

Chemistry teaching schedule - Form 5

Topics covered

Term	1 st term*	2 nd term
Content	Laboratory safety & regulation (1 period) 6. Microscopic world 2(20 periods) 8. Chemical reactions and energy (15 periods) 9. Rate of reaction (15 periods) 10. Chemical equilibrium (15 periods)	5. Fossil fuels and carbon compounds (20 periods) 11. Chemistry of carbon compounds (25 periods) 12. Patterns in the chemical world (30 periods)

* **61. Detecting the presence of chemical species (part 15) will be covered on the first term.**

Teaching Schedule

1st term

Content	Activity / Experiment
Course requirements Laboratory Safety & Regulations	Fire drill
6. The Microscopic World 2 25. Simple molecular substances with non-octet structures and shapes of simple molecules 26. Bond polarity 27. Intermolecular forces 28. Structures and properties of molecular crystals	Expt: - Building models with different shapes - Effect of electrostatic field on polar and non-polar liquid
8. Chemical reactions and energy 35. Energy changes in chemical reactions 36. Standard enthalpy change of combustion, neutralization and formation 37. Hess's law	Expt: - Enthalpy change of reactions - Application of Hess's Law - SBA (expt)

9. Rate of reactions 38. Rate of chemical reaction 39. Factors affecting rate of reaction 40. Molar volume of gases at r.t.p.	Expt: - rate equation - effect of catalyst / temp on rate of reactions - catalytic effect on transition element - SBA (expt)
10. Chemical equilibrium 41. Dynamic equilibrium 42. Equilibrium constant 43. The effect of changes in concentration and temperature on chemical equilibria	Expt: Demo: effect of temperature and conc. - Measure reaction rate by volume - SBA (QA)
Christmas Holiday	
1st examination	

2nd term

Content	Activity / Experiment	UT
Examination Review		
5. Fossil fuels and carbon compounds 20. Hydrocarbons from fossil fuels		
Lunar New Year Holiday		
5. Fossil fuels and carbon compounds 21. Consequences of using fossil fuels 22. Homologous series, structural formulae and naming of carbon compounds 11. Chemistry of carbon compounds 44. Introduction to selected homologous series 45. Isomerism	SBA (QA)	UT (part 9)
5. Fossil fuels and carbon compounds 23. Alkane and alkenes		
Easter Holiday		

5. Fossil fuels and carbon compounds 24. Addition polymers 11. Chemistry of carbon compounds 46. Typical reactions of various functional groups 47. Inter-conversions of carbon compounds 48. Important organic substances	SBA (VA)	UT (part 13) UT (part 10)
12. Patterns in the chemical world 49. Periodic variation in physical properties of the elements Li to Ar 50. Bonding, stoichiometric composition and acid-base properties of oxides of the elements Na to Cl 51. General properties of transition metals (paper 1 review, 4 periods)	SBA (VA)	UT (part 11)
Yearly examination		

Summer revision:

13. Industrial chemistry (Elective) 50. Importance of industrial processes + 51. Rate equation