SVU COLLEGE OF SCIENCES
DEPARTMENT OF ENVIRONMENTAL SCIENCE

M.SC. ENVIRONMENTAL SCIENCES (CBCS)
Scheme of Examinations (wef 2023-24)

SEMESTER-III

S.No	Course Code	Components of Study	Title of the Paper	Contact hours	No. of Credits	I A Marks	End SEM Exam Marks	Total
1	ENV 301	Core- Theory	Waste Treatment and Management	6	4	20	80	100
2	ENV 302	Core- Theory	Environmental Impact Assessment, Audit And Economics	6	4	20	80	100
3	ENV 303	Core- Practical I	Practical – I	6	4	-	-	100
4	ENV 304	Core- Theory **Skill Development**	Computer Applications and Toxicological study in Food Adulteration +Practicals	3 3	2 2	10	40 + 50	100
5	ENV 305	Generic Elective* **(Related to Subject)**	(a) Ecotourism and Eco-Restoration (b) Occupational Health and Industrial Safety (c) Statistics, Computer Applications and Modeling	6	4	20	80	100
6	ENV 306	Open Elective* **(For other Department)**	(a) Natural Resources Conservation (b) Environmental Education	6	4	20	80	100
		Total		36	24	90	410	600

* A Student is allowed to take i) one generic elective and one open elective or ii) two generic electives, to secure the minimum number of credits.

ENV-304 – COMPUTER APPLICATIONS AND TOXICOLOGICAL STUDY IN FOOD ADULTERATION

UNIT-I
Computer and application in toxicology; introduction to computers, basic unit and functions, H/W and S/W, operating systems, word processing, spread sheet, graphic programs, dbase, windows, statistical S/W programs and packages, Steps involved in S/W development, computer language with emphasis to FORTRAN language and programming.

UNIT-II
Toxicology software systems, Use of computrs in information retrieval systems, Technology development; Technology development-meaning;; Drug related technology development;Toxicological studies, bioequivalence (BU), clinical trials-phase-I, phase-II and phase-III.

UNIT-III(P)
Detection of milk adulteration- Detection of starch in milk and milk products (Khova, chenna, paneer) – Detection of mashed potatoes, sweet potatoes and other starches in ghee/butter – Detection of sugar solution in honey – Detection of chalk powder in sugar/pithi sugar/jiggery – Detetion of excess bran n wheat flour – Detection of added colour in food grains – Detection of rhodamine B in ragi.

UNIT-IV (P)
Detection of papayaseeds in black pepper – Detection of artificial/water soluble synthetic colours n chilli powder – Detection of saw dust in chilli powder – Detection of chalk in common salt – Detection of artificial l colour in turmeric powder – Detection of malachite green in green vegetables like bitter gourd, green chilli and others – Detection of artificial colour on green peas – Detection of rhodamine B in sweet potato.

References:

1. Advances in Molecular Toxicology by james C.Fishbein.
2. Operating Systems; Internals and Design Principles by Stallings (Pearson)
3. Handbook of Food Aulteration ad Safety Laws by Summeet Malik.
4. Molecular Toxicology by P.David Josephy
5. Adulteration Analysis of some foods and drugs.
6. Frontiers in drug safety volume I by Alankr Shrivastava.
7. A.K.De, Environmental Chemistry,1985
8. Sharma, B.K.Kaur H.,Environmental Chemistry, Goel Publishing house (1995)
9. Sharma.P.D.Environmental Biology and Toxicology, Rastogy (1994).

MODEL QUESTION PAPER
M.Sc. ENVIRONMENTAL SCIENCE DEGREE EXAMINATION
Third Semester
(CBCS with effect from academic year 2023 – 2024 onwards)

PAPER-III   ENV-304 – COMPUTER APPLICATIONS AND TOXICOLOGICAL STUDY IN FOOD ADULTERATION

(Skill Oriented Course)

Time:2hrs

Max Marks: 40

Part – A
Answer any Four questions
Each question carry equal 5 marks   (4X5=20 Marks)

1. Explain history of computer.
2. Discuss the importance of MS Word.
3. Write notes on operating systems.
4. Write a note on bioequivalence.
5. Discuss clinical trials-phase-I
6. Write about clinical trails-phase-II
7. Write about clinical trails-phase-II
8. Write a short note on clinical trials-phase-III

Part – B
Answer all questions
Each question carry equal 10 marks   (2X10=20 Marks)

9. a) Explain in details about functions of computers.

(Or)

b) Explain about graphic programs in computers.

10. a) Discuss the Technology development for toxilogical studies..

(Or)

b) Describe the Drug related technology development.