

Class Schedule for M.F.Sc. first semester

AEM-503 Analytical Techniques in Environmental Science (1+2)

<u>Sl.No.</u>	<u>Theory Class</u>
1.	Qualitative & quantitative analytical techniques
2.	Gravimetric and volumetric analysis
3.	Sampling techniques, factors affecting analysis, interferences & lab safety
4.	Photometric techniques – theory & spectrophotometry
5.	Spectroscopy + AAS (principle, instrumentation, applications)
6.	FT-IR, ICP-MS, XRD, XPS + biosensors & microscopy
7.	Electrophoresis, ultracentrifugation, tracer techniques & isotopes
8.	Chromatography – theory & classification
9.	TLC, paper, ion-exchange & size exclusion chromatography
10.	HPLC – principle, instrumentation & applications
11.	Gas chromatography, GC-MS & sample preparation
12.	Immunoassay – principle & methods
13.	Immunoassay – applications
14.	Biosensors – components, characteristics & applications
15.	Nanotechnology – nanoparticle preparation, characterization & uses

Practical

S.NO.	Practical Class	No. of Classes
1.	Determination of Ammonia in water sample	1
2.	Determination of Sodium using by flame photometer	1
3.	Determination of potassium using by flame photometer	1
4.	Determination of Calcium using by flame photometer	1
5.	Determination of Barium using by flame photometer	1
6.	Estimation of BPA using HPLC	3
7.	Estimation of Environmental Parameter (Iron) by AAS	2
8.	Estimation of Environmental Parameter by CHNS Analyser	1
9.	Sample preparation for analysis of different heavy metals through AAS	7
Total No. of Practical classes		18