6.   (a) State and prove sampling theorem.   **10**
    (b) Draw the block diagram of superhetrodyne receiver and describe the function of   **10**
        each block.

                                                                        20

7.   Write short notes on any **four** :—
       (a) Pre-emphasis and De-emphasis
       (b) ISB transmission
       (c) Adaptive Delta modulation
       (d) AGC
       (e) Companding.