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Metallurgy abour Worksheet الملف

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HIGHER SECONDARY SECOND YEAR CHEMISTRY



	1			ALLUNG		
Cl	oose the correct	answer:				
1.	Bauxite has the	composition				
	a) Al ₂ O ₃	b) Al ₂ O ₃ .nH ₂ O	c) Fe ₂ O ₃ .2H ₂ O	d)None of these		
2.	Roasting of sulp is acidic. The ga		A).(A) is a colourle	ess gas. Aqueous solution of (A)		
	a)CO ₂	b) SO ₃	c)SO ₂	d) H ₂ S		
3.	Which one of th	Which one of the following reaction represents calcinations?				
	a) 2Zn + O ₂	→2ZnO	b) 2ZnS + 3O ₂ —	\rightarrow 2ZnO + 2SO ₂		
	c) $MgCO_3 \longrightarrow$	MgO + CO ₂	d)Both (a) and (c	:)		
4.	The metal oxide	which cannot be redu	ced to metal by car	bon is		
	a) PbO	b) Al ₂ O ₃	c) ZnO	d) FeO		
5.	Which of the m	etal is extracted by Hal	l-Heroult process?			
	a) Al	b) Ni	c) Cu	d) Zn		
6.	Which of the fol reduction is not		out the advantage o	f roasting of sulphide ore before		
	a) ΔG _f of sulp	hide is greater than t	those for CS ₂ and	H ₂ S.		
	b) ΔG _r ⁰ is negat	tive for roasting of su	alphide ore to oxi	de		
	c) Roasting of t	he sulphide to its oxi	ide is thermodyn	amically feasible.		
	d) Carbon and	hydrogen are suitabl	e reducing agents	s for metal sulphides.		
7.	Match items in	column - I with the	items of column	- II and assign the correct code		

	Column-I	Column-II	
A	Cyanide process	(i)	Ultrapure Ge
В	Froth floatation process	(ii)	Dressing of ZnS
С	Electrolytic reduction	(iii)	Extraction of Al
D	Zone refining	(iv)	Extraction of Au
		(v)	Purification of Ni

	A	В	С	D
(a)	(i)	(ii)	(iii)	(iv)
(b)	(iii)	(iv)	(v)	(i)
(c)	(iv)	(ii)	(iii)	(i)
(d)	(ii)	(iii)	(i)	(v)

- 8. Wolframite ore is separated from tinstone by the process of
 - a) Smelting

b) Calcination

c) Roasting

- d) Electromagnetic separation
- 9. Which one of the following is not feasible

a)
$$Zn(s) + Cu^{2+}(aq) \longrightarrow Cu(s) + Zn^{2+}(aq)$$

b)
$$Cu(s) + Zn^{2+}(aq) \longrightarrow Zn(s) + Cu^{2+}(aq)$$

c)
$$Cu(s) + 2Ag^{+}(aq) \longrightarrow 2Ag(s) + Cu^{2+}(aq)$$

d)
$$Fe(s) + Cu^{2+}(aq) \longrightarrow Cu(s) + Fe^{2+}(aq)$$

- 10. Electrochemical process is used to extract
 - a) Iron
- b) Lead
- c) Sodium
- d) silver
- 11. Flux is a substance which is used to convert
 - a) Mineral into silicate

- b) Infusible impurities to soluble impurities
- c) Soluble impurities to infusible impurities d) All of these
- 12. Which one of the following ores is best concentrated by froth floatation method?
 - a) Magnetite

b) Haematite

c) Galena

- d) Cassiterite
- 13. In the extraction of aluminium from alumina by electrolysis, cryolite is added to
 - a) Lower the melting point of alumina b) Remove impurities from alumina
- - c) Decrease the electrical conductivity d) Increase the rate of reduction
- 14. Zinc is obtained from ZnO by
 - a) Carbon reduction
- b) Reduction using silver
- c) Electrochemical process
- d) Acid leaching

15. Extraction of gold and silver inve by (NEET-2017)	olves leaching with cyanide ion. silver is later recovered
a) Distillation	b) Zone refining
c) Displacement with zinc	d) liquation
16. Considering Ellingham diagram alumina? (NEET-2018)	, which of the following metals can be used to reduce
a) Fe	b) Cu
c) Mg	d) Zn
17. The following set of reactions are	used in refining Zirconium
$Zr (impure) + 2I_2 \xrightarrow{523 \text{ K}} ZrI_4$ $ZrI_4 \xrightarrow{1800 \text{K}} Zr (pure) + 2I_2$	This method is known as
a) Liquation	b) van Arkel process
c) Zone refining	d) Mond's process
18. Which of the following is used fo	or concentrating ore in metallurgy?
a) Leaching	b) Roasting
c) Froth floatation	d) Both (a) and (c)
19. The incorrect statement among t	the following is
a) Nickel is refined by Mond's pr	rocess
b) Titanium is refined by Van Ar	kel's process
c) Zinc blende is concentrated by	y froth floatation
d) In the metallurgy of gold, the	metal is leached with dilute sodium chloride solution
20. In the electrolytic refining of cop	oper, which one of the following is used as anode?
a) Pure copper	b) Impure copper
c) Carbon rod	d) Platinum electrode
21. Which of the following plot gi	ves Ellingham diagram
a) Δ S Vs T	b) Δ G° Vs T
c) ΔG^0 Vs $\frac{1}{T}$	d) ΔG^0 Vs T^2
•	the formation of carbon monoxide

a)
$$\left(\frac{\Delta S^0}{\Delta T}\right)$$
 is negative

b)
$$\left(\frac{\Delta G^0}{\Delta T}\right)$$
 is positive

c)
$$\left(\frac{\Delta G^0}{\Delta T}\right)$$
 is negative

d) initially
$$\left(\frac{\Delta T}{\Delta G^0}\right)$$
 is positive, after $700^{\circ}C$, $\left(\frac{\Delta G^0}{\Delta T}\right)$ is negative

23. Which of the following reduction is not thermodynamically feasible?

a)
$$Cr_2O_3 + 2Al \longrightarrow Al_2O_3 + 2Cr$$
 b) $Al_2O_3 + 2Cr \longrightarrow Cr_2O_3 + 2Al$

b) Al,O,
$$+2Cr \longrightarrow Cr,O, +2Al$$

c)
$$3\text{TiO}_2 + 4\text{Al} \longrightarrow 2 \text{Al}_2\text{O}_3 + 3\text{Ti}$$
 d) none of these

- 24. Which of the following is not true with respect to Ellingham diagram?
 - a) Free energy changes follow a straight line. Deviation occurs when there is a phase change.
 - b) The graph for the formation of CO2 is a straight line almost parallel to free energy axis.
 - c) Negative slope of CO shows that it becomes more stable with increase in temperature.
 - d) Positive slope of metal oxides shows that their stabilities decrease with increase in temperature.