SP(LAB – 3)

3.2) How does the quality of reconstruction vary within the interval [0, 2]? Give explanation for your observations.

Ans: The reconstructed signal is almost matched to the original signal in the center and deviates more at the ends i.e., the quality is good at the center and not ends.

This is due to the fact that we are doing interpolation only for a finite value, this sinc waves are contributing the centre region are present while others are missing.

3.3) As Ts decreases we get closer to the exact reconstruction of the original function x(t).

3.4) The nyquist rate of the given signal is 10π.

Observstions:

i)For Ts>0.2 aliasing occurs and so we cannot reconstruct the given function x(t).

ii) when aliasing happens, the higher frequency component will be corrupted and appears as a lower frequency component.