Ans 2)

(a) Some of these plots are similar because cos(x) is a periodic function and for certain fo (eg. 2 & 6) the result is the same as the function repeats itself after that specific interval of time.

No. They do not reflect the true frequency content. The analog frequnecy is not necessarily represented in the discrete signal.

(b) Aliasing occured at frequencies > half the sampling frequency and the original frequency component was lost and components from the further sampling periods were observed. fn=fs-fo is the new observed frequency in the above mentioned cases.

(c) Now as the fo<<fs we can clearly see the rough pattern of the analog signal.