

Sylhet Cadet College
Progress Test Examination - 2022
Class: HSC
Subject: Statistics First Paper (MCQ)

Time: 20 minutes

Subject Code: 129

Full Marks: 15

Answer all the questions. Each question is worth one (1) mark.

1. Which is a discrete variable?

- (a) Weight (b) Amount of rainfall (c) Distance (d) Screen resolution

2. If $x_1 = 2, x_2 = -3, x_3 = 7$, and $x_4 = 12$, $\sum_{i=1}^4 x_i^2 = ?$

- (a) 26 (b) 106 (c) 206 (d) 216

3. The arithmetic mean of first n natural numbers-

- (a) $\frac{n}{2}$ (b) $\frac{n+1}{2}$ (c) $\frac{n^2}{2}$ (d) $\frac{n^2-1}{2}$

4. If a rate is defined as $R = \frac{c}{d}$, where c is constant, then which measure is perfect?

- (a) Weighted arithmetic mean (b) Harmonic mean
(c) Quadratic mean (d) Weighted geometric mean

Answer the questions 9-11 as per the below information.

42 44 59 64 70 72 74 91 94 are 9 values.

5. What is the 50th percentile?

- (a) 64 (b) 70 (c) 72 (d) 71

6. Below which value do lie 30 percent values?

- (a) 42 (b) 44 (c) 59 (d) 64

7. A car climbs up a mountain 1 mile at the uniform velocity of 15 miles per hour (mph) and then comes down the same distance at uniform velocity. To make the average speed 30, at what speed (mph) does the car need to climb down?

- (a) 45 (b) ∞ (c) 0 (d) 60

8. Which two quantiles are equal?

- (a) Median and 3rd Quartile (b) 40th Percentile and 2nd Quartile
(c) 5th Decile and 4th Octile (d) 3rd Septile and 2nd Quartile

9. Which moment is equivalent to variance?

- (a) First raw moment around 0 (b) 2nd central moment
(c) 2nd raw moment around median (d) First raw moment around arithmetic mean

10. In a right-skewed distribution -

- (a) Average values are very frequent (b) Low values have very low frequency
(c) High values have very low frequency (d) All values have uniform frequency

11. What do moments do?

- (a) Uniquely characterize a distribution
(b) Help to make predictions
(c) Generate all values of central tendency
(d) Simplifies the process of working with large values

12. **If the raw moment around 2 is 3, what is the value of \bar{x} ?**
(a) 2 (b) 5 (c) 3 (d) 1
13. **Which measure does not depend on change of origin?**
(a) Arithmetic mean (b) Standard deviation (c) Geometric mean (d) Median
14. **Which one is not a component of time series**
(a) Trend (b) Cyclic variation (c) Harmonic variation (d) Random variation
15. **A trend is observed when the values follow -**
(a) An increasing pattern (b) A decreasing pattern
(c) A constant pattern (d) Increasing or decreasing pattern