ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

SOLUTION OF WORKSHEET-30

SUBJECT – STATISTICS

Term : FINAL

Topic – PROBABILITY DISTRIBUTION **Class: XII**

Full Marks: 15 **Date:18.01.2021**

(i) Values of the random variable are always

a) Positive real numbers b) negative real numbers

c) both d) none of these

(ii) For a negative random variable X, Var(X) must be

a) Positive b) Negative c) 0 d) none of these

(iii) Binomila distribution is symmetric when

a) $p< \frac{1}{2}$ b) $p> \frac{1}{2}$ **c) $p= \frac{1}{2}$** d) none of these

(iv) Binomial distribution tends to Poisson distribution when p is too

a) small **b) large** c) 0.5 d) none of these

(v) A Poisson distribution has double modes at X=5 and X=6, then parameter is

a) 5 **b) 6** c) 5.5 d) none of these

(vi) $X \sim Poisson(1), then\ \beta_1$ is equal to

a) 1 b) 2 c) 4 d) none of these

(vii) $X \sim Poisson(1), P(1 \leq X \leq 2)$ is

a) $\frac{2}{e}$ b) $\frac{2}{3e}$ **c) $\frac{3}{2e}$** d) none of these

(viii) If for a random variable $X \sim Poisson(1)$, $E(X-E(X))^3$ is equal to

a) 0 **b) 1** c) 4 d) none of these

(ix) If a random variable X defines waiting time in a bus stand, then X follows

a) binomial **b) Poisson** c) Uniform d) none of these

(x) If X$\sim Poisson(2)$, then P(X= 3) is

a) $2e^{-2}$ **b)** $\frac{4}{3}e^{2}$ c) $2e^{-1}$ d) none of these

(xi) If X$\sim Poisson(1)$, then P(X= 0) is

a) $2e^{-2}$ b) $2e^{2}$ **c)** e^{-1} d) none of these

(xii) Standard deviation of a Poisson distribution is 2. Then the value of β_2 is

a) **0.25** b) 0.75 c) 0.57 d) none of these

(xiii) The third order central moment of Bin (n, $\frac{1}{2}$) is

a) **0** b) n c) np d) none of these

xiv) The variance of a standard random variable is

a) 0 **b)1** c) 2 d)none of these

xv) The mean of a standard random variable is

a) **0** b)1 c) 2 d)none of these

- **Prepared by**
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