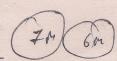
50) Reduction formula (71) 6m



1. Ssin xdre

let In = Ssinn xdx.

where n is positive Integer

In = Ssinn-in (sinne) dx

Applying the method of integration by parts, we get

In = Sinn-1x (-cosx) - sinn-2 x (60s n) (-cosx) dx.

= - sinn-1 x cosx + (n-1) Ssinn-2 x (os2 x dx.

= - Sihn-12 cosx + (n-1) Ssinn-2 x[1-Sin2x] dx.

= - Sinn-1 x cosse + (n-1) s (sinn-2 x - Sin x) die

= -Sin^-1 x cosx + (n-i) sin^-2 xdx - (n-i) sin^2 xdx

In 2 - Sinn-1 x cosx + (n-1) In-2 - (n-1) In

In +(n-1) In = - Sinn-1 x cosx +(n-1) In-2.

In[/+(n-1)] z -sinn-1 x Cosx + (n-1) In-2

nIn = - Sinn-1 x Cosx + (n-1) In-g

In = - 1 Sin n-1 x court + n-1 In-2

This is the reduction formula for Ssin redx.