

KHATRA ADIBASI MAHAVIDYALAYA
INTERNAL ASSESSMENT 6th SEM 2020
SUB: MATH (PROG^{GE} | ~~GE~~)
PAPER : SP/MTH/601 / DSE-1B

FM-10

1. Answer any two questions :

5x2=10

- (i) The random variable X is normal (m, σ) . Find the distribution of $Y = aX + b$, where a, b are constant.
- (ii) If X and Y are independent binomial variates (n_1, p) and (n_2, p) respectively then show that $U = X + Y$ is a binomial $(n_1 + n_2, p)$ variate.
- (iii). (a) Three persons toss a coin in succession and the first to obtain a head wins the game, find the chance of winning the game of second person.
- (b) A card is drawn from a pack. what is the probability that it is queen of spades?
- (iv) State and prove Chebyshev's inequality.