WORKSHEET 2

(21.) In which of the following chemical equations, the abbreviations represent the correct states of the reactants and products involved at reaction temperature?

(1) $2H_2(l) + O_2(l) \rightarrow 2H_2O(g)$

(2) $2H_2(g) + O_2(l) \rightarrow 2H_2O(l)$

(3) $2H_2(g) + O_2(g) \rightarrow 2H_2O(l)$

(4) $2H_2(g) + O_2(g) \rightarrow 2H_2O(g)$

(22.) Which of the following statement about the following reaction is correct

$ZnO + CO \rightarrow Zn + CO_2$

(1) ZnO is being oxidised

(2) CO is being reduced

(3) CO_2 is being oxidised

(4) ZnO is being reduced

(23.) Given below are four precipitates. Match them with their respective colours

Column I Precipitate	Column II Colour
A. CuCl	(i) Black
B. AgI	(ii) Rust red
C. PbS	(iii) White
D. $Fe(OH)_3$	(iv) Yellow

Select the correct option:

(1) A-i, B-iii, C-ii, D-iv

(2) A-iii, B-ii, C-iv, D-i

(3) A-iii, B-iv, C-i, D-ii

(4) A-iv, B-ii, C-i, D-iii

(24.) Choose the correct option (s)for the following statement: When Sn^{2+} changes to Sn^{4+} in a reaction then

(1) Sn^{2+} loses two electrons

(2) Sn^{2+} gains two electrons

(3) Sn^{4+} loses two electrons

(4) This is an example of oxidation reaction.

(25.) Match the following columns

Column I	Column II
A. $Zn(s) + CuSO_4(aq) \rightarrow ZnSO_4(aq) + Cu(s)$	(p)Reduction reaction
B. $Mg \rightarrow Mg^{2+} + 2e^-$	(q)displacement reaction
C. $Sn^{4+} + 2e^- \rightarrow Sn^{2+}$	(r)Redox reaction
D. $C + O_2 \rightarrow CO_2$	(s)Oxidation reaction

	A	B	C	D
(1)	r,q	p	q	s
(2)	r,q	s	p	s
(3)	s	p,r	q	r,q
(4)	s,q	r	q	p,s

(26.) What do you observe when H_2S gas is passed through cadmium chloride solution? Name the type of reaction:

(1) Synthesis

(2) Displacement

(3) Double displacement

(4) Neutralisation

(27.) $N_2(g) + O_2(g) + \text{heat} \rightarrow 2NO(g)$ What do you infer?

(1) It is an endothermic reaction only.

(2) It is an exothermic reaction only.

(3) It is both a combustion and endothermic reaction.

(4) It is only a combustion reaction.

(28.) $Zn + H_2SO_4(\text{ dil }) \rightarrow ZnSO_4 + H_2\uparrow$

The above reaction is:

(1) decomposition reaction

(2) displacement reaction

(3) combination reaction

(4) synthesis reaction

(29.) Which of the following statements is not correct?

(1) A chemical equation tells us about the substances involved in a reaction

(2) A chemical equation informs us about the symbols and formula of substances involved in a reaction

(3) A chemical equation tells us about the atom or molecules of the reactants and products involved in a reaction

(4) A chemical equation represents energy changes during a reaction

(30.) Solid calcium oxide reacts vigorously with water to form calcium hydroxide accompanied by liberation of heat. This process is called slaking of lime. Calcium hydroxide dissolves in water to form its solution called lime water. Which among the following is (are) true about slaking of lime and the solution formed? (i) It is an endothermic reaction (ii) It is an exothermic reaction (iii) The pH of the resulting solution will be more than seven (iv) The pH of the resulting solution will be less than seven

(1) (i) and (ii) (2) (ii) and (iii)

(3) (i) and (iv) (4) (iii) and (iv)

(31.) Rusting of iron takes place only when both and are present.

(1) oxygen, moisture (2) oil, sand

(3) sand, water (4) none of the above

(32.) $2SO_2 + O_2 \rightarrow 2SO_3 +$ 42 k Cal. The above reaction is

(1) endothermic reaction

(2) exothermic reaction

(3) combination reaction

(4) displacement reaction

(33.) Correct balanced equation from the following reactions is :

(1) $K_2Cr_2O_7 + 8H_2SO_4 \rightarrow K_2SO_4 + Cr_2(SO_4)_3 + 3O_2 + 8H_2O$

(2) $K_2Cr_2O_7 + 8H_2SO_4 \rightarrow 2K_2SO_4 + Cr_2(SO_4)_3 + 3O_2 + 8H_2O$

(3) $2K_2Cr_2O_7 + 8H_2SO_4 \rightarrow 2K_2SO_4 + 2Cr_2(SO_4)_3 + 3O_2 + 8H_2O$

(4) $2K_2Cr_2O_7 + 4H_2SO_4 \rightarrow 2K_2SO_4 + Cr_2(SO_4)_3 + 3O_2 + 8H_2O$

(34.) Identify the oxidant given that: $V_2O_5 + 5Ca \rightarrow 2V + 5CaO$

(1) V (2) Ca

(3) O_2 (4) V_2O_5

(35.) When hydrogen sulphide gas is passed through a blue solution of copper sulphate, a black precipitate of copper sulphide is obtained and the sulphuric acid so formed remains in the solution. The reaction is an example of –

(1) a combination reaction

(2) a displacement reaction

(3) a decomposition reaction

(4) a double decomposition reaction

(36.) Write the balanced chemical reaction for the reaction of magnesium with hot water.

(1) $2Mg + 3H_2O \rightarrow 2MgOH + 3H_2$

(2) $Mg + 2H_2O \rightarrow Mg(OH)_2 + H_2$

(3) $2Mg + 3H_2O \rightarrow 3MgOH + 3H_2$

(4) $Mg + 3H_2O \rightarrow 2MgOH + 3H_2$

(37.) Formation of nitric oxide from nitrogen and oxygen is a reaction.

(1) combination (2) displacement

(3) calcination (4) roasting

(38.) Take about 1.0g $CaCO_3$ in a test tube. Heat it over a flame, when a colourless gas comes out. The reaction is called a

(1) decomposition reaction

(2) displacement reaction

(3) double decomposition reaction

(4) double displacement reaction

(39.) Three beakers labelled as A, B and C each containing 25 mL of water were taken. A small amount of NaOH, anhydrous $CuSO_4$ and NaCl were added to the beakers A, B and C respectively. It was observed that there was an increase in the temperature of the solutions contained in beakers A and B, whereas in case of beaker C, the temperature of the solution falls. Which one of the following statement(s) is(are) correct? (i) In beakers A and B, exothermic process has occurred. (ii) In beakers A and B, endothermic process has occurred. (iii) In beaker C exothermic process has occurred. (iv) In beaker C endothermic process has occurred.

(1) (i) only (2) (ii) only

(3) (i) and (iv) (4) (ii) and (iii)

(40.) Barium chloride on reacting with ammonium sulphate forms barium sulphate and ammonium chloride. Which of the following correctly represents the type of the reaction involved? (i) Displacement reaction (ii) Precipitation reaction (iii) Combination reaction (iv) Double displacement reaction

(1) (i) only (2) (ii) only

(3) (iv) only (4) (ii) and (iv)

WORKSHEET 2

(21.)	3	**(22.)**	1	**(23.)**	3
(24.)	1,4	**(25.)**	2	**(26.)**	3
(27.)	3	**(28.)**	2	**(29.)**	1,2,3,4
(30.)	2	**(31.)**	1	**(32.)**	2,3
(33.)	3	**(34.)**	4	**(35.)**	4
(36.)	2	**(37.)**	1	**(38.)**	1
(39.)	3	**(40.)**	4		