Assignment # 1	স্কুল অব বিজনেস	BBA 3312

Bangladesh Open University

BBA Program

Semester: 221 (3rd Level)

Course Title: Fundamentals of Statistics **Date: 24 May 2024**

Instructions

- Answer the all questions in your own handwriting on A4 size white paper.
- Fill-in the cover page of your assignment with care.
- Enclose the photocopy of your ID Card with the assignment (next to the cover page).
- Don't make spiral binding. Instead, make soft binding.
- Submit the assignment to the respective course tutor and ensure his/her signature on your Assignment Acknowledgement Form (see page#4 of Semester Calendar).

Questions

1. (a) "By Statistics we mean aggregate of facts affected to a marked extent by multiplicity of causes, numerically expressed, enumerated or estimated according to reasonable standards of accuracy, collected in a systematic manner fora pre-determined purpose and placed in relation to each other'. Comment.
   (b) Discuss the use of Statistics in the fields of economics, trade and commerce. What are the limitations of Statistics?

2. (a) If you are appointed to conduct a statistical enquiry, describe in general, what steps will you be taking from the stage of appointment till the presentation of your report.
   (b) What are the different methods of collection of data? Why are personal interviews usually preferred to questionnaire? Under what conditions may a questionnaire prove as satisfactory as a personal interview?

3. (a) What do you mean by an inclusive series? How can an inclusive series be converted to an exclusive series? Illustrate with the help of an example.
   (b) In a survey, it was found that 64 families bought milk in the following quantities (litres) in a particular week.

19	16	22	9	22	12	39	19	14	23
6	24	16	18	7	17	20	25	28	18
10	24	20	21	10	7	18	28	24	20
14	23	25	34	22	5	33	23	26	29
13	36	11	26	11	37	30	13	8	15
22	21	32	21	31	17	16	23	12	9
15	27	17	21						

Using "Sturges' rule", convert the above data into a frequency distribution by "Inclusive Method".

4. (a) Average marks in Statistics of 10 students of a class was 68. A new student took admission with 72 marks whereas two existing students left the college. If the marks of these students were 40 and 39, find the average marks of the remaining students.

(b) From the following data of income distribution calculate the arithmetic mean. It is given that (i) the total income of persons in the highest group is Tk. 435, and (ii) none is earning less than Tk. 20.

Income (Tk.)	No. of persons	Income (Tk.)	No. of persons
Below 30	16	Below 70	87
” 40	36	” 80	95
” 50	61	80 and over	5
” 60	76		

(c) The following table gives the weights of 31 persons in a sample enquiry. Calculate the mean weight using (i) Geometric mean and (ii) Harmonic mean.

Weight (lbs.) :	130	135	140	145	146	148	149	150	157
No. of person :	3	4	6	6	3	5	2	1	1

Assignment # 2 | **স্কুল অব বিজনেস** | **BBA 3312**

Bangladesh Open University

BBA Program

Semester: 221 (3rd Level)

Course Title: Fundamentals of Statistics **Date: 12 July 2024**

Instructions

- Answer the all questions in your own handwriting on A4 size white paper.
- Fill-in the cover page of your assignment with care.
- Enclose the photocopy of your ID Card with the assignment (next to the cover page).
- Don't make spiral binding. Instead, make soft binding.
- Submit the assignment to the respective course tutor and ensure his/her signature on your Assignment Acknowledgement Form (see page#4 of Semester Calendar).

Questions

1. (a) Discuss the validity of the statement: "An average, when published, should be accompanied by a measure of dispersion, for significant interpretation."

   (b) Compute the Coefficient of Quartile Deviation of the following data:

Size	Frequency	Size	Frequency
4 – 8	6	24 – 28	12
8 – 12	10	28 – 32	10
12 – 16	18	32 – 36	6
16 – 20	30	36 – 40	2
20 – 24	15		

   (c) Find the Mean Deviation from the Mean for the following data:

Class Interval :	0 – 10	10 – 20	20 – 30	30 – 40	40 – 50	50 – 60	60 – 70
Frequency :	8	12	10	8	3	2	7

   (a) Also find the mean deviation about median

   (b) Compare the results obtained in (a) and (b).

2. (a) What do you mean by 'skewness'? How is skewness different from kurtosis.

   (b) Calculate Karl Pearson's Coefficient of Skewness from the data given below:

Hourly wages (Rs.)	No. of workers	Hourly wages (Rs.)	No. of workers
40 – 50	5	90 – 100	30
50 – 60	6	100 – 110	36
60 – 70	8	110 – 120	50
70 – 80	10	120 – 130	60
80 – 90	25	130 – 140	70

3. (a) Define correlation. Discuss its significance. Does correlation always signify causal relationship between two variables? Explain with illustration.

(b) Calculate the coefficient of correlation for the ages of husbands and wives:

Age of Husband (years)	23,	27,	28,	29,	30,	31,	33,	35,	36,	39
Age of Wife (years)	18,	22,	23,	24,	25,	26,	28,	29,	30	32

(c) Calculate Spearman's rank correlation coefficient between advertisement cost and sales from the following data:

Advertisement cost ('000Rs.) :	39	65	62	90	82	75	25	98	36	78
Sales (lakhs Rs.) :	47	53	58	86	62	68	60	91	51	84

4. (a) Comment on the statement : "Regression equations are irreversible

(b) Find the regression equation of y on x where y and x are the marks obtained by 10 students as given below:

y :	20	60	55	45	75	35	25	90	10	50
x :	20	45	65	40	55	35	15	80	25	50