# Syllabus of Environment Impact Analyst

## Air pollution and control:

Air pollutants, classification of air pollutants, properties of gaseous and particulate matter, effects of Air pollution on plants, animals, human health, Sources of Air pollution and emission inventory, Sampling and Analysis: Ambient air sampling, stack sampling, Air quality standards, environmental lapse rates and atmospheric stability, winds, wind profiles, plume behaviour, Dispersion of Air pollutants, Prediction of effective stack height, Air pollution control devices, Air sampling and analysis, and equipment, ambient and Stack sampling, settling chambers, cyclones, spray towers, electrostatic precipitators, ventury scrubber, packed tower etc.

## Water pollution and wastewater treatment:

Chemical, Physical and Biological properties of Water, Sources for water Pollution. Dissolved Oxygen and natural Purification, water treatment: screening, coagulation, flocculation, settling, filtration, disinfection.
wastewater characteristics, Types of reactors and their analysis, Preliminary Treatment: Screening, Grit removal; Primary Treatment Physical Unit operations, Aerobic Suspended and attached growth biological treatment processes, Anaerobic Suspended and attached growth biological treatment processes etc.
Industrial waste sources, waste volume reduction, waste strength reduction, equalization and neutralization, Material balance, industrial wastewater treatment, Wastewater Reuse and recycling.

## Solid and Hazardous waste management:

Types and Sources of solid wastes, need for solid and hazardous waste management, Legislations on management and handling of municipal solid wastes, hazardous wastes and biomedical wastes. Disposal in landfills: site selection, design and operation of sanitary landfills, secure landfills, Landfill closure and environmental monitoring.

## GIS and Remote Sensing:

Geographic Information System: GIS, Components of GIS, Hardware and Software, Data, Spatial and Non Spatial, Maps, Types of Maps, Projection, Types of Projection, Data Input, Digitizer, Scanner, Editing, Raster and Vector data structures, Remote sensing: Definition, Components of Remote Sensing - Energy, Sensor, Interacting Body, Active and Passive Remote Sensing, Platforms, Aerial and Space Platforms

## Environmental Impact Assessment:

Concepts, Methodologies, Screening, Scoping, Base line studies, Mitigation, Matrices, Check list. Methods for impact assessment: Baseline study, interaction matrix methodologies, network methodologies, environmental setting various factors, environmental impact assessment methodology, documentation and selection process, environmental indices and indicators for describing affected environment etc.

Prediction and assessment of impact for air, water, soil and noise environment: Basic information of air quality, identification of type and quantity of air pollutant, existing air quality

and air quality standards, impact prediction and assessment, mitigation. Basics of acoustics, sound power, sound intensity and sound pressure levels; plane, point and line sources, multiple sources; outdoor and indoor noise propagation; psycho-acoustics and noise criteria, effects of noise on health, noise standards and limit values; noise instrumentation and monitoring procedure, Noise indices. Basic information of water quality (Surface water and ground water), water quality standards, identification of impact, prediction of impact and assessment, mitigations. Background information of soil environment, soil and ground water standards, prediction and assessment of impact for ground water and soil, mitigations etc.

## IMPORTANT INSTRUCTIONS TO CANDIDATES

**Written exam will be held at Vadodara as per the schedule given below.**

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| **Exam Detail** | **:** | **Written Exam will be consisting of TWO Papers, Paper I (200 Marks) and Paper II (100 Marks). Candidate has to give answers in OMR sheet by selecting answer from the given option A, B, C or D in the provided OMR sheet.** |
| **Papers - I** | **:** | **This paper would be of 200 marks and all the Questions will be Multiple Choice Questions may of either of One / Two/ Three/ Four marks. Questions would be from the syllabus attached herewith.** |
| **Papers - II** | **:** | **This paper would be of 100 marks and all the Questions will be Multiple Choice Questions of One mark each. Questions would be from Basic Statistics, Basic Mathematics, Gujarati and English Grammar up to 10 standard (Gujarat Board) level as well as General Knowledge, Logical reasoning, Quantitative technics.** |
| **Exam Date** | **:** | **Monday** ,June 27, 2016 |
| **Exam Time** | **:** | **14**:30 onwards<br>•14.30 Reporting and Verification<br>•15:00 Commencement of Paper I (2 Hours)<br>•17:10 Commencement of Paper II (1 Hour) |
| **Exam Center** | **:** | **BBA Building**<br>Donors' Plaza<br>Opp. M. S. University Office<br>Fatehgunj<br>Vadodara |

**Notes:**

Language of exam would be English only.

Use of scientific calculator (non-programmable) is permitted.

Candidate shall carry Driving License, Passport, Adhar Card and Election Card.