course code :- MCA 25

Subject :- Probability and statistics

Date :- 07/05/2018 Time :- 2 pm to 5 pm

class :- FYMCA

semester :- II

Q.1) a) Theory, $P(A) = \frac{23}{45} = 0.5111$

or

$\bar{x} = 20.2$, $\sigma_x = 4.49$, mode = 21.56

KPS = −0.3031

b) a) 0.88 b) 0.42 c) 0.46

Que 2) a) $t = -0.7746$

Hypothesis is Accepted

or

$\chi^2 = 1$, Hypothesis is Accepted.

b) i) $\bar{x} = 13.875$, median = 18.5, mode does not exist.

ii) $E[X-1]^2 = 7/8$

Que 3 a) $\bar{X} = 1$ and $\bar{Y} = 2$, $\gamma = -0.86$

$b_{yx} = -\frac{1}{2}$, $b_{xy} = \frac{-3}{2}$, $\sigma_y^2 = 4$

or

$f_x(x) = e^{-x}$, $f_y(y) = e^{-y}$, X and Y are independent

~~Que 2) a~~

Que 3) b) correct mean = 59.08
correct SD = 20.09

Que 4) a) Theory

or

$P[6 < X < 8] = 0.1667$

uniform = 0.1359

Exponential = 0.0888

b) $K = \frac{1}{10}$, minimum value of $c = 4$

Que 5) a) i) $Z = 1.154$, Boys performed better than girls.

ii) Theory

b) i) $E[X] = 2$, $V[X] = 1$

ii) $P'(A) = 0.41$, $P'(C) = 0.3529$, $P'(D) = 0.2352$