**Baluchistan Board of Intermediate and Secondary Education, Quetta**

Model paper for HSSC Examination 2017 and onwardsSubject: Statistics Total Marks = 85 Class: XI ===========================================================

 **Section-I (17×1 = 17 marks)**

**Q.1. Choose the correct option:-**

1. Weights of the students make: (discrete data, continuous data, qualitative data, constant data)
2. Questionnaire method is used in collecting: (primary data, secondary data, published data, true data)
3. Histogram is a graph of: ( frequency distribution, time series, qualitative data, ogive)
4. The average of lower and upper class limits is: (class boundary, class frequency, class mark, class limit)
5. A pie diagram is represented by: (rectangle, circle, square, triangle)
6. The measure of central tendency is: (the score, the mean, the range, the standard deviation)
7. The sum of deviations taken from mean is: (zero, more than zero, less than zero, one)
8. If dispersion is small, the standard deviation is: (large, zero, small, negative)
9. The range of scores 7, 2, 3, 5 is: (10, 5, 13, 1)
10. Index number for base period is always taken as: (100, 50, 200, 1)
11. Another name for consumer index number is: (whole sale price index, cost of living index, sensitive index, composite index)
12. When a die is rolled, all possible outcomes are: (3, 1, 6, 2)
13. The term sample space is used for: (all possible outcomes, probability, event, sample)
14. A variable which can assume finite or countably infinite number of values is known as: (continuous, discrete, qualitative, none of them)
15. A discrete probability function f(x) is always: (non-negative, negative, zero, one)
16. We must arrange the data before calculating: (mean, median, mode, geometric mean)
17. Two events A and B are mutually exclusive if: ( AUB = { }, A∩B = { }, A∩B = S, A∩B = 1)

**Section-II (14×3 = 42 marks)**

**Q.2. attempt any fourteen parts.**

**(i)** Define statistics. (ii) Name the methods of collecting primary data. (iii) What is classification? (iv) Differentiate between class limits and class boundaries. (v) Given$\overbar{x}$1 = 15, $\overbar{x}$2 = 25, $\overbar{x}$3 = 35 and each mean is based on eight values. Compute combined mean. (vi) Define the term median. (vii) Given Q1=25 and Q3=75, find the quartile deviation. (viii) Explain the term skewness. (ix) What is meant by range. (x) Given ∑p0q0=850 and ∑p1q0=1170, find laspeyres’ price index number. (xi) Define an index number. (xii) What is the probability of rolling a twelve with a balanced dice? (xiii) Write down a definition of probability. (xiv) What is meant by sample space? (xv) Define a continuous random variable. (xvi) Given x = 2, 4, 6 and P(x) = 2/6, 2/6, 2/6. Find E(2x). (xvii) Given l = 60, h = 10, f = 20, n = 80 and c = 30. Find median.

**Section-III (13×2 = 26 marks)**

**Q.3.** Calculate the average and standard deviation from the following data.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Classes | 10 - 19 | 20 - 29 | 30 - 39 | 40 - 49 | 50 - 59 |
| Frequency | 5 | 25 | 40 | 20 | 10 |

**Q.4.** Convert the following prices into price relatives using chain base method taking 1997 as the base year.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Year | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
| prices | 180 | 185 | 194 | 200 | 204 | 218 | 220 |

**Q.5.** Show that in a single throw with two dice, the chance of throwing more than7 is equal to that of throwing less than 7.

**Q.6.** A continuous random variable X that can assume values between x = 2 and x =5 has a density function given by f(x) = 2/27(x + 1). Find (i) P(x ≥ 4) (ii) P(x ≤ 3) (iii) P(2 ≤ x ≤3)

((((((((The End))))))))