CSE 311 Section B Class Test

Time: 35 minutes   Full marks: 20
(with submission)

1. Suppose, your roll number is *x* (the range for *x* is 1-121). Then, *m(t) = cos(x)cos(2xt)*.
For *x%3=0*, *x%3=1* and *x%3=2*, the carriers are *cos1000πt*, *cos2000πt* and *cos3000πt*
respectively.
   a. Write down the exact equation of *m(t)* for your particular case.
   b. Draw the spectrum of *m(t)* w.r.t *f* (instead of *ω*).
   c. Draw the spectrum of DSB-SC w.r.t *f*.
   d. Draw the spectrum of SSB-SC (for LSB) w.r.t *f*.
   e. Draw the spectrum of SSB-SC (for USB) w.r.t *f*.
For the questions 1(c)-1(e), show the necessary calculation steps.