

National institute of statistics of Rwanda (NISR)

Economic statistics department

Job exam on post of: Regional price data collector officers/ on 27 June, 2019

2 hours 5 points each question

/50marks

1. Describe 5 users of consumer price index (CPI)
2. Describe 5 causes of inflation
3. Compare CPI with PPI
4. Define purchasing power parity (PPI)
5. Compare PPP with exchange rate
6. The following are some particulars of weight distributions of boys and girls in class

Item	Boys	Girls
Number	30	18
Mean weight	50kg	40kg
Variance	5.29	3.24

- a. Which one of the two distributions is more variable?
 - b. Find the standard deviation of the combined data.
7. The mean and standard deviation of a population of 100 observations were calculated as 40 and 5.1 respectively by student who looks by mistake 50 instead of 40 for one observation. Calculate the correct mean and standard deviation.
 8. Let supply be given by $P = 4Q$ and demand by $P = 12 - 2Q$ suppose we now place a tax of 6 per unit of output on the seller. What happens to supply and demand and the quantity demanded at the equilibrium after the tax is imposed? What fraction of the per unit tax does the consumer pay?
 9. A representative household has the utility function $U(x_1, x_2) = 10x_1^{0.6}x_2^{0.4}$ and the budget constraint $p_1x_1 + p_2x_2 = 2000$. Determine the utility maximizing consumption decision of the household with respect to p_1 and to p_2 by using Lagrange approach.
 10. From the following data obtained the estimated regression line of Y on X and estimate the average value of Y when X=16 and 24

x	2	6	8	11	13	13	13	14
y	8	6	10	12	12	14	14	20

END