Department of Mathematics
MTL 390 (Sampling Distribution)
Tutorial Sheet No. 6
(Answers to Selected Problems)

2. Test statistic value, $T_0 = 1.02$, Reject H_0 if T_0 does not belongs to $(-t_{n-2,0.05/2}, t_{n-2,0.05/2}) = (-2.06, 2.06)$. Decision: Do not reject.

3. $Z_0 = -2.755$. Decision: Do not reject for both $\alpha = 5\%$ and 95%.

4. $T_0 = 2.7746$, $t_{6,.025} = 2.447$. Decision: Reject H_0.

5. $\tau = .5111$

6. $\rho((A, B) = -.02121,\ \rho((B, C) = -.29697,\ \rho((A, C) = .6363.$

7. $r = -.85664$. Decission: Reject H_0.

8. (b) $\rho = 4/5$

9. $\rho = 0$, the least square regression lines are $x = 2$ and $y = 1.8$. Since the lines are parallel to x and y axis respectively, therefore, they are perpendicular.

10. (i) $y = 2.458 + .388x$
    (iii) $\hat{\alpha} = 2.458,\ \hat{\beta} = .388,\ \hat{\sigma^2} = .319$
    (iv) $\alpha \in (1.1553, 3.7607)$
    $\beta \in (.0135, .7625)$

11. No.