



ST. LAWRENCE HIGH SCHOOL
A JESUIT CHRISTIAN MINORITY INSTITUTION



SOLUTION OF WORKSHEET-12

SUBJECT - STATISTICS

Term : Pretest

Topic – BINOMIAL DISTRIBUTION

Class: XII

Full Marks: 15

Date:12.06.2020

Q1. Select the correct alternative of the following questions.

- (i) The mean deviation in Binomial distribution $(7, \frac{1}{6})$ is
a) **0.39** b) 0.93 c) 0.49 d) none of these
- (ii) The maximum variance in Binomial distribution $(5, p)$ is
b) 1.20 **b) 1.25** 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 mesokurtic 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 leptokurtic 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 platykurtic 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 expectation is
a) np **b) $n(n-1)p^2$** c) $np(1-p)$ d) none of these
- (ix) $X \sim \text{Bin}(8, 0.5)$ then second order factorial moment is equal to
a) 14 b) 16 c) 18 d) none of these
- (x) $X \sim \text{Bin}(8, 0.5), P(X > 8)$ is equal to
a) 1 **b) 0** c) 0.5 d) none of these
- (xi) The binomial distribution attains maximum variance when it is
a) mesokurtic b) leptokurtic c) platykurtic **d) none of these**
- (xii) The mean deviation about mean is equal to mean deviation about median in
Bin (n, p) when p is equal to
a) $\frac{1}{2}$ b) $\frac{1}{3}$ c) 0 d)) none of these
- (xiii) The 7th order central moment of Bin ($n, \frac{1}{2}$) is
a) **0** b) n c) $\frac{n}{2}$ d)) none of these
- (xiv) For the binomial distribution ($12, \frac{1}{2}$), the probability $P(X = \text{atleast } 1)$
a) $(\frac{1}{2})^{12}$ **b) $1 - (\frac{1}{2})^{12}$** c) $1 - (\frac{2}{3})^{12}$ d) none of these
- (xiv) A person tosses an unbiased coin repeatedly. Find the probability that in 4th throw he gets the second head
a) $\frac{1}{16}$ **b) $\frac{3}{16}$** c) $\frac{1}{4}$ d) none of these

Prepared by

Sanjay Bhattacharya