ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

SOLUTION OF WORKSHEET-11

SUBJECT – STATISTICS

Term : 1st

Topic – BINOMIAL DISTRIBUTION **Class: XII**

Full Marks: 15 **Date:11.06.2020**

Q1. Select the correct alternative of the following questions.

(i) The expectation in Binomial distribution (n, $\frac{1}{3}$) is

a) $\mathbf{n\frac{1}{3}}$ b) n(1- p) c) p(1-p) d) none of these

(ii) The variance in Binomial distribution (5, $\frac{1}{2}$) is

b) 1.20 **b) 10.25** c) 2.25 d) none of these

(iii) For a binomial distribution if mean is equal to its variance, then p is equal to

a) 0 b) 1 **c) either 0 or 1** d) none of th

(iv) The binomial distribution(n+2, $\frac{p}{2}$) is symmetric if and only if

a) p = 1 b) p > 1 c) p< 1 d) none of these

(v) The binomial distribution(n+3, p) is positivey skewed if and only if

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

(vi) The binomial distribution(n+3, p) is negatively skewed if and only if

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

(vii) The binomial distribution(n+3, p) attains maximum variance at

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

(viii) The binomial distribution(n, p) the minimum variance is

a) p =$\frac{1}{2}$ b) p = $\frac{n}{4}$ c) p$< \frac{1}{2}$ **d) none of these**

(ix) X$\sim Bin(8, 0.5)$ then first order factorial moment is equal to

a) 4 b) 6 c) 8 d) none of these

(x) X$\sim Bin(8, 0.5), P(X \leq 1)$ is equal to

a) $\frac{8}{512}$ **b) $\frac{9}{512}$** c) $\frac{9}{256}$ d) none of these

(xi) The binomial distribution attains maximum variance when it is

a) Positive skewed b) negative skewed **c) symmetric** d) none of these

(xii) The third order central moment of Bin (9, $\frac{1}{3}$) is

a) $\frac{2}{3}$ b) $\frac{1}{3}$ c) 0 d)) none of these

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

a) **0** b) n c) $\frac{n}{2}$ d)) none of these

(xiv) the binomial distribution (n, p) is leptokurtic when

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

(xiv) A person tosses an unbiased coin rtepeatedly. Find the probability that in 4th throw he gets the first head

a) $\frac{1}{16}$ b) $\frac{3}{16}$ c) $\frac{1}{4}$ d) none of these

Prepared by

Sanjay Bhattacharya