**GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA**

**LESSON-PLAN (Session 2024-25) EVEN SEMESTER**

**Name of Teacher: ANITA YADAV**

**Designation: Extension Lecturer**

**Class: BCA-I Year ( 2nd Semester)**

**Subject/ Paper: CLOUD COMPUTING**

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| **.S. No.** | **Month** | **Topics to be covered** | **Teaching Learning Strategy** | **Learning Outcomes of Students** | **Remarks** |
| **1.** | **February** | Basic Concepts of Cloud Computing Computer Network Basics. Concepts of Distributed Systems. Concepts of Cloud Computing and its Necessity. Cloud Service Providers in use and their Significance | **Outlining** | **Student will be able to know basic of cloud computing features** | **Oral Discussion** |
| **2.** | **March** | Cloud Infrastructure Cloud Pros and Cons. Cloud Delivery Models. Cloud Deployment Models. | **Group**  **discussion** | **Students will be able to learn cloud delivery Model** | **Assignment-1** |
| **3.** | **April** | Cloud Storage Management Concept of Virtualization and Load Balancing. Overview on Virtualization used for Enterprise Solutions. Key Challenges in managing Information. Identifying the problems of scale and management in big data. | **Questioning** | **Students will be able to learn big data** | **Class Test** |
| **4.** | **May** | Building Cloud Networks Designing and Implementing a Data Center-Based Cloud Installing Open Source Cloud service. Amazon Web Services (AWS). Google Cloud Platform. | **Make them to explain their understanding about the topic to other student** | **Student will learn about cloud services** | **Assignment-2** |

* **Seminar/Presentation/Assignment/Quiz/Class Test /Mid-Term Exam will be taken as per schedule.**

**Signature of Teacher Principal**

**GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA**

**LESSON-PLAN (Session 2024-2025) even SEMESTER**

**Name of Professor**: **Dr. Rani Jindal**

**Designation: Assistant Professor**

**Subject: Chemistry of food and flavours**

**Class Course code** B23-SEC-205 (Second semester)

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| **Months** | **Topics to be covered** | **Learning outcomes of the student** | **Teaching learning Strategy** | Remarks if any |
| **Feb** | Biological molcules in food processing Water: Physical properties: specific heat, latent heat, vapor pressure, boiling point, water as dispersing medium, states of water, Water in food preparation and preservation Starch: Structure, functional properties - Gelatinization, pasting, syneresis, retrogradation, dextrinization. Factors affecting gelatinization and gelation, c) Gums – Functions, sources, applications. d) Pectic substances, pectin gels | Know about basic food components. | Group learning and teaching **&** Practical based learning |  |
| **March** | Enzymes: a) Biocatalysts, enzyme specificity b) Use of exogenous enzymes in foods – amylases, lipases, proteases c) Endogenous enzymes – phenol oxidases, peroxidases, oxidoreductases, lipoxygenases d) Factors affecting enzyme activity | 2 Analyse the food flavors and pigments. | Group learning and teaching& Practical based learning | Assignment -1  Test |
| **April** | Flavours & Pigments Flavours: a) Molecular mechanism of flavor perception (sweet, bitter, salty, sour, umami, kokumi, pungent, cooling and astringent) b) Flavours from vegetables, fruits, spices, fats and oils, milk and meat products Pigments: a) Pigments in Animal and Plant tissues (Haeme compounds, Chlorophyll, Carotenoids, Anthocyanins, Betalins) b) Synthetic Food Colors (toxicity and regulatory aspects)  Food Additives Additives: a) Buffer systems and salts, chelating agents b) Antioxidants c) Antimicrobials d) Fat replacers, sweeteners e) Masticatory substances f) Firming texturizers g) Clarifying agents, bleaching agents h) Flour improvers, anti-caking agents, i) Gases and propellants.Color – Natural and synthetic food colors, their chemical structure, shades imparted, stability, permitted list of colors, usage levels and food application. | 3 Think about the food additives | Group learning and teaching | Assignment -2  Test |
| **May** | Food colorants: sunset yellow, orange-B, citrus red No2, yellow No5, green No3. 7 Hrs V\* 1. Gelatinization of starch granules; 2. To study hydrolysis of starch through salivary amylase 3. To study hydrolysis of fatty acids 4. Extraction of chlorophyll from different leaves; 30 Hrs Suggested Evaluation Met | 4 Understand about food colorants | Group learning and teaching | Revision and Tests |

**GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA**

**LESSON-PLAN (Session 2024-25) EVENSEMESTER**

**Name of Teacher**: Ms. Bindu

**Designation: Assistant Professor**

**Class:** BA I/ B.Com I SEC (2nd Sem)

**Subject/ Paper:** Calculation Skills with Vedic Mathematics-I

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| **S. No.** | **Month** | **Topics to be covered** | **Teaching Learning Strategy** | **Learning Outcomes of Students** | **Remarks** |
| **1.** | **February** | History of Vedic Mathematics and introduction to its Sutras and Upsutras. Addition in Vedic Mathematics: Without Carrying, Dot Meth method subtraction in Vedic Mathematics: Nikhilam Navatashcaramam Dashatah (All from 9 last 10). Fraction: Addition and Subtraction. | **Group- Learning and Teaching**  **Learning through Problem Solving** | Gain the knowledge of Sutras and Upsutras from Vedic Mathematics. Perform simple arithmetic calculations with speed and accuracy. |  |
| **2.** | **March** | Multiplication of two numbers of two digits (Ekadhikena Purvena method), Multiplication of two numbers of three digits, (Ekanyunena Purvena method, Urdhva Tiryagbhyam method, Nikhilam Navatashcaramam Dashatah method), Combined Operations, Generating Tables (Nikhilam). | **Group- Learning and Teaching**  **Learning through Problem Solving** | Have the procedural knowledge of multiplication of complicated numbers quickly with the aid of Vedic sutras and generate tables of any number. |  |
| **3.** | **April** | Division: Nikhilam Navatashcaramam Dashatah (two digits divisor), ParavartyaYojyet Method (three digits divisor). Divisibility: Ekadhikena Purvena Method (two digits divisor), Eknunen Purvena Method (two digits divisor) LCM, HCF. | **Group- Learning and Teaching**  **Learning through Problem Solving** | Make use of Vedic sutras to quickly divide, and find LCM and HCF of many digit numbers. |  |
| **4.** | **May** | Squares of any two digits numbers: Base method, Squares of numbers ending in 5: Ekadhikena Purvena Method. 8 34(1044) Square Roots: Dwandwa Yoga (Duplex) Method, Square root (four digit number). Cubing: Yavadunam Method, Cube root (six digit numbers) | **Group- Learning and Teaching**  **Learning through Problem Solving** | Acquire the cognitive skills to calculate square and cube roots of numbers speedily with accuracy. |  |

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**Signature of Teacher Principal**

**GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA**

**LESSON-PLAN (Session 2024-25) EVENSEMESTER**

**Name of Teacher**: Kiran Bala

**Designation: Assistant Professor**

**Class:** BA I/ B.Com I/ BA (H) I/ B.Sc I (Life Sc.)Sem. II (B23-SEC-225)

**Subject/ Paper:** Numerical Ability Enhancement Skills

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| **S. No.** | **Month** | **Topics to be covered** | **Teaching Learning Strategy** | **Learning Outcomes of Students** | **Remarks** |
| **1.** | **February** | Real number system, Operations on numbers, Tests for divisibility of natural numbers, Decimals, Fractions, Square roots, Cube roots, Surds and indices, Use of BODMAS. | **Group- Learning and Teaching**  **Learning through Problem Solving** | Understand real number system, fundamental arithmetical operations, use of BODMAS rule and solve typical expressions accurately and fast. |  |
| **2.** | **March** | HCF, LCM of integers, Ratio and Proportion, Progressions: Arithmetic Progression, Geometric Progression, Harmonic Progression with their simple and basic practical applications, Number series completion. | **Group- Learning and Teaching**  **Learning through Problem Solving** | Acquire skill to identify types of given sequences/series and apply suitable method to find a particular term, sum of specific number of terms and practice this learning in real life mathematical problems. |  |
| **3.** | **April** | Percentage, Profit & Loss, Alligation or mixture, Average, Average speed problems, Calendar. | **Group- Learning and Teaching**  **Learning through Problem Solving** | To formulate equations for specific mathematical problem and making use of mathematical skills to solve that. |  |
| **4.** | **May** | Logarithms, Area of Quadrilaterals ( Parallelogram, Square, Rectangle, Rhombus, Trapezium),Volume and surface area of Cube, Cuboid, Cylinder, Cone, Sphere and Hemisphere. | **Group- Learning and Teaching**  **Learning through Problem Solving** | Have a deeper and comprehensive understanding of the basic concepts of Percentage, Profit & Loss, Mixture, Averages and acquire skill to use this knowledge in real life problems |  |

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**Signature of Teacher Principal**

**GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA**

**LESSON-PLAN (Session 2024-2025) Even SEMESTER**

**Name of Professor**: Dr.Rani jindal

**Designation: Assistant Professor**

**Name of the Course: Analytical Chemistry**

**Course Code: B23-SEC-221**

**Class: B.Sc 2ndSem (Non-Med and Med)**

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| **Months** | **Topics to be covered** | Learning outcomes of the student | **Teaching learning Strategy** | Remarks if any |
| FEB | Chromatography: Definition, general introduction on principles of chromatography, Column chromatography, paper chromatography, TLC & , ion-exchange chromatography. | Enables student to separate, identification and purification of the components of mixture for qualitative and quantitative analysis | Group learning and teaching & Practical based learning |  |
| MAR | Analysis of soil: Composition of soil, Concept of pH and pH measurement, Complexometric titrations, Chelation, Chelating agents, use of indicators. | Student will learn soil composition, Ph of soil and its measurement, indicators and its uses | Group learning and teaching & Practical based learning | Assignment -1  Test |
| APR | Analysis of water: Definition of pure water, sources responsible for contaminating water, water sampling methods, water purification methods. | Student will learn about water, its contamination and water purification , methods | Group learning and teaching & Practical based learning | Assignment -2  Tests |
| MAY | Analysis of food products: Nutritional value of foods, idea about food processing and food preservations and adulteration.  Revision | Student learn about food nutrients, its preservation and adulteration | Group learning and teaching | REVISION |

**GOVT. PG. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA**

**Department of Home Science**

**LESSON-PLAN**

**(Session 2023-24) EVEN SEMESTER**

**Name of Teacher**: **Mrs. Anita Raj**

**Designation: EXTENSION LECTURER (HOME SCIENCE)**

**Subject:**Food Waste and By-Product Utilization B23-SEC-215

**Class:**B.Sc. Home Science II, IV SEM

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| **Month** | **Topic to be covered** | **Learning outcomes of students** | **Remarks** |
| **February** | * Introduction to Food Waste: Definition and types of food waste; Environmental, economic, and social impacts of food waste; Food waste throughout the supply chain; Factors Contributing to Food Waste; Post-harvest losses and storage challenges; Retail and consumer-related food waste; Food waste in foodservice establishments and restaurants | Understand the concept of food waste and its impact on the environment, economy, and society |  |
| **March** | * Food Waste Management and Reduction: Source reduction strategies; Food donation and redistribution programs; Composting and anaerobic digestion; Innovative technologies for food waste reduction | Explore different techniques and technologies for food waste management and reduction |  |
| **April** | * Overview of by-product utilization; Extraction of bioactive compounds from food waste; Conversion of food waste into biofuels and energy; Recovery of value-added materials from 8 2097 food waste | Understand sustainable strategies for utilizing food waste and by-products to create value-added products |  |
| **May** | * Applications of Food Waste By-Products; Food industry applications (e.g., food additives, functional ingredients); Animal feed and pet food production; Fertilizer and soil amendment production; Waste-to-packaging concepts; Policy frameworks and regulations | Understand various applications of food waste byproduct |  |

* **Two assignments and one units test will be taken as per schedule.**

**Signature of Teacher Principal**

**GOVT. P.G. COLLEGE FOR WOMEN, SECTOR-14, PANCHKULA**

**LESSON-PLAN (Session 2024-2025) even SEMESTER**

**Name of Professor**: **Mr. RAKESH**

**Designation: Assistant Professor**

**Subject: Chemistry of food and flavours**

**Class Course code** B23-SEC-205 (Second semester)

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| **Months** | **Topics to be covered** | **Learning outcomes of the student** | **Teaching learning Strategy** | Remarks if any |
| **Feb** | Biological molcules in food processing Water: Physical properties: specific heat, latent heat, vapor pressure, boiling point, water as dispersing medium, states of water, Water in food preparation and preservation Starch: Structure, functional properties - Gelatinization, pasting, syneresis, retrogradation, dextrinization. Factors affecting gelatinization and gelation, c) Gums – Functions, sources, applications. d) Pectic substances, pectin gels | Know about basic food components. | Group learning and teaching**&**Practical based learning |  |
| **March** | Enzymes: a) Biocatalysts, enzyme specificity b) Use of exogenous enzymes in foods – amylases, lipases, proteases c) Endogenous enzymes – phenol oxidases, peroxidases, oxidoreductases, lipoxygenases d) Factors affecting enzyme activity | 2 Analyse the food flavors and pigments. | Group learning and teaching& Practical based learning | Assignment -1  Test |
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**SignatureofTeacher Principal**

