M.C.Q.							
1)	Themost abundant metalin the earth crust						
	a) Al	b) Fe	c) Ca	d) Na			
2)	Theimpurities associated a	re					
	a)Flux	b)Gangue	c) Slag	d) Ore			
3)	An ore after concentration v	was found to have basic in	purities. The flux which	ch can be used is			
	a) CaCO ₃	b) SiO ₂	c) FeO	d) Ca(OH) ₂			
4)	Choose the correct stateme	nt					
	a) Allore are mineral		b)Allmineralareore	es			
	c) Minerals are not ores		d) a & b				
5)	A metal oxide is reduced w	ith a metal, M_1 of pd 3 & C	Gp13. The process is kr	nown as & the metal			
	is						
	a)Pyrometallurgy&Mg		· -	d)Thermite & Al			
6)	Diaspore & Corundum are						
	a) Al & Fe	b) Fe & Al	c) Al & Al	d) Si & Al			
7)	Choose the correct option	_	_				
	a) Siderite \rightarrow FeCO ₃	2 0	c) Calamine \rightarrow ZnC	O_{3} d) a & c			
8)	Thesalt which is most unlik	•					
	a)Bromide	b)Sulphate	c)Oxide	d)Sulphides			
9)	During concentration of ore	by froth flotation, the ore	-				
	a) Ores are insoluble b) Sulphides ores are lighter						
	c) The surface is not wetted by H_2O d)Difference in densities						
10)	An ore contains Pbs with im the froth because	purity Zns. NaCN is adde	d in the froth flotation	process ZnS does not form			
	a) NaCN forms a complex	of ZnS on surface of ZnS	b)ZnS is not wetted b	oy pine oil			
	c) ZnS is wetted by H ₂ O		d) NaCN reacts with	ZnS ionic compound			
11)	Themethod used for concer	ntration of magnetic oreis					
	a) Gravity separation	b)Froth floatation	c)Magnetic separation	on d)Leaching			
12)	During froth flotation proc student added to		-	pear after formation. The			
	a) Pine oil	b)Cresol	c)Benzene	d) NaCN			
13)	Silver ore is related with Na	aCN _(aq) to					
	a) Reduce silver		b)Extract pure silver				
	c)Refine silver		d) To remove the imp	urities			

14)	Theprinciple involved in lea	chingis			
	a) Difference in volatility		b)Difference in densi	ty	
	c)Differencein solubility		d)Soluble complex formation		
15)	Heating of ore in presence o	fO2belowits meltingpoi	nt is known as		
	a)Roasting	b)Calcinations	c)Smelting	d) b & c	
16)	During electrolysis graphit	e is used as an electrode &	znotdiamond because		
	a) Graphite is cheaper		b) Graphite is soft		
	c)Graphite posses freeelect	tron while diamond does	n't d) Graphite is non r	eactive	
17)	Group 1 & 2 elements are e	xtracted by			
	a)Thermite process	b)Electrolytic method	c)Bessomerisation	d)Cupellation	
18)	Hydrometallurgy is used in e	extraction of			
	a)Sodium	b)Manganese	c) Iron	d) Silver	
19)					
	reduced with carbon are				
	a) ZnO & Fe_2O_3	b) CaO & Cr_2O_3	c) BaO & U_3O_8	d) $SiO_2 \& Al_2O_3$	
20)	Blister copperis				
	a) Pure copper	b) Ore of Cu	c)AlloyofCu	d) Impure copper	
21)	-	te processb)Electrolytic methodc)Bessomerisationd)Cupellationallurgy is used in extraction ofallurgy is used in extraction ofb)Manganesec) Irond) Silveretals are commercially produced by reduction of oxides by carbon. Theoxides we with carbon areFe2O3b) CaO & Cr2O3c) BaO & U3O8d) SiO2 & Aoper ispperb) Ore of Cuc) Alloy of Cud) Impure coroult's process cryolite is added to aluminatorethe conductivityb) Lowerthe meltingpointethe mobility of irond) All of aboveraction of metal charcoalpowder is sprinkledon top of molten metal. This is usefuliron of metalb) Formation of alloyc) Reductionnb) Zirconiumc) Ultrapure Sid) Nickel			
	•				
22)	-		-	This is useful in preventing	
	,	· •	c)Reduction	d) a & b	
23)	-				
	,	b)Zirconium	c)UltrapureSi	d) Nickel	
24)	Strongly				
	a)Roastingb)Calcinationsc)Smeltingd) b & cDuring electrolysis graphite is used as an electrode worldiamond becausea) Graphite is cheaperb) Graphite is softc) Graphite posses freeelectron while diamond doesn't d) Graphite is non reactiveGroup 1 & 2 elements are extracted bya) Thermite processb)Electrolytic methodc)Bessomerisationd)CupellationHydrometallurgy is used in extraction ofa)Sodiumb)Manganesec) Irond) SilverSeveral metals are commercially produced by reduced by carbon ared) Silvera) ZnO & Fe2O3b) CaO & Cr2O3c) BaO & U3O8d) SiO2 & Al2O3Blister copper isa) Aro of Fe2O3b) Ore of Cuc) Alloy of Cud) Impure coppera) Increase the conductivityb) Ore of Cuc) Alloy of Cud) Impure coppera) Increase the mobility of irond) All of aboveDuringextraction of metalb) Formation of alloyc) Reductiona) Oxidation of metalb) Formation of alloyc) Reductiond) a & bconerefining is used to obtain				
	This method is known as				
	a) Liquation	b)VanArkel	c)Zone refining	d)Distillation	
25)	metalis purified by	Mond'sprocess			
	a) Zr	b)Ti	c) Ge	d) Ni	
26)	The slagobtained during ma	nufacture of Cuis			
	a) CaSiO ₃	b) $FeSiO_3$	c) $CuSiO_3$	d) FeO	

27)	Theprincipleused in zone ref	fining			
	a)Fractionaldistillation		b)Adsorption		
	c)Fractionalcrystallisation		d)Chromatographic separation		
28)	In the reaction $2MO_{(s)} + C$	$M_{(s)} \rightarrow M_{(s)} + CO_{2(g)}$ the en	tropy of the reaction will		
	a) Decreases		b) Increases		
	c)Remain constant		d) May increases or decreases		
29)	In electrolytic refining of cop	oper, anode mud contains			
	a) Earthly impurities	b) Zn & Mn	c)Noble metal d)Oxides of Cu		
30)	Zn is extracted from ZnS. Th	he reducing agent used is	& method of refining is		
	a) Coke & Electrolysis		b)Mg&Liquation		
	c)Coke&Zonerefining		d)Coke & fractional distillation		
	(31 To 40 are match the f	following sets.)			
31)	Set 1	Set 2			
	1) Al	p) Haematite			
	2) Fe	q) Nuggets			
	3) Zn	r) Sphalerite			
	4) Ag	s) Feldspar			
		t)Limonite			
	a) 1-p, 2-t, 3-r, 4-q		b) 1-s, 2-p & t, 3-r, 4-q		
	c) 1-s, 2-r & t, 3-p, 4-q		d) 1-p, 2-t, 3-r, 4-s		
32)	Set 1	Set 2			
	1) Pigiron	p) Hard & brittle			
	2) Cast iron	q) Prepared from cast I	Fe		
	3) Wroughtiron	r) Prepared by methylp	igiron		
		s)Malleable			
		t) Fe + 4% C			
	a) 1-t, 2-p & r, 3-q & s		b) 1-t, 2-r , 3- s		
	c) 1-p, 2-r & t, 3-q & s		d) 1-p, 2-s & r, 3-t & q		
33)	Set 1	Set 2			
	1) $Cr_2O_3 + Al$	p) electrolysis			
	2) Zinc	q) Bayer's proce	288		
	3) $M_2O_3 + NaOH \rightarrow$	r) Thermite			
	Soluble $\xrightarrow{\Delta} M_2O_3$	s) HallHeroult			
	a) 1-r, 2-p, 3- s	b) 1-r, 2-s, 3- p	c) 1-s, 2-p, 3-q d) 1-r, 2-p, 3-q		
		\frown			

34)	Set 1	Set 2
,	1) Chromatography	p) Chemicalprocess
	2) Poling	q) Difference in solubility
	3) Liquation	r) Difference inmeltingpoint
	4) Zonerefining	s) Lowboilingpointmetal
		t) Adsorption
	a) 1-r, 2-p, 3-s, 4-q	b) 1-q, 2-r, 3-p, 4-s c) 1-t, 2-p, 3-s, 4-q d) 1-p, 2-p, 3-s, 4-q
35)	Set 1	Set 2
	1) Earthlyimpurities	p) Froth flotation
	2) Sulphideores	q) Magnetic separation
	3) Bauxide	r) Gravity separation
	4) Magnetite	s) Leaching
	a) 1-p, 2-r, 3-s, 4-q	b) 1-r, 2-p, 3-s, 4-q c) 1-q, 2-r, 3-p, 4-s d) 1-s, 2-p, 3-r, 4-q
36)	Given below are the different	nt temperature reactions & products during extraction of iron in blast furnace
	1) $500^{\circ}-800^{\circ}$ K	p) Pigiron
	2) 1270°	q) Molten slag
	3) 2170°	r) $C + O_2 \rightarrow 2CO$
	4) 2170	s) $3Fe_2 O_3 + CO \rightarrow 2Fe_3 O_4 + CO_2$
	5) > 2170°	t) $CaO + SiO_2 \rightarrow CaSiO_3$
	a) 1-s,2 q,3r,4-p	b) 1-s,t ; 2-r,3-q ,4-p
	c) 1-r,s ;2-t,3-p,4-q	d) 1-s,2-r,3-q,4-ps
37)	Set 1	Set 2
	1) Bauxite	p) Bayers
	2) Zincblend	q) BlastFurnace
	3) Copper pyrites	r) Hall-heroult
	4) Haematite	s) Bessemerisation
		t) Fire Clay cylindrical retort
	a) 1-r & p, 2-t, 3-s, 4-q	b) 1-p, 2-t, 3-s, 4-q c) 1-r, 2-s, 3-s, 4-q d) 1-r, 2-t, 3-s, 4-q
38)	Set 1	Set 2
	1) Zn	p) Automobiles
	2) Wroughtiron	q) Galvanising
	3) Steel	r) BellMeta
	4) Copper	s) MuntzMetal
		t) Anchors
	a) 1-s, 2-r, 3-t, 4-q	b) 1-q & r, 2-t, 3-p, 4-r & s
	c) 1-q, 2-s, 3-p, 4-r	d) 1-q, 2-t, 3-p, 4-r & s

39)	Set 1	Set 2					
~	1) Electrolysis	p) Widerangeoftemperature					
	2) Zonerefining	q) Adsorption					
	3) Blastfurnace	r) Electrode potential					
	4) Liquation	s) Noble gas atmosphere					
		t) Lowmeltingpoint					
	a) 1-r, 2-t, 3-p, 4-t	b) 1-r, 2-s, 3-p, 4-t c) 1-r, 2-s & t, 3-p, 4-q d) 1-t, 2-s, 3-p, 4-r					
40)	Set 1	Set 2					
	1) Non spontaneous	p) $\Delta G = 0$					
	2) spontaneous	q) K < 1					
	3) Equilibrium	r) ΔG decreases					
		s) K > 1					
t)							
	a) 1-q, 2-r & s, 3-p & t b) 1-q, 2-r & s, 3-p c) 1-t, 2-r & s, 3-p d) 1-q, 2-r, 3-p						
	Questions 41 to 51 are assertion reason type						
	a) Statement 1 is correct, statement 2 is the correct reason for statement 1						
		et, statement 2 is correct but does not give reason of for statement 2					
	c) Statement 1 is correc						
	d) Statement 1 is false, s						
41)	chemic	sium is mainly extracted by electrolysis of molten electrolyte and not by almethods.					
	Statement 2) The $\Delta_i H$	I of Mg is very low & hence it is very difficult to reduce $Mg^{2+} \rightarrow Mg_{(s)}$					
42)	Statement 1) Cuis of	btained by Then by pdt CO_2 obtained					
	Statement 2) Theby-	product obtained is SO_2 & is used in manufacture of sulphuric acid.					
43)	Statement 1) In Baye	rocess the ore is heated with Conc. Ca(OH) ₂ .					
	,	eused in Bayer's process is atmospheric & is soluble in NaOH therefore ore entrated.					
44)	Statement 1) Frothfle	otation is used for concentration of sulphideores.					
	Statement 2) Cresoli	s used as a depressant in froth flotation.					
45)	Statement 1) Metalo	xide can be easily reduced with carbon					
	Statement 2) Metal o	xide + C \longrightarrow Melted + CO $\Delta G = -x \text{ KJ}$					
46)	Statement 1) $\Delta G = -n$	FE ⁰ is applicable to metallurgy					
	Statement 2) If cellpo	otentialis negative electrolytic reduction of metalions is possible					

47)	State	ement	1)	Ultrapure silico	n ismanufactured b	oy vapour phase refinin	g		
,		ement	2)	-	fininggivesultrapt				
48)	State	ement	1)	Ni is converted	verted to Ni(CO) ₄ in Mond process				
	State	ement	2)	Ni(CO) ₄ is volat	4 is volatiles & the compound can be easily disposable				
49)	State	ement	1)	Mercuryispurif	y is purified by distillation				
	State	ement	2)	Mercury has low	vmeltingpoint				
				Tr	ue / false questior	ns (50-58)			
50)									
	1)	Ag&A	Auaro	emanufacturebyl	nydrometallurgy				
	2)	Fecar	bee	xtracted by electr	olyticmethod				
	3) Mg is extracted from aq MgCl ₂ by passing electric current								
	4)	Znise	extrac	cted from Zinc ble	end by usingcoal or	anthracitecoal			
	a) T	FFT		b) T	FTT	c) FFFT	d) FFTT		
51)	The	metals	whic	h can be extracted	using carbon/coke	2			
	1)	Magn	esiu	n					
	2) Iron								
	3)	Potas	sium						
	4)	Zinc							
	a) F	ΓTF		b) T	TFF	c) TTFT	d) FTFT		
52)									
	1)	$\Delta G^0 =$							
	2)	Theat	ove	equation is the prin	nciple used in electr	olytic reduction for ma	nufactureofmetals		
	3)	$2Cu_2S$	$S_{(s)} +$	$3O_{2(g)} \xrightarrow{\Delta}$	$2Cu_2O_{(s)} + 2SO_2$	ΔS is positive in t	his reaction		
	4)	$\Delta G = A$	ΔH–	$T\Delta S$ if free energy	gy change is negati	ve the reaction is spon	taneous		
	a) T	FFT		b) T	TFT	c) TTTT	d) TFTF		
53)									
	1)	Kaoli	nite i	s an ore of Al					
	2)	Sphal	erite	is an ore of sulphi	deofCu				
	3)	Malao	chite	is an oxide ore of	copper				
	4)	sphale	eritei	s iron carbonate					
	a) T	FTT		b) T	TFT	c) TFFT	d) TFFF		

54)									
	1)	Ore is heated strongly	duringcalcinations to remo	oveallvolatileimpuriti	es				
	2)	Ore is heated with oxy	gen duringroastingto con	vert sulphide to oxide					
	3)	Cryolite is added to ba	uxite in Hall Heroult's pro	ocess to increase solubi	lityofbauxitein				
	4)	Afterleachingofbaux	ite, it is directly used as an	electrolyte					
	a) T	TFF	b) TTFT	c) TTTF	d) TFFT				
55)									
	1.	Thereduction reaction	by acceptingelectrons is	known as electro natio	n				
	2.	In extraction of Gold a	and silver by process of le	aching K>1					
	3.	If $\Delta H = -1369 \text{ KJ/mc}$	$\Delta S = +26 \text{ J/mol}^{-1} \text{ T} = -26 \text{ J/mol}^{-1} \text{ J} = -26 \text{ J/mol}^{-1} \text{ T} = -26 \text{ J/mol}^{-1} \text{ J} = -26 \text{ J/mol}^{-1} \text{ T} = -26 \text{ J/mol}^{-1} \text{ J} = -26 \text{ J/mol}^{-1} \text{ J} = -26 \text{ J} = -26 \text{ J/mol}^{-1} \text{ J} = -26 $	400K for the reaction					
		$A + B \rightarrow C$ the reaction	n is non spontaneous						
	a) T	TTT b) TTF c) TFT d) TFF							
56)									
	1.	Chewingof cathode occurs in Hall Heroult's process							
	2.	When water is added a	fter digesting boxide, CO	2 is bobbled to nutrelis	e the solution				
	3.	HCl can not be replace	d in (2) because AlCl ₃ is f	ormed which is highly	soluble				
	a) F	ΓF	b) TTF	c) FFF	d) FTT				
57)									
	1.	Alis used in preparation of parts of airplane and manufacture of alloy alnico.							
	2.	Copperis used in prep	aration of tubes of boilers	, delta metaland muntz	zmetal.				
	3.	Copperand aluminum	areused in alloys–Duralu	min, Aluminum bronz	e.				
	4.	Cu &Zn are used in ma	anufacture of German Sil	ver.					
	a) T	FTF	b) TTFT	c) TFFT	d) TFTT				
58)									
	1.	Wet metallurgical pro	cess is used for pyrites or	es of lowergrade.					
	2.	$2Cl^{-}+2H_2O \rightarrow 2OH^{-}+H_2$ direction.	H_2 +Cl ₂ The cell potential is	-2.186V.This reaction	will take place in forward				
	3.	Pure Zn metal is called	l spleter.						
	4.	The abundance of Ali	s highest .Its place is third	l&isabout 8.3% by we	eight.				
	a) T	FFT	b) TTTT	c) FTFT	d) FFFT				

Linked Comprehension type:

I. The ore is concentrated by A) Froth flotation B) Magnetic separation A) Froth flotation D) a & b C) Leaching D) a & b II. The impurities of sulfur can be removed by A) Treatment with NaOH B) Treatment with HCl C) Roasting D) Calcinations III. If limestone and sand are added during smelting the nature of impurities are A) Acidic and basic B) Amphotric C) Acidic D) Basi (a) i-B, ii-C, iii-B, iv-C (d) i-A, ii-C, iii-D, iii-D, iv-A C) i-A, ii-C, iii-B, iv-C (d) i-A, ii-C, iii-A, iv-B 55) AG ⁰ _r for CuS, CaS, SO ₂ , CS ₂ & CuO are -49, -1230, -300.4, +63.6 & -12 respectively. 12 i. The most stable and unstable compounds are A) SO ₂ & CaS B) CaS & CS ₂ C) CuS & SO ₂ D) CaS ii. CuS & CaS are reduced with Carbon to give Cu or Ca and CS ₂ . The reactive be spontaneous is						
C) Leaching D) a & b II. The impurities of sulfur can be removed by A) Treatment with NaOH B) Treatment with HCl C) Roasting D) Calcinations III. If limestone and sand are added during smelting the nature of impurities are A) Acidic and basic B) Amphotric C) Acidic D) Basi (a) i-B, ii-C, iii-C, iv-B (b) i-C, ii-D, iii-D, iv-A (c) i-A, ii-C, iii-B, iv-C (d) i-A, ii-C, iii-A, iv-B 55) ΔG_{r}^{0} for CuS, CaS, SO ₂ , CS ₂ & CuO are -49, -1230, -300.4, +63.6 & -12 respectively. i. The most stable and unstable compounds are A) SO ₂ & CaS B) CaS & CS ₂ C) CuS & SO ₂ D) CaS ii. CuS & CaS are reduced with Carbon to give Cu or Ca and CS ₂ . The reaction						
 II. The impurities of sulfur can be removed by A) Treatment with NaOH B) Treatment with HCl C) Roasting D) Calcinations III. If limestone and sand are added during smelting the nature of impurities are A) Acidic and basic B) Amphotric C) Acidic D) Basis (a) i-B, ii-C, iii-C, iv-B (b) i-C, ii-D, iii-D, iv-A (c) i-A, ii-C, iii-B, iv-C (d) i-A, ii-C, iii-A, iv-B 55) AG⁰_r for CuS, CaS, SO₂, CS₂ & CuO are -49, -1230, -300.4, +63.6 & -12 respectively. i. The most stable and unstable compounds are A) SO₂ & CaS B) CaS & CS₂ C) CuS & SO₂ D) CaS 						
A) Treatment with NaOH C) Roasting III. If limestone and sand are added during smelting the nature of impurities are A) Acidic and basic B) Amphotric C) Acidic D) Basi (a) i-B, ii-C, iii-C, iv-B (b) i-C, ii-D, iii-D, iv-A (c) i-A, ii-C, iii-B, iv-C (d) i-A, ii-C, iii-A, iv-B 55) ΔG^0_{f} for CuS, CaS, SO ₂ , CS ₂ & CuO are -49, -1230, -300.4, +63.6 & -12 respectively. i. The most stable and unstable compounds are A) SO ₂ & CaS B) CaS & CS ₂ C) CuS & SO ₂ D) CaS ii. CuS & CaS are reduced with Carbon to give Cu or Ca and CS ₂ . The reaction						
C) RoastingD) CalcinationsIII.If limestone and sand are added during smelting the nature of impurities are A) Acidic and basicB) AmphotricC) AcidicD) Basi(a) i-B, ii-C, iii-C, iv-B(b) i-C, ii-D, iii-D, iv-A (c) i-A, ii-C, iii-B, iv-C(d) i-A, ii-C, iii-A, iv-B $-1230, -300.4, +63.6 & -1230, -300.4, +63.6 & -1230, -300.4, +63.6 & -1230, -300.4, +63.6 & -1230, -300.4, +63.6 & -1230, -300.4, +63.6 & -1230, -300.4, +63.6 & -1230, -300.4, -1230, -300.4, -1230, -300.4, -1230, -300.4, -1230, -300.4, -1230, -300.4, -1230, -300.4, -1230, -300.4, -1230, -300.4, -1230, -300.4, -1230$						
 III. If limestone and sand are added during smelting the nature of impurities are A) Acidic and basic B) Amphotric C) Acidic D) Basi (a) i-B, ii-C, iii-C, iv-B (b) i-C, ii-D, iii-D, iv-A (c) i-A, ii-C, iii-B, iv-C (d) i-A, ii-C, iii-A, iv-B 55) ΔG⁰_f for CuS, CaS, SO₂, CS₂ & CuO are -49, -1230, -300.4, +63.6 & -12 respectively. i. The most stable and unstable compounds are A) SO₂ & CaS B) CaS & CS₂ C) CuS & SO₂ D) CaS ii. CuS & CaS are reduced with Carbon to give Cu or Ca and CS₂. The reaction of the compound of the compound of the carbon to give Cu or Ca and CS₂. 						
A) Acidic and basicB) AmphotricC) AcidicD) Basi(a) i-B, ii-C, iii-C, iv-B(b) i-C, ii-D, iii-D, iv-A(c) i-A, ii-C, iii-B, iv-C(d) i-A, ii-C, iii-A, iv-B55) ΔG^0_f for CuS, CaS, SO2, CS2 & CuO are -49, -1230, -300.4, +63.6 & -12respectively.i.The most stable and unstable compounds areA) SO2 & CaSB) CaS & CS2C) CuS & SO2D) CaSii.CuS & CaS are reduced with Carbon to give Cu or Ca and CS2. The reaction						
 (a) i-B, ii-C, iii-C, iv-B (b) i-C, ii-D, iii-D, iv-A (c) i-A, ii-C, iii-B, iv-C (d) i-A, ii-C, iii-A, iv-B 55) ΔG⁰_f for CuS, CaS, SO₂, CS₂ & CuO are -49, -1230, -300.4, +63.6 & - 12 respectively. i. The most stable and unstable compounds are A) SO₂ & CaS B) CaS & CS₂ C) CuS & SO₂ D) CaS ii. CuS & CaS are reduced with Carbon to give Cu or Ca and CS₂. The reaction 	c					
 (c) i-A, ii-C, iii-B, iv-C (d) i-A, ii-C, iii-A, iv-B 55) ΔG⁰_f for CuS, CaS, SO₂, CS₂ & CuO are -49, -1230, -300.4, +63.6 & -12 respectively. i. The most stable and unstable compounds are A) SO₂ & CaS B) CaS & CS₂ C) CuS & SO₂ D) CaS ii. CuS & CaS are reduced with Carbon to give Cu or Ca and CS₂. The reaction 						
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 respectively. i. The most stable and unstable compounds are A) SO₂ & CaS B) CaS & CS₂ C) CuS & SO₂ D) CaS ii. CuS & CaS are reduced with Carbon to give Cu or Ca and CS₂. The reaction 						
A) $SO_2 \& CaS$ B) $CaS \& CS_2$ C) $CuS \& SO_2$ D) CaS ii. CuS & CaS are reduced with Carbon to give Cu or Ca and CS_2 . The reaction	9, -1230, -300.4, +63.6 & - 127.2 KJ/ mol ⁻¹					
ii. CuS & CaS are reduced with Carbon to give Cu or Ca and CS ₂ . The react	i. The most stable and unstable compounds are					
	& SO ₂					
	ion which will					
A) Reduction of CuS because ΔG is positive						
B) Reduction of CaS because ΔG is negative						
C) Both are spontaneous because ΔG is positive						
D) Both are non spontaneous because ΔG is positive						
iii. The ΔG^0 for the reaction $2CuS + 3O_2 \rightarrow 2CuO + 2SO_2$ is & is	the reaction					
A) – 756.8KJ & Spontaneous B) +756.8KJ & non- Sponta	B) +756.8KJ & non- Spontaneous					
C) -378.4KJ & Spontaneous D) +378.4 KJ & non-Spont	aneous					
(a) i-B, ii-D, iii-A (b) i-D, ii-C, iii-B (c) i-B, ii-D, iii-C (d) i-C, i						

ANSWER	KEY
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1	А	16	С	31	В	46	С
2	В	17	В	32	А	47	D
3	В	18	D	33	D	48	А
4	А	19	А	34	С	49	А
5	D	20	D	35	В	50	А
6	С	21	В	36	D	51	D
7	D	22	А	37	Α	52	В
8	В	23	С	38	D	53	С
9	С	24	В	39	В	54	А
10	А	25	D	40	В	55	В
11	С	26	В	41	А	56	D
12	b	27	С	42	D	57	В
13	D	28	В	43	D	58	А
14	D	29	С	44	С	59	D
15	А	30	D	45	А	60	А