Basic Principle of Extraction

Level - 1		DTS 1 - 5

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
C	A	D	C	D	A	B	B	B	D	C	C	B	A	D
16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
D	D	B	A	D	A	C	B	B	D	C	C	C	A	B
31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
C	C	B	A	C	B	C	C	C	C	C	A	B	A	B
46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
B	A	B	A	A	D	A	C	A	B	C	C	C	D	D
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75
B	C	A	C	B	C	C	B	A	D	C	D	B	B	A

Level - 2		DTS 6 - 10

76	77		78		79	80	81	82	83	84
B	[A-r] [B-q, r, s] [C-p, s] [D-p, q]		[A-r] [B-s] [C-t] [D-q] [E-p]		B	B	D	B	D	B
85	86	87	88	89	90	91	92	93	94	95	96			
D	B	D	A	B	A	AB	A	BCD	ABC	CD	[A-s] [B-r] [C-q] [D-p]			
97			98	99	100	101	102	103	104	105	106	107	108	109
[A-s] [B-q] [C-r] [D-p]			A	C	B	BC	A	C	B	D	D	AD	B	C
110	111	112	113	114	115	116			117					
B	ABD	AB	ABD	D	BCD	[A-p, s] [B-q, r] [C-p, r, t] [D-p, s]			[A-q, s] [B-r] [C-q, r, s] [D-p]					
118			119	120	121		122	123	124	125				
[A-q, r, s] [B-p, q, r, s] [C-q, r] [D-p, q, r]			BC	AD	ABCD		AB	ABC	ACD	AB				

Numerical Value Type		DTS - 11

126	127	128	129	130	131	132	133	134	135
2	7	6	6	0	0	4	4	2	2

JEE Main (Archive)												**DTS 1 - 2**		

1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
D	D	B	C	D	C	A	C	A	B	D	C	C	C	A
16	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
A	B	B	C	B	C	B	D	A	C	B	A	A	A	C
31	**32**	**33**	**34**											
B	A	C	B											

JEE Advanced (Archive)		**DTS 1 - 2**

1. During roasting, in excess supply of air, in a reverberatory furnace the following reactions occur :

$2PbS + 3O_2 \longrightarrow 2PbO + 2SO_2$; $\qquad PbS + 2O_2 \longrightarrow PbSO_4$

$PbSO_4 + PbS \longrightarrow 2Pb + 2SO_2$; $\qquad PbS + 2PbO \longrightarrow 3Pb + SO_2$

2. [A-S] [B-P] [C-Q] [D-R] [E-T] $\qquad\qquad$ **3.(C)**

4. **(i)** Metals generally occur as oxides, carbonates, sulphides which can be calcinated or roasted.

(ii) Zone refining method is based on the difference in solubility of impurities in molten and solid states of the metal. This method can be used for those metals which can be readily melted and can be easily crystallized out from the melt, e.g. Ge, Si, etc. $\qquad$ **5.(D)**

6. Sodium chloride is added to prevent hydrolysis of magnesium chloride and also to provide conductivity to the electrolyte. It also lowers the fusion temperature of anhydrous $MgCl_2$.

7. Chalocite (Cu_2S) being a sulphate ore, has to be roasted (heated in excess of air) and not calcinated, so as to convert it to its oxide (Cu_2O).

8. Following reactions occur during recovery of lead (Pb) from galena (PbS).

$2PbS + 3O_2 \longrightarrow 2PbO + 2SO_2 \uparrow$

$PbS + 2PbO \longrightarrow 3Pb + SO_2 \uparrow$

9.(BD) $\qquad$ **10.(B)** $\qquad$ **11.(B)** $\qquad$ **12.(A)** $\qquad$ **13.(C)**

14. [A-p, r] [B-p] [C-q] [D-s] $\qquad$ **15.(B)** $\qquad$ **16.** [A-P] [B-A] [C-P, R] [D-P, S]

17.(ACD) $\qquad$ **18.(B)** $\qquad$ **19.(A)** $\qquad$ **20.(CD)** $\qquad$ **21.(BCD)**

22.(BCD) $\qquad$ **23.** [A-P, Q, S] [B-T] [C-Q, R] [D-R] $\qquad$ **24.(ABC)**

25. 6.47 kg $\qquad$ **26.(B)** $\qquad$ **27.(ACD)**