

**No.: UHF/EVS/3-63/2024/-2356**  
**Department of Environmental Science -cum-Work Centre IGNOU**  
**Dr. YS Parmar University of Horticulture & Forestry,**  
**Nauni-173 230, Distt. Solan (H.P.)**

Senior Regional Director  
IGNOU Regional Centre  
Shimla-171005 (HP)

Dated: 27/02/2024

**Sub: Regarding practical schedule of MSc Environmental Science programme of IGNOU-submission thereof.**

Sir,

In reference to your Email dated 23<sup>rd</sup> February, 2024 kindly find enclosed herewith the schedule of practical of three courses namely Lab course-1 (MEVL 011), Lab course-2 (MEVL 012) and Lab course-3 (MEVL 013) of MSc Environmental Science programme. The practical of these two MEVL11,MEVL12 lab courses will be conducted in four batches (33+33+33+34) and MEVL13 lab course will be conducted in 2 batches (35+37) each of 8 hours in the labs of this department wef 18<sup>th</sup> March to 4<sup>th</sup> August 2024. This is for kind perusal and further necessary action, please.

Thanking you.

Yours sincerely,

**Professor and Head**

**Proposed schedule for conducting practical Examination for the course MEVL 011, Lab course-1, Environmental Science w.e.f 18<sup>th</sup> March, 2024 to 31<sup>st</sup> March 2024  
(First Batch)**

**Venue: Department of Environmental Science, Dr YSP UHF, Nauni, Solan**

Day	Date	Practical exercise	Theory	Hand on Exercises/ Lab Practical
1	18/03/2024	✓ Determination of minimum size of the quadrat by 'species-area-curve' method	<b>Morning Session</b> <b>(9:30 am -1:30 pm)</b>	<b>Evening Session</b> <b>(2:00 -6:00 pm)</b>
2	19/03/2024	✓ Determination of frequency of species by line transect method and point frame method  ✓ Determination of Relative Density, Frequency and Abundance of different species present in community and calculation of IVI		
3	20/03/2024	✓ Measures of central tendency, dispersion, skewness and kurtosis  ✓ Correlation and regression analysis; analysis of variance		
4	21/03/2024	✓ Determination of standing crop and biomass in Terrestrial ecosystem		
5	22/03/2024	✓ Study on the abiotic and biotic components of an aquatic ecosystem		
6	23/03/2024	✓ Estimation of net primary productivity by harvest method in grassland ecosystem		
7	24/03/2024	✓ Estimation of net primary productivity using light and dark bottle method in aquatic ecosystem		
8	25/03/2024	✓ Estimation of biodiversity indices  ✓ Weather monitoring and data analysis		
9	26/03/2024	✓ Study on soil profile and physical characteristics of soil		
10	27/03/2024	✓ Determination of soil organic carbon		
11	28/03/2024	✓ Determination of available Nitrogen in soil		
12	29/03/2024	✓ Preparation of climatic maps and diagram  ✓ Identification of Igneous, Sedimentary and Metamorphic rocks		
13	30/03/2024	✓ Determination of soil moisture content  ✓ Determination of soil pH and electrical conductivity		
14	31/03/2024	✓ Preparation of station based wind rose  ✓ Arial photographs interpretations		

**Proposed schedule for conducting practical Examination for the course MEVL 012, Lab course-2, Environmental Science w.e.f 1<sup>st</sup> April, 2024 to 14<sup>th</sup> April, 2024**

***(First Batch)***

**Venue: Department of Environmental Science, Dr YSP UHF, Nauni, Solan**

Day	Date	Practical Exercise	Theory	Hand on Exercises/ Lab Practical
1	01/04/2024	✓ Determination of Electrical Conductance of a Water Sample	<b>Morning Session (9:30 am -1:30 pm)</b>	<b>Evening Session (2:00 -6:00 pm)</b>
2	02/04/2024	✓ Determination of pH of a Water Sample		
3	03/04/2024	✓ Determination of Turbidity in Water		
4	04/04/2024	✓ Determination of Total Solids and Total Dissolved Solids in Water ✓ Determination of Hardness in Water Sample		
5	05/04/2024	✓ Determination of Biological Oxygen Demand in Water		
6	06/04/2024	✓ Determination of Dissolved Oxygen in Water		
7	07/04/2024	✓ Determination of Chemical Oxygen Demand in Water		
8	08/04/2024	✓ Determination of Chloride in Water Samples ✓ Determination of Residual Chlorine in Water		
9	09/04/2024	✓ Determination of Sulphates in Water		
10	10/04/2024	✓ Determination of Phosphate in Water		
11	11/04/2024	✓ Determination of Nitrate Nitrogen in water sample		
12	12/04/2024	✓ Determination of Nitrite Nitrogen in water sample		
13	13/04/2024	✓ Determination of Fluoride in Water		
14	14/04/2024	✓ Determination of Oil and Grease in Water		

**Proposed schedule for conducting practical Examination for the course MEVL 013, Lab course-3, Environmental Science w.e.f 15<sup>th</sup> April, 2024 to 28<sup>th</sup> April, 2024**

**(First Batch)**

**Venue: Department of Environmental Science, Dr YSP UHF, Nauni, Solan**

Day	Date	Practical exercise	Theory	Hand on Exercises/ Lab Practical
1	15/04/2024	<ul style="list-style-type: none"> <li>✓ Determination of Suspended Particulate Matter (SPM) in Ambient Air Using High Air Sampler (HVS)</li> <li>✓ Isolation and Enumeration of Air Borne Microorganisms by All Glass Impinger Technique</li> </ul>	<b>Morning Session</b>  <b>(9:30 am -1:30 pm)</b>	<b>Evening Session</b>  <b>(2:00 -6:00 pm)</b>
2	16/04/2024	<ul style="list-style-type: none"> <li>✓ Determination of Sodium and Potassium in Water Using Flame Photometer</li> </ul>		
3	17/04/2024	<ul style="list-style-type: none"> <li>✓ Determination of Trace Metals in Environmental Samples using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES)</li> </ul>		
4	18/04/2024	<ul style="list-style-type: none"> <li>✓ Composting of Biodegradable Waste and determination of compost quality</li> <li>✓ Determination of Biogas Production from Organic Waste by Liquid Displacement Method</li> </ul>		
5	19/04/2024	<ul style="list-style-type: none"> <li>✓ Determination of Pesticides in Environmental Samples Using Gas Chromatography</li> <li>✓ Separation of Amino Acids by Thin Liquid Chromatography</li> </ul>		
6	20/04/2024	<ul style="list-style-type: none"> <li>✓ Determination of Effect of Industrial Effluents on Seed Germination and Seedling Growth of Rice and Wheat</li> <li>✓ Determination of Alcoholic fermentation from Grape Juice by <i>Saccharomyces cerevisiae</i></li> </ul>		
7	21/04/2024	<ul style="list-style-type: none"> <li>✓ Sterilization, Media Preparation and Isolation of Pure Culture</li> <li>✓ Determination of Gram Staining of Bacterial Sample</li> </ul>		
8	22/04/2024	<ul style="list-style-type: none"> <li>✓ Isolation and Characterization of Bacteria from Soil Samples</li> <li>✓ Isolation and Characterization of Actinomycetes from Soil Samples</li> </ul>		
9	23/04/2024	<ul style="list-style-type: none"> <li>✓ Isolation of Pure Culture by Streak Plate Method, Pour Plate Method and Spread Plate Method</li> </ul>		
10	24/04/2024	<ul style="list-style-type: none"> <li>✓ Isolation and Characterization of Fungi from Soil Samples</li> </ul>		
11	25/04/2024	<ul style="list-style-type: none"> <li>✓ Determination of Metabolic Activities of Bacteria through Biochemical Tests</li> </ul>		
12	26/04/2024	<ul style="list-style-type: none"> <li>✓ Determination of Biological Activity of Soil by Dehydrogenase Assay</li> </ul>		
13	27/04/2024	<ul style="list-style-type: none"> <li>✓ Isolation of Bio-Surfactant Producing Bacteria from Environmental Samples</li> </ul>		
14	28/04/2024	<ul style="list-style-type: none"> <li>✓ Detection of Coliform in Water Samples by Membrane Filter Technique</li> </ul>		

**Proposed schedule for conducting practical Examination for the course MEVL 011, Lab course-1, Environmental Science w.e.f 29<sup>th</sup> April 2024 to 12<sup>th</sup> May 2024**

***(Second Batch)***

**Venue: Department of Environmental Science, Dr YSP UHF, Nauni, Solan**

Day	Date	Practical exercise	Theory	Hand on Exercises/ Lab Practical
1	29/04/2024	✓ Determination of minimum size of the quadrat by 'species-area-curve' method	<b>Morning Session (9:30 am -1:30 pm)</b>	<b>Evening Session (2:00 -6:00 pm)</b>
2	30/04/2024	✓ Determination of frequency of species by line transect method and point frame method  ✓ Determination of Relative Density, Frequency and Abundance of different species present in community and calculation of IVI		
3	01/05/2024	✓ Measures of central tendency, dispersion, skewness and kurtosis  ✓ Correlation and regression analysis; analysis of variance		
4	02/05/2024	✓ Determination of standing crop and biomass in Terrestrial ecosystem		
5	03/05/2024	✓ Study on the abiotic and biotic components of an aquatic ecosystem		
6	04/05/2024	✓ Estimation of net primary productivity by harvest method in grassland ecosystem		
7	05/05/2024	✓ Estimation of net primary productivity using light and dark bottle method in aquatic ecosystem		
8	06/05/2024	✓ Estimation of biodiversity indices  ✓ Weather monitoring and data analysis		
9	07/05/2024	✓ Study on soil profile and physical characteristics of soil		
10	08/05/2024	✓ Determination of soil organic carbon		
11	09/05/2024	✓ Determination of available Nitrogen in soil		
12	10/05/2024	✓ Preparation of climatic maps and diagram  ✓ Identification of Igneous, Sedimentary and Metamorphic rocks		
13	11/05/2024	✓ Determination of soil moisture content  ✓ Determination of soil pH and electrical conductivity		
14	12/05/2024	✓ Preparation of station based wind rose  ✓ Arial photographs interpretations		

**Proposed schedule for conducting practical Examination for the course MEVL 012, Lab course-2, Environmental Science w.e.f 13<sup>th</sup> May 2024 to 26<sup>th</sup> May 2024**

***(Second Batch)***

**Venue: Department of Environmental Science, Dr YSP UHF, Nauni, Solan**

Day	Date	Practical Exercise	Theory	Hand on Exercises/ Lab Practical
1	13/05/2024	✓ Determination of Electrical Conductance of a Water Sample	<b>Morning Session</b>  <b>(9:30 am -1:30 pm)</b>	<b>Evening Session</b>  <b>(2:00 -6:00 pm)</b>
2	14/05/2024	✓ Determination of pH of a Water Sample		
3	15/05/2024	✓ Determination of Turbidity in Water		
4	16/05/2024	✓ Determination of Total Solids and Total Dissolved Solids in Water ✓ Determination of Hardness in Water Sample		
5	17/05/2024	✓ Determination of Biological Oxygen Demand in Water		
6	18/05/2024	✓ Determination of Dissolved Oxygen in Water		
7	19/05/2024	✓ Determination of Chemical Oxygen Demand in Water		
8	20/05/2024	✓ Determination of Chloride in Water Samples ✓ Determination of Residual Chlorine in Water		
9	21/05/2024	✓ Determination of Sulphates in Water		
10	22/05/2024	✓ Determination of Phosphate in Water		
11	23/05/2024	✓ Determination of Nitrate Nitrogen in water sample		
12	24/05/2024	✓ Determination of Nitrite Nitrogen in water sample		
13	25/05/2024	✓ Determination of Fluoride in Water		
14	26/05/2024	✓ Determination of Oil and Grease in Water		

**Proposed schedule for conducting practical Examination for the course MEVL 013, Lab course-3, Environmental Science w.e.f 27<sup>th</sup> May 2024 to 09<sup>th</sup> June 2024**

**(Second Batch)**

**Venue: Department of Environmental Science, Dr YSP UHF, Nauni, Solan**

Day	Date	Practical exercise	Theory	Hand on Exercises/ Lab Practical
1	27/05/2024	<ul style="list-style-type: none"> <li>✓ Determination of Suspended Particulate Matter (SPM) in Ambient Air Using High Air Sampler (HVS)</li> <li>✓ Isolation and Enumeration of Air Borne Microorganisms by All Glass Impinger Technique</li> </ul>	<b>Morning Session</b>  <b>(9:30 am -1:30 pm)</b>	<b>Evening Session</b>  <b>(2:00 -6:00 pm)</b>
2	28/05/2024	<ul style="list-style-type: none"> <li>✓ Determination of Sodium and Potassium in Water Using Flame Photometer</li> </ul>		
3	29/05/2024	<ul style="list-style-type: none"> <li>✓ Determination of Trace Metals in Environmental Samples using Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES)</li> </ul>		
4	30/05/2024	<ul style="list-style-type: none"> <li>✓ Composting of Biodegradable Waste and determination of compost quality</li> <li>✓ Determination of Biogas Production from Organic Waste by Liquid Displacement Method</li> </ul>		
5	31/05/2024	<ul style="list-style-type: none"> <li>✓ Determination of Pesticides in Environmental Samples Using Gas Chromatography</li> <li>✓ Separation of Amino Acids by Thin Liquid Chromatography</li> </ul>		
6	01/06/2024	<ul style="list-style-type: none"> <li>✓ Determination of Effect of Industrial Effluents on Seed Germination and Seedling Growth of Rice and Wheat</li> <li>✓ Determination of Alcoholic fermentation from Grape Juice by <i>Saccharomyces cerevisiae</i></li> </ul>		
7	02/06/2024	<ul style="list-style-type: none"> <li>✓ Sterilization, Media Preparation and Isolation of Pure Culture</li> <li>✓ Determination of Gram Staining of Bacterial Sample</li> </ul>		
8	03/06/2024	<ul style="list-style-type: none"> <li>✓ Isolation and Characterization of Bacteria from Soil Samples</li> <li>✓ Isolation and Characterization of Actinomycetes from Soil Samples</li> </ul>		
9	04/06/2024	<ul style="list-style-type: none"> <li>✓ Isolation of Pure Culture by Streak Plate Method, Pour Plate Method and Spread Plate Method</li> </ul>		
10	05/06/2024	<ul style="list-style-type: none"> <li>✓ Isolation and Characterization of Fungi from Soil Samples</li> </ul>		
11	06/06/2024	<ul style="list-style-type: none"> <li>✓ Determination of Metabolic Activities of Bacteria through Biochemical Tests</li> </ul>		
12	07/06/2024	<ul style="list-style-type: none"> <li>✓ Determination of Biological Activity of Soil by Dehydrogenase Assay</li> </ul>		
13	08/06/2024	<ul style="list-style-type: none"> <li>✓ Isolation of Bio-Surfactant Producing Bacteria from Environmental Samples</li> </ul>		
14	09/06/2024	<ul style="list-style-type: none"> <li>✓ Detection of Coliform in Water Samples by Membrane Filter Technique</li> </ul>		

**Proposed schedule for conducting practical Examination for the course MEVL 011, Lab course-1, Environmental Science w.e.f 10<sup>th</sup>July 2024 to 23<sup>rd</sup>July 2024**

**(Fourth Batch)**

**Venue: Department of Environmental Science, Dr YSP UHF, Nauni, Solan**

Day	Date	Practical exercise	Theory	Hand on Exercises/ Lab Practical
1	10/07/2024	✓ Determination of minimum size of the quadrat by 'species-area-curve' method	<b>Morning Session (9:30 am -1:30 pm)</b>	<b>Evening Session (2:00 -6:00 pm)</b>
2	11/07/2024	✓ Determination of frequency of species by line transect method and point frame method  ✓ Determination of Relative Density, Frequency and Abundance of different species present in community and calculation of IVI		
3	12/07/2024	✓ Measures of central tendency, dispersion, skewness and kurtosis  ✓ Correlation and regression analysis; analysis of variance		
4	13/07/2024	✓ Determination of standing crop and biomass in Terrestrial ecosystem		
5	14/07/2024	✓ Study on the abiotic and biotic components of an aquatic ecosystem		
6	15/07/2024	✓ Estimation of net primary productivity by harvest method in grassland ecosystem		
7	16/07/2024	✓ Estimation of net primary productivity using light and dark bottle method in aquatic ecosystem		
8	17/07/2024	✓ Estimation of biodiversity indices  ✓ Weather monitoring and data analysis		
9	18/07/2024	✓ Study on soil profile and physical characteristics of soil		
10	19/07/2024	✓ Determination of soil organic carbon		
11	20/07/2024	✓ Determination of available Nitrogen in soil		
12	21/07/2024	✓ Preparation of climatic maps and diagram  ✓ Identification of Igneous, Sedimentary and Metamorphic rocks		
13	22/07/2024	✓ Determination of soil moisture content  ✓ Determination of soil pH and electrical conductivity		
14	23/07/2024	✓ Preparation of station based wind rose  ✓ Arial photographs interpretations		



**Proposed schedule for conducting practical Examination for the course MEVL 012, Lab course-2, Environmental Science w.e.f 24<sup>th</sup> July 2024 to 06<sup>th</sup> August 2024**

**(Fourth Batch)**

**Venue: Department of Environmental Science, Dr YSP UHF, Nauni, Solan**

Day	Date	Practical Exercise	Theory	Hand on Exercises/ Lab Practical
1	24/07/2024	✓ Determination of Electrical Conductance of a Water Sample	<b>Morning Session</b>  <b>(9:30 am -1:30 pm)</b>	<b>Evening Session</b>  <b>(2:00 -6:00 pm)</b>
2	25/07/2024	✓ Determination of pH of a Water Sample		
3	26/07/2024	✓ Determination of Turbidity in Water		
4	27/07/2024	✓ Determination of Total Solids and Total Dissolved Solids in Water ✓ Determination of Hardness in Water Sample		
5	28/07/2024	✓ Determination of Biological Oxygen Demand in Water		
6	29/07/2024	✓ Determination of Dissolved Oxygen in Water		
7	30/07/2024	✓ Determination of Chemical Oxygen Demand in Water		
8	31/07/2024	✓ Determination of Chloride in Water Samples ✓ Determination of Residual Chlorine in Water		
9	01/08/2024	✓ Determination of Sulphates in Water		
10	02/08/2024	✓ Determination of Phosphate in Water		
11	03/08/2024	✓ Determination of Nitrate Nitrogen in water sample		
12	04/08/2024	✓ Determination of Nitrite Nitrogen in water sample		
13	05/08/2024	✓ Determination of Fluoride in Water		
14	06/08/2024	✓ Determination of Oil and Grease in Water		

**Proposed schedule for conducting practical Examination for the course MEVL 011, Lab course-1, Environmental Science w.e.f 07<sup>th</sup> August 2024 to 20<sup>th</sup> August 2024  
(Third Batch)**

**Venue: Department of Environmental Science, Dr YSP UHF, Nauni, Solan**

Day	Date	Practical exercise	Theory	Hand on Exercises/ Lab Practical
1	07/08/2024	✓ Determination of minimum size of the quadrat by 'species-area-curve' method	<b>Morning Session</b>  <b>(9:30 am -1:30 pm)</b>	<b>Evening Session</b>  <b>(2:00 -6:00 pm)</b>
2	08/08/2024	✓ Determination of frequency of species by line transect method and point frame method  ✓ Determination of Relative Density, Frequency and Abundance of different species present in community and calculation of IVI		
3	09/08/2024	✓ Measures of central tendency, dispersion, skewness and kurtosis  ✓ Correlation and regression analysis; analysis of variance		
4	10/08/2024	✓ Determination of standing crop and biomass in Terrestrial ecosystem		
5	11/08/2024	✓ Study on the abiotic and biotic components of an aquatic ecosystem		
6	12/08/2024	✓ Estimation of net primary productivity by harvest method in grassland ecosystem		
7	13/08/2024	✓ Estimation of net primary productivity using light and dark bottle method in aquatic ecosystem		
8	14/08/2024	✓ Estimation of biodiversity indices  ✓ Weather monitoring and data analysis		
9	15/08/2024	✓ Study on soil profile and physical characteristics of soil		
10	16/08/2024	✓ Determination of soil organic carbon		
11	17/08/2024	✓ Determination of available Nitrogen in soil		
12	18/08/2024	✓ Preparation of climatic maps and diagram  ✓ Identification of Igneous, Sedimentary and Metamorphic rocks		
13	19/08/2024	✓ Determination of soil moisture content  ✓ Determination of soil pH and electrical conductivity		
14	20/08/2024	✓ Preparation of station based wind rose  ✓ Arial photographs interpretations		

**Proposed schedule for conducting practical Examination for the course MEVL 012, Lab course-2, Environmental Science w.e.f 21<sup>st</sup> August 2024 to 03<sup>rd</sup> Sept. 2024**

***(Third Batch)***

**Venue: Department of Environmental Science, Dr YSP UHF, Nauni, Solan**

Day	Date	Practical Exercise	Theory	Hand on Exercises/ Lab Practical
1	21/08/2024	✓ Determination of Electrical Conductance of a Water Sample	<b>Morning Session</b>  <b>(9:30 am -1:30 pm)</b>	<b>Evening Session</b>  <b>(2:00 -6:00 pm)</b>
2	22/08/2024	✓ Determination of pH of a Water Sample		
3	23/08/2024	✓ Determination of Turbidity in Water		
4	24/08/2024	✓ Determination of Total Solids and Total Dissolved Solids in Water ✓ Determination of Hardness in Water Sample		
5	25/08/2024	✓ Determination of Biological Oxygen Demand in Water		
6	26/08/2024	✓ Determination of Dissolved Oxygen in Water		
7	27/08/2024	✓ Determination of Chemical Oxygen Demand in Water		
8	28/08/2024	✓ Determination of Chloride in Water Samples ✓ Determination of Residual Chlorine in Water		
9	29/08/2024	✓ Determination of Sulphates in Water		
10	30/08/2024	✓ Determination of Phosphate in Water		
11	31/08/2024	✓ Determination of Nitrate Nitrogen in water sample		
12	01/09/2024	✓ Determination of Nitrite Nitrogen in water sample		
13	02/09/2024	✓ Determination of Fluoride in Water		
14	03/09/2024	✓ Determination of Oil and Grease in Water		