Maharaja Agrasen Institute of Management Studies
First Internal Examination
2nd Semester – BBA (Gen), B&I
Subject – QTOR, Subject code - 106

Time:2 hrs MM-40

Note: Attempt all questions. All questions carrying equal marks.

Q1 a) Define Statistics. What are the scope and limitations of statistics?

b) Consider the following distribution

Wages	Frequencies	Wages	Frequencies
0-10	12	40-50	?
10-20	18	50-60	25
20-30	?	60-70	15
30-40	40	Total	170

The median of the following wage distribution is known to be Rs. 35. The frequencies from the table are missing. Find these missing values.

c) The numbers 3.2, 5.8, 7.9 and 4.5 have frequencies x, x+2, x-3, and x+6 respectively. If arithmetic mean is 4.876. Find the value of x.

Q2. For 10 observations on price X and supply Y, the following data are obtained.
$\Sigma XY = 3467$, $\Sigma X = 130$, $\Sigma X^2 = 2288$, $\Sigma Y = 220$, $\Sigma Y^2 = 5506$
Obtain the line of regression of y on x and x on y. Also estimate the supply when the price of 16 units.

OR

The line of regression of marks in Statistics (X) on marks in Accountancy (Y) for class of 50 students is: $3Y-5X+180 = 0$

Average marks in Accountancy is 44 and variance of marks is 9/16 of variance of marks in Accountancy. Find:

i. The average marks in Statistics.
ii. Coefficient of correlation between marks in Statistics and Accountancy.

Q3. Calculate the coefficient of variance of the following data.

Marks	No. of students	Marks	No. of students
More than 20	70	More than 50	30
More than 30	63	More than 60	18
More than 35	55	More than 65	10
More than 40	40	More than 70	7
		More than 80	0

OR

a) The arithmetic mean and standard deviation of series of 20 items were calculated as 20 and 5 cm. But while calculating 13 was misread as 30, Find correct mean and correct standard deviation.

b) Find 6th decile, 70th percentile, Q_3.

Less than 10	Less than 20	Less than 30	Less than 40	Less than 50	Less than 60	Less than 70	Less than 80
5	13	20	32	60	80	90	100

Q4. Making the use of the data summarized below, calculate the coefficient of correlation using Rank correlation

OR

Compute the Karl Pearson coefficient of correlation of data given below

Case	X1	X2	Case	X1	X2
A	10	9	E	12	11
B	6	4	F	13	13
C	9	6	G	11	8
D	10	9	H	9	4