

Nalanda Open University

Course Name: M.A. / M.Sc. Environmental Science

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E-CONTENT 2

for

M.A. / M.Sc. Environmental Science,

Part-I Students

Session – 2019 – 2021

(For exammines of M.A. / M.Sc. Environmental Science,

Part – I Examination, 2020; Theory Papers)

Important topics suggested to be prepared for Annual Examination, 2020

THEORY PAPER

PAPER – VI

(AGRICULTURE & FORESTRY)

GROUP – A (AGRICULTURE)

1. Concept of sustainable agriculture; various ingredients of sustainable agriculture.
2. Critical evaluation of merits and demerits of indigenous Indian Agricultural Practices.
3. Deficiency systems caused by the deficiency of Nitrogen, Phosphorus and Potassium fertilizers in plants.
4. Integrated Pest Management; similarities and dissimilarities between Pest Control and Integrated Pest Management.
5. Bio-fertilizers – an introduction; advantages of Bio-fertilizers over chemical fertilizers.
6. Introductory note on Plant Biotechnology. Utility of plant biotechnology in plant breeding.

GROUP – B (FORESTY)

7. Classification of Indian Forests; salient features of Indian forests.
8. Agro-forestry – An introduction; importance of integration of Agriculture and Forestry.

9. Role of forests in
 - i. Checking soil erosion and flood
 - ii. Preserving Biodiversity
10. Meaning of Forest Environment. Role of Climate factors in the growth and conservation of forest environment.
11. Descriptive notes on
 - Green Belts
 - Afforestation
 - Social Forestry
 - Joint Forest Management

THEORY PAPER
PAPER – VII
(ENERGY AND ENVIRONMENT)

1. Classification of energy sources; contribution of energy in development of nation.
2. Importance of Fossils Fuels (Coal, Petroleum and Natural gas) as primary energy source, Pros and Cons of large scale use of fossils fuels.
3. Major uses of Natural Gas; critical assessment of the statement “Natural gas provides clean energy”.
4. Sun as a source of Inexhaustible energy; main applications of solar energy.
5. Explanatory notes on Photosynthesis; Photosynthesis is responsible for Primary Productivity and Biomass formation in the biosphere.
6. Nuclear energy as a source of non-conventional energy; basic difference between plants based on Nuclear Fusion and Nuclear Fission. Impact of Nuclear Power Generation on human health.
7. Harnessing geothermal, wave and tidal energy as renewable energy source; comment on merits and demerits of these energy sources.
8. Generation of Hydroelectricity; comparison of hydroelectricity generation with other sources of energy; discussion on its positive and negative aspects.
9. Ozone formation in Stratosphere; Causes and consequences of Ozone layer depletion.
10. Explanatory note on Global Warming; its relation with Global Climate Change.
11. Explanatory note on
 - Urbanization and Heat Islands
 - Hydrogen as future fuel of mankind
 - Nuclear Waste
 - Bio-fuels

THEORY PAPER

PAPER – VIII

(ENVIRONMENTAL POLLUTION AND CONTROL)

1. Definition of Pollutants and Pollution; brief description of main sources of Air pollution.
2. Explanatory notes on Acid rain, Smog, Particulate matter and Ozone hole.
3. Effects of Air pollution on human beings, other life forms and plants.
4. Definition of Noise Pollution; main sources of Noise Pollution; description of a few control and abatement measures to reduce the menace of noise pollution.
5. Definition of Water Pollution; Point and Non-point sources of Water Pollution; Effect of water pollution on human health and environment.
6. Main organic sources of fresh water pollution; description of parameters for measuring organic pollution in water.
7. Definition of Soil Pollution; various sources of soil pollution; short description of effect of Industrial effluents/pollutants on soil quality and soil fertility.
8. Description of Air Quality Indices/Water Quality Indices. Importance and limitations of Air Quality Indices/Water Quality Indices. Noise Pollution Standards in India.
9. Definition of Radioactive pollution; how radioactive pollution is different from other types of pollution.
10. Sources of Thermal Pollution; consequences of thermal pollution on human beings and the environment, Measures to control thermal pollution.
11. Descriptive notes on
 - Bio-medical waste
 - Environmental responsibilities of Industries
 - Pesticidal pollution
 - Marine pollution