If a salt is formed from the:

Conjugate Acid of a	and the Conjugate Base of a	The Solution Will be
Strong base	Strong acid	Neutral
Strong base	Weak acid	Basic
Weak base	Strong acid	Acidic
Weak base	Weak acid	$K_a > K_b$ Acidic $K_a < K_b$ Basic $K_a = K_b$ Neutral

Na_3CO_3 Na^+ conjugate acid of a strong base (NaOH).
CO_3^{2-} conjugate base of a weak acid (HCO_3^-).
Therefore the solution will be basic.

KI K^+ conjugate acid of a strong base (KOH).
I^- conjugate base of a strong acid (HI).
Therefore the solution will be neutral.

NH_4Cl NH_4^+ conjugate acid of a weak base (NH_3).
Cl^- conjugate base of a strong acid (HCl).
Therefore the solution will be acidic.

$Al_2(SO_4)_3$ Al^{3+} conjugate acid of a weak base ($Al(OH)_2^+$).
SO_4^{2-} conjugate base of a weak acid (HSO_4^-).
Therefore, it is necessary to look at K_a and K_b values
Al^{3+} $K_a = 1.0\times10^{-5}$ ($Al(OH)_2^+$ $K_b = 1.0\times10^{-13}$)
SO_4^{2-} $K_b = 8.3\times10^{-13}$ (HSO_4^- $K_a = 1.2\times10^{-2}$)
Therefore since $K_a > K_b$ the solution will be acidic

K_a values for all ions listed below.

Ion	Conjugate	Conjugate Strong/Weak	K_a (Ion)	K_b (Ion)
Na^+	NaOH	Strong	N/A	
CO_3^{2-}	HCO_3^-	Weak		2.1×10^{-4}
NH_4^+	NH_3	Weak	5.6×10^{-10}	
Cl^-	HCl	Strong		N/A
K^+	KOH	Strong	N/A	
I^-	HI	Strong	N/A	
Al^{3+}	$Al(OH)_2^+$	Weak	1.0×10^{-5}	
SO_4^{2-}	HSO_4^-	Weak		8.3×10^{-13}