Skill Enhancement Course

CHSEC 126 (T+P): Basic computer applications in chemistry

Credit – (1T+1P), Theory Hours – 15, Practical Hours – 30

Course outcomes:

At the end of the course the student will be able to:

CO -1. Gain knowledge and understanding about basics of computer applications in chemistry and the use and operating of Microsoft office tools and chemistry at basic level

CO -2. Develop skill to prepare .dox, .xls, .png, .jpg and .ppt files using Microsoft office, and use of e-resources

CO -3. Acquire skills to prepare cdx document using various tools of chemdraw

CO -4. Gain skill to prepare power point presentation for well organised documentation and clear communication

CO -5. Possess communication skills, even using social media which will enable to face interview, conducting scientific surveys, organizing scientific events etc. leading to employability

CO	PSO-1	PSO-2	PSO-3	PSO-4	PSO-5	PSO-6
CO-1	2	2		2		
CO-2	2	2	1	1	1	1
CO-3	2	2	2	1	1	2
CO-4	2	3		2	2	2
CO-5	2	2			2	2

UNIT - I - Basic introduction to Microsoft and chemistry soft ware

[25 Marks]
[15 Hours]

Use of Microsoft software (ward, excel, power point, paint at basic level)
Introduction to chemistry software (ChemDraw at basic level)
Introduction to chemistry software, introduction to drawing tools for chemical structure, reaction scheme, reaction mechanism, Naming the chemical compound and structure from the name, Calculation of MF, MW, elemental (C, H, N) analysis, Use of auxiliary drawing tools for structures, shapes and apparatus drawing, use of social media account for academic communication, introduction to other chemistry software, search engines and websites (2 each)

UNIT - 2. Practical (any 12) **[25 Marks]**
[30 Hours]

Designing the chemistry experiment and use of e-resources

1. Open a ward document
2. Describe aim, requirements and procedure
3. Install free chemDraw software, draw a reaction scheme using chemDraw and insert in ward document
4. Draw a reaction mechanism using chemDraw and insert in ward document (only demonstration)
5. Draw the apparatus used in the experiment using object window & paint, and insert in ward document
6. Draw an observation table (using addition, subtraction, multiplication & division formula, whatever it is needed) and result table for experiment using excel and insert in ward document
7. Draw a result table for experiment inserting the table
8. Prepare ppt of this ward document using power point adding animation (one

slide)

9. Insert video of performed experiment in ppt (one slide) with sound effect

10. Presentation of prepared ppt

11. Open Google email account, generate goggle form in drive for conducting one-day seminar, and post a link

12. Generate YouTube channel, upload the prepared ppt and post the link of YouTube video

13. Open Google scholar account and search for chemistry literature

14. Search online chemistry e-resources such as e-pathshala, SWAYAM and NPTEL

15. Introduction to other useful features of both software

16. Submit e-document of prepared report.