

The file contains syllabus related with cross cutting issues.

SEMESTER-II
PAPER IV: (Analytical Chemistry)
(Total Credits: 2.5; Contact hrs: 45)

1. Physical properties of liquids **(Contact hrs: 15)**

- 1.1 Introduction, additive and constitutive properties
- 1.2 Viscosity, coefficient of viscosity, determination of viscosity by Ostwald's Viscometer
- 1.3 Surface tension:- Determination of surface tension by Drop –Weight method
- 1.4 Parachor:-Maclod equation and its modification by Sugden, applications of parachor in the determination of molecular structures as benzene and NO₂ group
- 1.5 Dipole moment, electrical polarization of molecules
- 1.6 Use of dipole moment in the study of molecular structure
- 1.7 Refractive index, Snell's law
- 1.8 Specific and molecular refractivity, Abbe's refractometer: Principle-critical angle phenomenon-construction, working and advantages
- 1.9 Molecular refractivity and chemical constitution.

2. Environmental Chemistry: Air pollution **(Contact hrs: 07)**

- 2.1 Introduction: Meaning of terms: Environment, Pollution, Pollutant, Threshold Limit Value (TLV), Dissolved Oxygen (DO), Chemical Oxygen Demand (COD) and Biological Oxygen Demand (BOD)
- 2.2 Types of Pollution (Only Introduction): Air pollution, Water pollution, Sound pollution, Soil pollution, Automobile pollution and nuclear pollution.
- 2.3 Air Pollution: Classification of Air pollutants, Oxides of carbon, Sulphur and Nitrogen as air pollutants with respect to source and health hazards.

3. Environmental Chemistry: Water pollution **(Contact hrs: 08)**

- 3.1 Introduction: Resources of water, Types of water Pollutants, water Pollution and its sources (Brief Account)
- 3.2 Treatment of water:
 - A) Potable Water: Parameters of potability of water
 - Step I: Removal of suspended matter :
 - a) Prolonged storage
 - b) Screening
 - c) Sedimentation
 - d) Coagulation
 - e) Filtration
 - Step II: Removal of germs and bacteria- Physical and Chemical method.
 - Physical Methods :
 - a) Boiling
 - b) Exposure to UV or Sunlight
 - c) Distillation.
 - Chemical Method :
 - a) Chlorination
 - b) Fluorination
 - c) Ozonisation
 - d) Aeration
 - e) Use of KMnO₄
 - B) Industrial Water: Mention names of the methods only, Ion exchange method in detail.
 - C) Municipal Sewage: Meaning of Sewage; mention the names of methods; activated sludge process in detail.

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4. Qualitative and Quantitative elemental analysis **(Contact hrs: 08)**

- 4.1 Qualitative analysis of Carbon, Hydrogen, Nitrogen & Sulphur
 - 4.2 Quantitative analysis of -
 - i) Carbon and hydrogen by Combustion method
 - ii) Nitrogen by Kjeldahl's method
 - iii) Halogen and Sulphur by Carius method.
 - 4.3 Determination of molecular weight of an acid by titration method.
 - 4.4 Empirical formula and molecular formula determination. (Numerical Problems Expected)
- 5. Petroleum and petrochemicals** **(Contact hrs: 07)**
- 5.1 Constituents and refining of petroleum, cracking, knocking, octane, hydro-forming

STUDY MATERIAL
ON
Environment Studies



NAAC Accredited-2015

'B' Grade (CGPA 2.62)

By
SOLAPUR UNIVERSITY
SOLAPUR

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Editorial Board

- **Dr. V. P. Dhulap (Chief Editor)**
Department of Environmental Science, School of
Earth Sciences, Solapur University, Solapur
- **Dr. P. U. Meshram**
Department of Environmental Science, S.M.
Mahavidyalaya and Research Academy, Sakkardara
Square, Nagpur
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Department of Botany, D.B.F. Davanad Arts, Science

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129/498, Vasant Vihar,

Near Old Pune Naka,

Solapur - 413001

(Mo.) 9637335551 / 7020828552

- **Dr. V. K. Pukale**
Department of Geography, Sou. Suvarnlata Gandhi Mahavidyalaya, Vairag, Tal-Barshi, Dist- Solapur
- **Dr. D. S. Harwalkar**
Department of Geography, Mauli Mahavidyalaya Wadala Tal - North Solapur, Dist- Solapur
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Department of Biotechnology, Lokmangal Biotechnology College Wadala, Tal - North Solapur, Dist- Solapur

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BA II (Political Science) (CBCS)

SEMESTER IV

PAPER- IDS

PUBLIC ADMINISTRATION

[Credits: 04 Theory-(), Practicals-()]

Objective of the Course: - The paper is an introductory course in Public Administration. The essence of public administration lies in its effectiveness in translating the governing philosophy into programmes, policies and activities and making it a part of community living. The paper covers personnel public administration in its historical context thereby proceeding to highlight several of its categories, which have developed administrative salience and capabilities to deal with process of change.

Total Theory Lectures-(60)

Unit no: 01	(15)
Financial Administration (With reference to India)	
(a) Preparation and Passing of Budget	
(b) Financial Committees	
(1) Estimate Committee	
(2) Public Accounts Committee	
(3) Committee on Public Undertakings	
Unit no: 02	(15)
Public Policy	
(a) Definition,	
(b) Characteristics and Models	
Unit no: 03	(15)
Citizen and Administration interface	
A) RTI	
B) Lokpal	
C) Citizens Charter and E-Governance.	
Unit no: 04	(15)
Social Welfare Policies	
• Education: Right to Education	
• Health: National Health Mission	
• Food: Right to food Security	
• Employment: MNREGA	



Angarsiddha Shikshan Prasarak Mandal Angar

Baburao Patil College of Arts and Science Angar



IQAC and Department of Zoology jointly
Organizing Webinar on

“ Role of Youth in Environment Conservation ”

On the occasion of

“WORLD ENVIRONMENTAL DAY 2021”

Resource Person



Mr. Rahul Jagannath Patil
M.Sc., NET-JRF., SET., GATE
Head,
Department of Zoology
Balwant College, Vita.

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Head, Dept. of Zoology

Dr. M.N. Raut
IQAC Coordinator



Note- Zoom Link will be send you on Telegram Group



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IQAC , Vishakha Committee & WDC jointly Organizing
National Webinar on
"Gender Sensitization"

On
Date – 10-07-2021

Resource Persons



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Yog Prabhodhak and Yog Adhyapa
Yog Vidyadham ,
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