ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

WORKSHEET-16

SUBJECT – STATISTICS

Term : PRE TEST

Topic – POISSON DISTRIBUTION **Class: XII**
Full Marks: 15 **Date:17.06.2020**

Q1. Select the correct alternative of the following questions.

(i) X$\sim Poisson(\lambda - 1)$, then rth order factorial moment $\mu_{[r]} =$
a) λ^r b) λ^{r+1} c) λ^{r-1} d) none of these

(ii) A random variable X denotes no of crimes committed in a year. The average of X is 3. Then the variance of X is
b) 2 b) 3 c) 2.25 d) none of these

(iii) Poisson distribution has double modes at X= 8 and X=9, then CV is
a) 100% b) 200% c) 33.33% 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 probability distribution which has mean is greater than its standard deviation is

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

(xiv) The probability that an individual will suffer a bad reaction from a particular injection is 0.001. Find the probability that out of 2000 individuals more than 2 individuals will suffer the bad reaction

a) $1-\frac{2}{e^2}$ b) $1-\frac{3}{e^2}$ c) $1-\frac{5}{e^2}$ d) none of these

(xv) If X follows Poisson distribution satisfying P(X=0) = P((X=1),then P(X $>$ 0)

a) 0.8647 b) 0.6847 c) 0.4867 d) none of these

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Prepared by

Sanjay Bhattacharya