

Date Planned : __ / __ / __	Daily Tutorial Sheet - 4	Expected Duration : 90 Min
Actual Date of Attempt : __ / __ / __	Level - 1	Exact Duration : _____

46. Evaluate the following Integrals.

(i) $\int e^x \left(\frac{1-x}{1+x^2} \right)^2 dx$ (ii) $\int e^x \left(\frac{1-\sin x}{1-\cos x} \right) dx$ (iii) $\int \sqrt{x} (\log x)^2 dx$
 (iv) $\int x^2 a^x dx$ (v) $\int \log (\sqrt{1-x} + \sqrt{1+x}) dx$ (vi) $\int \cos x \log \left(\tan \frac{x}{2} \right) dx$

47. $\int [\sqrt{\tan x} + \sqrt{\cot x}] dx$

48. $\int \frac{1}{1+3\sin^2 x} dx$

49. $\int \frac{d\theta}{(\sin \theta - 2 \cos \theta)(2 \sin \theta + \cos \theta)}$

50. $\int \frac{1}{p+q \tan x} dx$

51. $\int \frac{1}{\sin^2 x + \sin 2x} dx$

52. $\int \frac{2 - \sin x}{2 \cos x + 3} dx$

53. $\int \frac{1}{1 - \cot x} dx$

54. $\int \sqrt{\frac{a+x}{a-x}} dx$

55. $\int x \sqrt{\frac{a^2 - x^2}{a^2 + x^2}} dx$

56. $\int \frac{\sin^{-1} x}{(1-x^2)^{3/2}} dx$

57. $\int \log (1+x^2) dx$

58. $\int \sin x \log (\sec x + \tan x) dx$

59. $\int \frac{\cos x}{\cos (x-a)} dx$

60. $\int \tan^{-1} \sqrt{\frac{1-x}{1+x}} dx$