

2012 SPM Exams Tips and Predictions - Chemistry

Paper 2

Section A:

Question 1: Form 5 (Chapter 5) & Form 4 (Chapter 9)

- (Selangor_2012) ■ **Modern Medicine** (Analgesic, Antibiotic and psychotherapeutic medicine)
(Kedah_2012) ■ **Contact Process and Haber process** (Equation, temperature, catalyst, form fertiliser)

Question 2: Form 4 (Chapter 3)

- (SBP_2012) ■ Experiment of **empirical formula of copper(II) oxide and magnesium oxide**
(Kedah_2012) (Calculation, equation, precaution, and)

Question 3: Form 4 (Chapter 4)

- (Perak_2012) ■ **Group 17 elements** (explain on reactivity of Group 17 elements, reaction with iron)
■ **Transition elements** (Special characteristic)

Question 4: Form 4 (Chapter 6)

- (SBP_2012) ■ **Voltaic cell/Daniell cell**
(Half equation, changes of colour of solution, observation anod and cathode, function of salt bridge, calculation of voltage based on given pairs of metals)

Question 5: Form 5 (Chapter 2)

- (SBP_2012) ■ **Natural rubber** (Name, structural formula of monomer of natural rubber)
(Terengganu_2012) (Explain the coagulation of latex by using ethanoic acid / bacteria in the air)
■ **Vulcanisation of latex** (Add sulphur, explain the properties of vulcanised rubber)

Question 6: Form 5 (Chapter 4)

- (Selangor_2012) ■ **Heat of displacement / heat of precipitation / heat of neutralisation / heat of combustion**
(Terengganu_2012) (Definition, calculations, compare the experiments, and draw energy level diagram)
(Kedah_2012)
(Pahang_2012)

Section B:

Question 7-Essay: Form 4 (Chapter 9) & Form 5 (Chapter 5)

- (Terengganu_2012) ■ The **role of water** showing the **properties of acids**. (HCl in water and HCl in organic solvent)
(Kedah_2012) ■ Explain when concentration of acid increases, the pH value decreases
(Perak_2012) ■ **Prepare standard solution** and dilution experiment and calculation
■ **Titration** of neutralisation of acid and alkali by using indicator

Question 8-Essay: Form 5 (Chapter 3)

- Explain the formation of rust
■ Sacrificial method to prevent rusting

Section C:

Question 9-Essay: Form 4 (Chapter 8)

- (Terengganu_2012) ■ Heating of carnate salt and nitrate salt (PbCO_3 , ZnCO_3 , CuCO_3 , $\text{Pb(NO}_3)_2$, $\text{Zn(NO}_3)_2$)
(Pahang_2012) (Equation, observation on colour of residue, testing of ions)
(SBP_2012) ■ Testing of cation and anion (NO_3^- , CO_3^{2-} , Cu^{2+} , Zn^{2+})
■ Experiment: Prepare soluble salt (CuSO_4 , MgSO_4)

Question 10-Essay: Form 5 (Chapter 1)

- (Terengganu_2012) ■ Factors affect the rate of reaction (Two Graphs, explain by using collision theory)
(Pahang_2012) ■ Experiment: TSA / Temperature with ROR
(Penang_2012)
(SBP_2012)

Paper 3

Section A: (Observations, inference, all variables, hypothesis, construct table, operational definition)

Form 4 (Chapter 4)

- Group 17 with iron (Terengganu_2012)

Form 4 (Chapter 7)

- pH value and acids / pH value and alkalis (Penang_2012, Terengganu_2012)
- Titration (burette reading, calculation)

Form 4 (Chapter 9)

- Alloy (SBP_2012, Selangor_2012, Perak_2012, Perlis_2011)

Form 5 (Chapter 3)

- Reactivity of metal towards oxygen
- Rusting of iron (Pahang_2012, Pahang_2011, Perak_2011, Terengganu_2011, Johor_2011)

Form 5 (Chapter 4)

- Heat of combustion (SBP_2012, Pahang_2012, Pahang_2011, Terengganu_2011, Melaka_2011)

Section B: (Practical)

1. Form 4 (Chapter 4)

- (1) To compare the reactivity of alkali metals with water
- (2) To compare the reactivity of alkali metals with oxygen gas
- (3) To compare the reactivity of halogens with iron

2. Form 4 (Chapter 5)

- (4) To compare the electrical conductivity of ionic and covalent compounds

3. Form 4 (Chapter 6)

- (5) To investigate the effect of the types of electrodes on the products of electrolysis
- (6) To investigate the relationship between the pairs of metals and voltage of the cell

4. Form 4 (Chapter 8)

- (7) To compare the solubility of salts

5. Form 5 (Chapter 2)

- (8) To differentiate hexane and hexane
- (9) To compare the elasticity of vulcanised and unvulcanised rubber.

6. Form 5 (Chapter 3)

- (10) To investigate the effect of different metals in contact with iron on the rusting of iron.
- (11) To compare the reactivity of metals towards oxygen
- (12) To determine the position of carbon in the reactivity series of metals

7. Form 5 (Chapter 4)

- (13) To compare the heat of displacement of copper by magnesium and zinc
- (14) To compare the heat of neutralisation between a strong acid with a strong alkali and a weak acid with a strong alkali.
- (15) To compare the heat of combustion of various types of alcohol