Hougang sec chem p3

21. C 31. D

22. D 32. A

23. C 33. C

24. B 34. B

25. B 35. A

26. C 36. D

27. B 37. D

28. A 38. A

29. B 39. C

30. A 40. B

Section A

1a) D

1b) E

1c) C

1d) A

1e) F

2a)(i) U (ii) F (iii) Ne

2b)(i) F (ii) Ne

3a) 4

3d) High melting and boiling point, conduct electricity in molten state, solid state at r.t.p(ionic compound)

Low melting and boiling point, do not conduct electricity in any state, liquid state at r.t.p(covalent compound)

4(i) 0.3 mol (ii) mol of MgO -> 0.075 mol 0.075 x 40 =3g (iii) 1 tablet

5a)(i) A (ii) C (iii) E

5b) Loses oxygen

6a)(i)Temperature reduced

(ii) Heat is absorbed to break bonds.

6b)(i) exothermic (ii) endothermic (iii) endothermic

7a) HCl more reactive

7b) Used up

7c) No reactant

7d) faster

8a) Different boiling point

8b) Fuel for cooking

8c)(i) Heavy oil (ii) Cracking

9a) Alkane, alkenes

9b) $CH_4 + Cl_2 \rightarrow CH_3HCl$ (Alkane) (Substitution), $C_2H_4 + Cl_2 \rightarrow C_2H_4Cl_2$ (Alkene) (Addition reaction)

9c) Hydration

Section B

1a)(i) Carboxylic acid

(iv) alcohol → oxidise, carboxylic acid → blue to red litmus paper.

(v) Add bromine solution, turns reddish-brown to colourless.

1b)(i) $H_2O(g) + C(l) \rightarrow CH_2O(g)$ (ii) endothermic

2b) Copper nitrate 2c) Remove H_2O 2d) Copper nitrate crystals remain

2e) Ensure maximum amount of Copper carbonate is added.

2f) Turn alkaline

2g) Remove water from copper nitrate.

3a) A- Copper oxide B- Copper chloride C- hydrogen D-iron (II) hydroxide E- Silver chloride

3b) A 'pop' sound

3c) Fe (II) O + NaOH → $FeOH + H_2O$