LAB 3

AIM: 8087 programs using Transcendental Instructions (Trigonometric and exponentiation instructions)

1. Compute tan(x)
2. Compute sin(x)
3. Compute cos(x)
4. Compute x^y
5. Compute xsqrt(y) + ysqrt(x)
6. Find resonance frequency.
7. Compute tan inverse (y/x)
8. Compute area of a cone.

Transcendental Instructions

FPTAN – Compute the values for a ratio of Y/X for an angle in ST. The angle must be in radians, and the angle must be in the range of $0 < \text{angle} < \pi/4$.

F2XM1 – Compute $Y=2x-1$ for an X value in ST. The result Y replaces X in ST. X must be in the range $0 \leq X \leq 0.5$.

FYL2X - Calculate Y (LOG2X).X must be in the range of $0 < X < \infty$ any Y must be in the range $-\infty < Y < +\infty$

FYL2XP1 – Compute the function Y (LOG2(X+1)).This instruction is almost identical to FYL2X except that it gives more accurate results when compute log of a number very close to one.

Other Useful Instructions for today's lab work

FPRNDINT Round to integer

FSCALE Scale

FSQRT Square root

FXCH Destination – Exchange the contents of ST with the contents of a specified stack element.

FXCH ST(5) ;Swap ST and ST(5)