activities are increasing the global atmospheric concentrations of certain heat trapping gases like Co_2, CH_4, CFCs. These act like a blanket and trap heat close to the surface of earth that would otherwise escape through the atmosphere to the outer space. This phenomenon referred to as "Atmospheric effect", or "Heating effect of earth", Global warming or "Green house effect".

Relative Contribution of Different house gases to Global warming.

① **Carbon Dioxide (Co_2) :-**

It contributes about 60% to the global warming. The concentration of Co_2 in 1850 was 273ppm now this has increased upto 370 ppm. It may increase upto 450 ppm by 2030. A.D. It is mainly released by combustion of fossil fuels, respiration, volcanic erruptions etc.

(2) Methane (CH_4) :-

Methane gas is mainly released from garbage, swamps, dumps, wetland, paddy field by anaerobic decomposition. It contributes about 20% to global warming. Methane traps 25 times more heat than a Co_2 molecules. But its life time is very short in atmosphere.

(3) Chloroflouro Carbon (CFC's) :-

These are responsible for 14% of global warming. These are highly disastrous because one molecule of CFC's can create the same global warming effect as 10,000 molecules of Co_2. The main sources of CFC's are air conditioners, refrigators, aerosal, plastic foams, air jet emmission etc. CFC's are also responsible for ozone depletion.

(4) Nitrous Oxide (N_2O) :-

It is responsible for 6% of global warming. N_2O traps 150 times more heat of atmosphere then Co_2. The main sources are agriculture, biomass burning, nylon

production and breakdown of N_2 rich fertilizers in soil.

(5) Ozone (O_3):- Ozone also traps heat radiations and contribute to global warming.

Increasing Trend of Green House Gases

Change in climate is not a new concept. During last 18000 years, earth faced many ice ages. The role of green house gases, espically Co_2. and water vapour in warming the earth is also ancient process, But accelerated warming that we have these days is something to worry about. The mean temp of earth is now 15°C. The growth of Green house gases concentration in atmosphere as compared to Historic level.

Impact of Green House Effect.

(1) Effect on climate
(2) Impact on eco-system
(3) Social and economic impact

(4) Impact On Human Health.

Measures to check global warming :-

(1) Use HFCs (Hydro Fluoro Carbons) instead of CFCs - which are less dangerous and should be encouraged.

(2) The use of Solar, Wind, Tidal and Biomass energy instead of Fossil fuels should be increased.

(3) Use of Methane gas as fuel should be promoted.

(4) Unnecessary use of chemicals which contributes CFC's should be avoided.

(5) More and more trees should be planted to decrease CO_2 level in the atmosphere.