

**BBA / BIM / BBM / Third Semester / STT 201: Business Statistics**

Candidates are required to answer all the questions using MS-Excel. The figures in the margin indicate full marks.

**Important Instructions**

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**Practical Exam Questions Using MS-Excel**

- 1) Draw a less than and more than ogive curve of the following distribution of height in cms and locate the median height. [7]

Height (cms)	100 - 150	150 - 200	200 - 250	250 - 300	300 - 350
No. of persons	25	50	100	40	15

- 2) The probability distribution is given as follows: [5]

No. of heads up (x)	0	1	2	3	4	5
P(x)	0.05	0.10	0.15	0.20	0.35	0.15

Find the expected value and standard deviation.

- 3) A sample of 500 was drawn and the sample mean was found to be 110. Test whether this sample could have come from a normal population with mean 112 and variance 100 at 5% level of significance. [5]
- 4) Find the skewness from the following data of daily income in thousand rupees and comment. [5]

Daily Income '000' Rs	0 - 10	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70
No. of employees	5	15	20	30	18	8	4

- 5) The following data gives the experience of machine operators in years and their performance as given by the number of good parts turned out per 100 pieces. [6]

Operator	1	2	3	4	5	6	7	8
Experience in years (x)	16	12	18	4	3	10	5	12
Performance (y)	87	88	89	68	78	80	75	83

Calculate correlation coefficient and comment. Also obtain the regression equations of performance rating on experience and estimate the probable performance if an operator has 20 years experience.



**Lab Work**

**TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT**

Office of the Dean

2015

Full Marks: 20

Time: 1 Hr.

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**Practical Exam Questions Using MS-Excel**

- 1) Draw less than ogive from the age distribution of employees in a hospital and locate  $Q_3$ . [3]

Age (Years)	20-30	30-40	40-50	50-60	60-70
No. of employees	5	22	40	18	12

- 2) Fit a binomial distribution to the following data assuming that the coin is unbiased. [5]

No. of tails (X)	0	1	2	3	4	5
Frequency (f)	20	40	120	60	50	30

- 3) A sample of 100 students is taken from a large population. The mean weight of these students is 70 kgs and standard deviation 8 kgs. Can it be reasonably be regarded that the population mean weight of the student is 72 kgs? [5]

- 4) Find the number of workers who earn less than median wage from the following wage distribution. [5]

Daily wages (Rs '00')	0-5	5-10	10-15	15-20	20-25	25-30
No. of workers	15	30	50	25	16	4

- 5) The individual output of a batch of 50 workers are given below. [6]

94	83	78	76	88	86	93	80	91	82
89	97	92	84	82	80	83	98	86	90
87	81	98	86	95	81	88	88	87	84
97	80	85	93	96	82	82	89	72	80
71	87	77	99	83	72	75	83	85	75

Construct a frequency distribution in the respective output group of 70 - 75, 75 - 80, ..... Calculate the skewness and kurtosis and comment.

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**Practical Exam Questions Using MS-Excel**

- 1) Construct a less than ogive curve for the following data of GMAT score of the students appeared and locate  $Q_1$ . [3]

GMAT Score	0 - 20	20 - 40	40 - 60	60 - 80	80 - 100
No. of students	20	35	50	20	15

- 2) Five unbiased coins were tossed 100 times. From the following outcomes, calculate the expected frequencies by using binomial distribution. [5]

No. of heads up (x)	0	1	2	3	4	5
Frequency (f)	25	60	125	50	35	25

- 3) The office of the Dean claims that average CMAT score of BBM students is at most 90 and that in a study made to test this claim 150 college students, selected at random, had an average CMAT score of 88 with standard deviation of 7. Test the claims of office of Dean at 1% level of significance. [5]
- 4) Calculate an appropriate coefficient of skewness from the following data of age of employees in a certain company. [5]

Age (years)	Below 20	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45	45 - 50
No. of employees	13	27	40	50	35	20	5

- 5) The following distribution is the monthly rent paid by the families. [6]

Monthly rent (Rs '00')	20 - 40	40 - 60	60 - 80	80 - 100	100 - 120	120 - 140
No. of families	6	12	20	30	15	7

- a) Find the lowest rent paid by richest 10% of families.
- b) Find the highest rent paid by poorest 22% of families.



**TRIBHUVAN UNIVERSITY**  
**FACULTY OF MANAGEMENT**

Office of the Dean

2015

Full Marks: 24

Time: 1 Hr.

**Lab Work**

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**Practical Exam Questions Using MS-Excel**

- 1) Draw a less than and more than ogive curve and locate the median from the following distribution of monthly rent. [3]

Monthly rent '00' Rs	0 – 20	20 – 40	40 – 60	60 – 80	80 – 100	100 – 120
No. of families	8	12	15	30	25	10

- 2) The following table contains the probability distribution of the number of traffic accidents in Bhakapur. [5]

No of accidents:	0	1	2	3	4
P(X)	0.25	0.30	0.22	0.18	0.05

Compute the expected number of traffic accidents and standard deviation.

- 3) Faculty of Management, Office of the Dean claims that average CMAT score of BBA students is equal to 80 and that in a study made to test this claim 100 students selected at random had an average CMAT score 82 with standard deviation 8. Test the claim of Dean Office at 5% level of significance. [5]

- 4) The salary distribution of employees are given below: [5]

Salary '000' Rs	0 – 9	10 – 19	20 – 29	30 – 39	40 – 49	50 – 59
No. of employees	15	40	75	35	20	15

Compute Bowley's coefficient of skewness and comment.

5) The age of Nepal Yatayat and annual repair expenses are given below.

[6]

Age (years)	Repair expenses '000' Rs
5	10
8	12
10	15
13	19
15	25
20	30

Compute correlation coefficient between age and repair expenses of Nepal Yatayat. Also, estimate the repair expenses of Nepal Yatayat when its age is 25 years.

Work

TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT

Office of the Dean

2016

(Make up)

Full Marks: 24

Time: 1 Hr.

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Practical Exam Questions Using MS-Excel

- 1) Sukam Batteries are tested for their life and following data were obtained. Construct Histogram and locate the mode. [3]

Life in years	0 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
No of Batteries:	10	15	30	12	8	5

- 2) Assuming a Poisson Model, find the expected frequencies for the distribution of computer typing mistakes made by computer operator. [5]

Mistakes per page (x)	0	1	2	3	4	5	Total
No of pages (f):	110	110	50	25	11	40	300

- 3) In a random sample of 300 members, the mean is found to be 16. In another independent sample of 200, the mean is 10. Could the sample have been drawn from the same population with standard deviation 5? [5]
- 4) Sajha Yatayat has accumulated information concerning five buses it currently owns. [5]

Bus No.	Age of Bus (years)	Repair Expenses (Rs 000)
101	8	10
102	5	7
103	3	7
104	3	5
105	1	4

Estimated the repair expenses for the Bus which is 6 years old.

- 5) A pharmaceutical company developed a medicine which decreases weight of person. The medicine was tested on 100 persons and their weight loss is recorded as follows. [6]

Weight loss (kg):	0 - 5	5 - 10	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35
No of persons:	5	12	18	30	20	10	5

If the data obtained fits a normal curve, the pharmaceutical company is successful in developing a medicine otherwise not? Comment.

**Work 1**

**TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT**

Office of the Dean  
2016

Full Marks: 24  
Time: 1 Hr.

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**Practical Exam Questions Using MS-Excel**

- 1) A population consists of five numbers 2, 4, 6, 9 and 11. [5]
- i. Draw all possible samples of size two that can be drawn from the population without replacement.
  - ii. Show that the mean of the sampling distribution of mean is equal to the population mean.

- 2) The following information gives average life of two types of mobile phones. [5]

	Mean life in hrs	Standard deviation in hrs	Sample size
Samsung	6000	80	100
Colors	5980	90	100

Is there a significant difference in the quality of mobile Phones at 5% level of significance? Use p-value approach.

- 3) The following figure relates to year of service and income in hundreds of rupees of the employees of an organization. [5]

Length of Service (years):	12	8	10	6	9	7	11
Income (thousand rupees):	8	5	4	4	7	5	9

Calculate correlation coefficient between length of service and income.

4) The age in completed years of 40 working persons in certain village is given below: [6]

32	61	39	31	56	42	54	64	43	47
20	51	60	27	67	52	45	20	22	36
25	46	23	62	40	21	43	53	42	50
22	31	49	20	35	40	35	43	55	46

a) Construct a frequency table (taking 10-class interval)

b) Find the value of skewness



Handwritten notes: 2, 9, 6, 9, 4, 2, 4

5) From the data given below of weekly wages, draw less than and more ogive curve and hence locate the median. [3]

Weekly wages	0 - 20	20 - 40	40 - 60	60 - 80	80 - 120
No. of workers	30	40	75	35	20

Handwritten note: = Skw



Handwritten notes: n, n^2 = 23



**Lab Work 2**

**TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT**

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2016

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Time: 1 Hr.

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**Practical Exam Questions Using MS-Excel**

- 1) A population consists of four numbers: 4, 6, 7, 9. [5]  
(i) Taking sample of size two draw all possible samples with replacement.  
(ii) Show that the mean of sampling of mean is equal to population mean.
- 2) A sample of 100 ducks is taken from a duck farm. [5]  
The mean weight of these ducks is 4 kgs with standard deviation 3 kgs. Test the hypothesis that the mean weight of all the ducks is 5 kgs. Use confidence limit approach at 5% level of significance.
- 3) The following are the distribution of weekly earnings of 150 workers. [5]  
Weekly Earnings (Rs in 00):    0-20    20-40    40-60    60-80    80-100    100-120  
No. of workers:                    10        15        30        60        20        15  
Obtain the range of weekly earnings of the middle 60% observed workers.
- 4) Following are the data of price and demand of Samsung Mobile in the market. [6]  
Price (Rs in 000):            12    14    15    14    18    17  
Demand (000 units):        42    40    45    48    38    45  
(a) Calculate Karl Pearson's correlation coefficient  
(b) Estimate the likely demand when the price of Samsung Mobile is Rs 25,000.
- 5) The following frequency distribution represents the member of days during a year that the faculty of private college was absent from work due to illness. [3]  
Number of days:    0-3    3-6    6-9    9-12    12-15  
No. of faculties:    4        11    25    12        8  
Draw a histogram for this data and locate the mode.



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**Practical Exam Questions Using MS-Excel**

- 1) A population consists of four numbers: 2, 3, 4, 5. [5]
  - a) Draw all possible samples with replacement by taking sample of size two.
  - b) Show that average of sampling mean is equal to population mean.
- 2) A random sample of final exam results of students are summarized as follows. [5]

	<u>Male</u>	<u>Female</u>
Average Score	85	90
Standard deviation	12	15
Sample size	50	50

At 1% level significance, test the mean marks of female students are more than the mean marks of male students.

- 3) The following data are related to the weekly wages of 150 workers. [5]

Weekly wages Rs:	200-250	250-300	300-350	350-400	400-450	450-500
No. of workers:	15	35	50	27	15	8

Obtain the range of weekly wage of the middle 60% observed workers.
- 4) From the following data of sales and purchases (in thousand Rs), obtain the two regression coefficients. [6]

Sales:	92	97	108	121	67	124	51	73	111	57
Purchases:	71	75	69	97	70	91	39	61	50	47

  - (a) Find the correlation coefficient between sales and purchases.
  - (b) Estimate the purchase when sales is Rs 130,000.

5) Draw a less than and more than ogive curves from the following distribution of temperature of Jumla District recorded for 365 days. Also locate the median. [3]

Temp 'C':	-20 to -10	-10 to 0	0 to 10	10 to 20	20 to 30
No. of days:	30	60	80	175	20



**0 Set 1**

**TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT**

Office of the Dean

April - May 2017

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Time: 1 Hr.

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**Practical Exam Questions Using MS-Excel**

- 1) The probability that a man fishing at Janakpur will catch 0, 1, 2, 3, 4, 5 fishes are 0.10, 0.25, 0.30, 0.20, 0.15, 0.10 respectively. Compute  $E(4x+7)$  and standard deviation of  $(4x+7)$ . [5]
- 2) Compute five number summary from the following data and comment on the shape of the distribution. [5]

10 15 18 30 42 50 60

- 3) The average life of 64 Led bulbs was found to be 1500 hours with standard deviation 130 hours. Test whether the sample is from a batch having average life of the bulb is 1520 hours at 5% level of significance. [5]
- 4) Construct a frequency table with suitable class. [6]

22 32 41 24 46 52 24 36 23 38 44 37 49 33 54  
44 38 48 45 56 55 25 42 58 57 43 64 65 46 62  
47 66 46 42 23 34 36 53 64

Calculate Bowley's Coefficient of Skewness.

- 5) Draw a less than Ogive curve and find the Median from the following marks distribution.. [3]

Marks:	0-10	10-20	20-30	30-40	40-50	50-60
No of students	10	25	40	50	16	9



Set 2

TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT

Office of the Dean  
April - May 2017

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Time: 1 Hr.

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**Practical Exam Questions Using MS-Excel**

- 1) The latest nationwide political poll indicates that for American who is randomly selected, the probability that they are conservative is 0.60, and the probability that they are liberal is 0.40. Assuming that these probabilities are accurate, answer the following questions pertaining to a randomly chosen group of 10 Americans. a) What is the probability that four are liberal? b) What is the probability that none are conservative? [5]
- 2) 1000 articles from factory A are examined and found 97% of good quality. 1500 similar articles from factory B are found only 2% of bad. Would you conclude that products of factory B are superior to those of factory A. Test the hypothesis at 1% level of significance. [5]
- 3) Calculate standard deviation from the following distribution of time spent by 54 visitors using Internet in a local cyber. [5]

Time spent (in minutes)	10-20	20-30	30-40	40-50	50-60
No. of visitors	2	7	15	10	20

- 4) Information about the mountaineering expedition teams in Nepal is as follow. [3]

Number of teams in	Season			
	Spring	Autumn	Winter	Summer
2011	40	80	10	5
2012	80	70	15	5

Represent the data by means of multiple bar diagram.

- 5) For twelve consecutive months a factory manager recorded the number of items produced by the factory and the total cost of their production. The following table summarizes the manager's data. [6]

Number of items ('000)	18	36	45	21	69	72	13	33	59	79
Production cost (\$'000)	37	54	63	42	84	91	33	49	79	98

- a. Find the regression equation and estimate the production cost if the number of items produced is 50 thousand.
- b. Find the value of correlation coefficient of the data and comment on it.



Set 3

TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT

Office of the Dean  
April - May 2017

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Practical Exam Questions Using MS-Excel

- 1) Draw a Histogram and frequency polygon for the following data of profit made by Ayurvedic Medicine Shops. [3]

Profits 200 Rs	0 - 30	30 - 60	60 - 90	90 - 120	120 - 150
No of Shops:	10	18	45	25	12

- 2) The distribution of number of deaths from liver cancer in 200 days are recorded in valley. [5]

No of deaths:	0	1	2	3	4	5	Total
No of days:	50	60	40	25	16	9	200

Fit a Poisson distribution and find the expected frequencies.

- 3) It is claimed that 6% of BBM students who take admission in the constituent campus dropout within first semester. If in a random sample of 400 students 16 dropout, test the claim against the alternative hypothesis that the dropouts are less than 6%. Use p-value approach at 5% level of significance. [5]
- 4) The following data refers to the dividend (%) paid by two Banks A and B over the last seven years. [5]

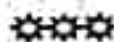
Bank A:	4	8	4	15	12	11	9
Bank B:	12	8	3	15	6	4	8

Calculate coefficient of variation and comment which bank is consistent for distributing dividend?

- 5) The following table shows the distribution of income and expenditure in lakh rupees. [6]

Income:	2	4	6	8	10	12	14
Expenditure:	5	2	6	12	4	12	15

- a. Calculate correlation coefficient between income and expenditure.
- b. Estimate the expenditure when income is Rs 20 lakh.



**TRIBHUVAN UNIVERSITY**  
**FACULTY OF MANAGEMENT**






Office of the Dean  
April 2018

Full Marks: 24  
Time: 1 Hr.

**BBA / BIM / BRM / Third Semester / STT 211 / STT 201: Business Statistics**

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**Important instructions**

1. Write your name and roll number in question paper.
2. Create new folder on the desktop and rename it with your symbol number.
3. Click on Page Layout of  Page Layout of the Ribbon, then click on both of Print   of Gridlines and Heading. Set up Scale  100% at 75%.
4. Click on middle one icon of view i.e.  After clicking on Click to add header, type your symbol number so that your answer sheet won't be misplaced.
5. Save your spreadsheet (your file) with your symbol number in the folder (named with your symbol number).
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7. For each and every calculation, don't forget to press Ctrl + S to save your essential work.
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**Practical Exam Questions Using MS-Excel**

- 1) Draw less than ogive curve and locate third quartile. [3]

Age (in years)	20-25	25-30	30-35	35-40	40-45
No. of students	10	39	50	15	5

- 2) Income of a group of 10,000 persons were found to be normally distributed with mean Rs 520 and standard deviation of Rs 60. Find (a) the number of persons having income between Rs 400 and Rs 550. (b) the lowest income of the richest 500 persons. [5]
- 3) In a college, the mean mark of sample of 100 students is 50 and standard deviation is 5. Test the hypothesis that the sample is drawn from the population with mean mark 55 at 5% level of significance. [5]
- 4) The scores of two golfers in 10 rounds are given below, which may be regarded as a more consistent player based on coefficient of variation. [5]

Golfer A	58	59	60	54	65	66	52	75	69	52
Golfer B	84	56	92	65	86	78	44	54	78	68

- 5) Find the Correlation coefficient from the following data. Also estimate the value of Y when X = 10. [6]

X	2	4	5	6	8	11
Y	18	12	10	8	7	5

Marks: 24  
: 1 Hr.

Set 2

TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT

Office of the Dean  
April 2018

Full Marks: 24  
Time: 1 Hr.

**BBA / BIM / BBM / Third Semester / STT 211 / STT 201: Business Statistics**

*Candidates are required to answer all the questions using MS-Excel. The figures in the margin indicate full marks.*

**Important instructions**

1. Write your name and roll number in question paper.
2. Create new folder on the desktop and rename it with your symbol number.
3. Click on Page Layout of  Insert  Page Layout of the Ribbon, then click on both of Print  Print of Gridlines and Heading. Set up Scale  Scale  at 75%.
4. Click on middle one icon of view i.e.    100%. After clicking on Click to add header, type your symbol number so that your answer sheet won't be misplaced.
5. Save your spreadsheet (your file) with your symbol number in the folder (named with your symbol number).
6. Make sure that you should not write beyond the column of the spreadsheet set under 75%.
7. For each and every calculation, don't forget to press Ctrl + S to save your essential work.
8. You should submit your hard copy (print) with your signature.

**Practical Exam Questions Using MS-Excel**

- 1) Draw less than ogive curve and locate the median. [3]

Age (in years)	30-35	35-40	40-45	45-50	50-55
No. of staffs	10	39	50	15	5

- 2) From the following probability distribution, find mean and variance. [5]

X	0	10	12	20	24	34
p	0.02	0.08	.30	0.40	0.10	0.10

- 3) A sample of 200 students is taken from a large population with mean height 70 inches and standard deviation 5.4 inches. Test the hypothesis that the sample is drawn from the population having mean height 67 inches at 5% level of significance. [5]

- 4) The weight of 30 respondents are given bellow: [5]

60 34 76 41 75 66 54 67 16 43 80 82 43 27 65

75 19 56 74 78 74 91 84 77 23 94 47 54 39 30

Determine the value of kurtosis and interpret the result.

- 5) From the following table, estimate the promotion expenses to generate the sales of 230 lakh rupees. Also calculate coefficient of determination and probable error. [6]

Sales (Rs Lakh)	145	190	237	123	157	220
Promotion Expenditure ('000 Rs)	40	51	57	34	40	45





Set 3

TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT

Office of the Dean  
April 2018

Full Marks: 24  
Time: 1 Hr.

BBA / BIM / BBM / Third Semester / STT 211 / STT 201: Business Statistics

Candidates are required to answer all the questions using MS-Excel. The figures in the margin indicate full marks.

Important Instructions

1. Write your name and roll number in question paper.
2. Create new folder on the desktop and rename it with your symbol number.
3. Click on Page Layout of  Print of the Ribbon, then click on both of Print  Print of Gridlines and Heading. Set up Scale  Scale at 75%.
4. Click on middle one icon of view Le  Print After clicking on Click to add header, type your symbol number so that your answer sheet won't be misplaced.
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7. For each and every calculation, don't forget to press Ctrl + S to save your essential work.
8. You should submit your hard copy (print) with your signature.

Practical Exam Questions Using MS-Excel

1) Draw histogram and locate mode. [3]

Salary ('000 Rs)	20-25	25-30	30-35	35-40	40-45
No. of workers	20	37	45	23	9

2) Find mean and standard deviation from the following data. [5]

Age(in years)	30-35	35-40	40-45	45-50	50-55
No. of staffs	10	39	50	15	5

3) Two independent samples of observation were collected. For the first sample of 70 elements, the mean was 87 and standard deviation 7. The second sample of 90 elements had mean 79 and standard deviation 10. Using 1% level of significance, test whether the two samples can reasonably be considered to have come from populations with the same mean. [5]

4) Find the range of salary of middle 70% workers from the following table. [5]

Salary ('000 Rs)	10-20	20-30	30-40	40-50	50-60	60-70	70-80
No. of workers	6	12	28	10	7	5	2

5) From the following table, find the correlation coefficient and estimate the marks in science when marks in Math is 95. [6]

Marks in Maths	57	72	50	80	90	34	38
Marks in Science	60	50	56	77	85	45	41



## Lab Work

Time: 1 Hrs

Full Marks: 24

Practical Exam Questions Using MS-Excel

Find the expected frequencies assuming Poisson Distribution. [5]

No of accidents	0	1	2	3	4
No. of days	110	60	15	10	5

In a 60 MA Economics students selected as sample are found to have a mean height of 68 inches and a 50 MBS students selected as sample have a mean height of 69 inches. Would you conclude that management students are taller than economics students? Assume that standard derivation of height of post graduate students to be 2.24 inches. [5]

Construct a frequency distribution using intervals 60-80, 80-100 and so on.

91	79	66	98	127	139	154	147	192	132
88	97	92	87	142	127	184	145	162	120
95	89	86	98	145	129	149	158	141	100

Describe the characteristics of the frequency distribution as regards to control tendency, dispersion, skewness and kurtosis and draw conclusions. [5]

Draw a pie-diagram for the following data of expenditure of a family. [3]

Items	Expenditure per month (in Rs)
Food	400
Rent	120
Cloths	250
Education	100
Energy	50
Misc.	180

5. The monthly income of 100 families of a community are as follows: [6]

Monthly income '000' Rs:	0-4	5-9	10-14	15-19	20-24	25-29
No. of Families	10	35	70	20	10	5

Find the lowest income of the richest 30% of the family.

Find the highest income of the poorest 25% of the family.

## Lab Work

### Important instructions:

1. Create new folder on desktop and rename it with your symbol number.
2. Click on Page Layout on the Ribbon, then click on Print of Gridlines and Heading of ribbon. Set up Scale at 75%.
3. Type your symbol number in K L, K 63 and K 125 cells so that your answer sheet won't be misplaced.
4. Save your excel spreadsheet (your file) in the folder renamed by your symbol number.
5. Make sure that you should not write beyond the vertical dotted line of spreadsheets.
6. For each and every calculation, don't forget to press Ctrl + S to save your essential work.
7. You should submit your hard copy (print) with your signature.

### Practical Exam Questions Using MS- Excel

1. Draw a less than ogive curve and locate  $D_3$  and  $P_{25}$  from the following weight distribution. [3]

Weight(in kg)	30-40	40-50	50-60	60-70	70-80	80-90
No of persons	10	30	40	70	30	20

2. Dealer of Maruti Suzuki wants to know the average number of cars sold. He checks his past records and comes up with the following probability distribution.

No. of sales of cars	0	1	2	3	4
P(X)	0.30	0.25	0.18	0.15	0.12

3. Find the expected number of sales of car and variance.  
The mean weight of 100 BBA students and 50 BBM students are 63 kg and 62 kg respectively. Would you conclude that the weight of BBA and BBM

students are equal at 5% level of significance? The standard deviation of weight of the students is 9.

4. Calculate quartile deviation from the following distribution of monthly rent paid by 120 shops in Gaushala. [5]

Monthly Rent '00' Rs	0-20	20-40	40-60	60-80	80-100	100-120
No. of shops	20	40	25	20	10	5

5. The advertisement expenditure and sales of detergent powder of Nepal Lever is given below: [6]

Advertisement expenditure '000' Rs.	10	12	15	19	25	30
Sales '000' Rs.	35	50	80	105	120	110

Find the correlation coefficient between advertisement expenditure and sales. Also estimate the sales, when advertisement expenditure is Rs. 40,000.

**0 Set 1**

**BBA / BIM / BBM / Third Semester / STT 211 / STT 201: Business Statistics**

*Candidates are required to answer all the questions using MS-Excel. The figures in the margin indicate full marks.*

**Important instructions**

1. Write your name and roll number in question paper.
2. Create new folder on the desktop and rename it with your symbol number.
3. Click on Page Layout of  Insert  Page Layout of the Ribbon, then click on both of Print  Print of Gridlines and Heading. Set up Scale  Scale: 100% at 75%.
4. Click on middle one icon of view i.e.  100%. After clicking on Click to add header, type your symbol number so that your answer sheet won't be misplaced.
5. Save your spreadsheet (your file) with your symbol number in the folder (named with your symbol number).
6. Make sure that you should not write beyond the column of the spreadsheet set under 75%.
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8. You should submit your hard copy (print) with your signature.

**Practical Exam Questions Using MS-Excel**

- 1) A trade association compiled the following historical data of major appliances sales and housing starts: [5]

Housing Starts (*00)	2	2.5	3.2	3.6	3.3	4	4.2	4.6	4.8	5
Appliances Sales (*00)	5	5.5	6	7	7.2	7.7	8.4	9	9.7	10

- (a) Compute coefficient of correlation and interpret.  
(b) Find regression equation and estimate the sales of appliances for 6.9 hundred housing starts.

- 2) The distribution of computer typing mistakes committed by a computer operator is given below. Assuming a Poisson model, find the expected frequencies. [5]

Mistakes per page	0	1	2	3	4	5
No. of pages	140	160	70	25	3	2

- 3) A sample of 450 persons selected randomly in Pokhara, which resulted, that the females were 53%. Is there any reason to doubt the hypothesis that females and males are in equal number at 5% level of significance? [5]

- 4) Construct a frequency distribution with suitable class interval. [6]

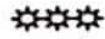
12	34	45	66	76	54	57	87	98	90
99	43	16	43	23	47	62	24	46	78
23	24	28	74	35	69	43	36	48	59

Calculate Kurtosis value and interpret the shape of the distribution.

5) Draw a multiple bar diagram from the following table.

[3]

Items	Value in Rs.	
	2074/75	2075/76
Raw material	150	250
Labor	100	200
Power	75	150
Advertisement	25	100
Other charges	50	200



**TRIBHUVAN UNIVERSITY**  
**FACULTY OF MANAGEMENT**  
 Office of the Dean  
 April 2019

Full Marks: 24  
 Pass Marks: 12  
 Time: 1 Hr.

**Set 2**

**BBA / BIM / BBM / Third Semester / STT 211 / STT 201: Business Statistics**

*Candidates are required to answer all the questions using MS-Excel. The figures in the margin indicate full marks.*

**Important Instructions**

1. Write your name and roll number in question paper.
2. Create new folder on the desktop and rename it with your symbol number.
3. Click on Page Layout of  Insert  Page Layout of the Ribbon, then click on both of Print  Print  Print of Gridlines and Heading. Set up Scale  Scale  Scale at 75%.
4. Click on middle one icon of view i.e.    Normal. After clicking on Click to add header, type your symbol number so that your answer sheet won't be misplaced.
5. Save your spreadsheet (your file) with your symbol number in the folder (named with your symbol number).
6. Make sure that you should not write beyond the column of the spreadsheet set under 75%.
7. For each and every calculation, don't forget to press Ctrl + S to save your essential work.
8. You should submit your hard copy (print) with your signature.

**Practical Exam Questions Using MS-Excel**

- 1) A research was conducted in a city to determine the number of mobile phones each household has. From the data below fit Poisson distribution and find expected frequencies. [5]

No. of mobile phones	0	1	2	3	4	5	6
Frequency	4	30	48	13	17	12	8

- 2) The following information is related to the height of boys and girls with the respective standard deviations of a campus. [5]

	Boys	Girls
Sample size	120	150
Average height in inch	65	61
Standard deviation		7

Is there any significant differences between height of boys and girls? Test the hypothesis at 5% level of significance.

- 3) Construct a frequency distribution with suitable class interval. [6]

12	34	45	66	76	54	57	87	98	90
99	43	16	43	23	47	62	24	46	78
23	24	28	74	35	69	43	36	48	59

Find skewness and interpret the result.

[3]

4) From the following table:

Demand	10	20	30	40	50
Probability	0.08	0.24	0.28	0.3	0.1

Calculate (a)  $E(X)$  (b)  $V(X)$  and (c)  $E(4X+5)$

5) The table below shows the number of absences, in a Calculus course and the final exam grade, for 7 students. [5]

No. of absences	1	0	2	6	4	3	3
Grade	95	90	90	55	70	80	85

(a) Find the correlation coefficient and interpret your result.

(b) Find the regression equation and predict the final exam grade if number of absences is 75.



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Set 4

TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT  
Office of the Dean  
April 2019

Full Marks: 24  
Pass Marks: 12  
Time: 1 Hr.

BBA / BIM / BBM / Third Semester / STT 201: Business Statistics

Candidates are required to answer all the questions using MS-Excel. The figures in the margin indicate full marks.

Important instructions

1. Create new folder on desktop and rename it with your symbol number.
2. Click on Page Layout on the Ribbon, then click on Print of Gridlines and Heading of ribbon. Set up Scale at 75%.
3. Type your symbol number in K1, K63 and K125 cells so that your answer sheet won't be misplaced.
4. Save your excel spreadsheet (your file) in the folder renamed by your symbol number.
5. Make sure that you should not write beyond the vertical dotted line of spreadsheets.
6. For each and every calculation, don't forget to press Ctrl + S to save your essential work.
7. You should submit your hard copy (print) with your Name, Roll and Signature.

Practical Exam Questions Using MS-Excel

- 1) Fit a Poisson distribution to following data and calculate the expected frequencies. [5]

No of typing mistakes:	0	1	2	3	4	5
No. of pages:	50	25	10	8	5	2

- 2) A wholesaler claims that only 3% of peaches are defective. A random sample of 200 peaches contained 12 defectives. Test the claim of the wholesaler. [5]

- 3) From the prices of shares of two companies A and B are given below and state which share is more stable in value on the basis of coefficient of variation. [5]

Company A:	56	53	54	51	56	60	50	51	50	49
Company B:	105	110	103	107	106	108	102	105	104	101

- 4) The following data were collected in an experiment on jute in a village of Biratnagar in which the length X(in cm) of green plants and weight Y(in gm) of dry fibre were recorded. [6]

Length X (cm):	172	148	162	183	160	141	150	190
Weight Y(gm):	7	3	4	5	6	3	4	8

- a. Calculate correlation coefficient between length and weight.
- b. Estimate the weight of dry when the length of green plant is 200 cm.

- 5) The profit distribution of a company is given below. [3]

Profits 000 Rs:	0 - 20	20 - 40	40 - 60	60 - 80	80 - 100	100 - 120
No. of shops:	10	20	30	18	9	3

Draw a less than Ogive curve and determine median.



Set 2

TRIPUNIVAN UNIVERSITY  
FACULTY OF MANAGEMENT

Office of the Dean

January - February 2020

(Make up)

Full Marks: 24

Pass Marks: 10.00

Time: 1 Hr.

BBA / DIM / Third Semester / STT 201: Business Statistics

Candidates are required to answer all the questions using MS-Excel. The figures in the margin indicate full marks.

Important Instructions

1. Write your name and roll number in question paper.
2. Create new folder on the desktop and rename it with your symbol number.
3. Click on Page Layout of  Print of the Ribbon, then click on both of Print  Print of Gridlines and Heading. Set up Scale  Print at 75%.
4. Click on middle one icon of view i.e.  Print. After clicking on Click to add header, type your symbol number so that your answer sheet won't be misplaced.
5. Save your spreadsheet (your file) with your symbol number in the folder (named with your symbol number).
6. Make sure that you should not write beyond the column of the spreadsheet set under 75%.
7. For each and every calculation, don't forget to press Ctrl + S to save your essential work.
8. You should submit your hard copy (print) with your signature.

Practical Exam Questions Using MS-Excel

1. Fit Poisson distribution and find expected frequencies, mean, and standard deviation. [5]

Value	0	1	2	3	4	5	6	7
Frequency	46	27	49	33	45	16	27	17

2. From the following data, calculate mean, standard deviation, CV and interpret. [5]

Wages (Rs)	5-9	10-14	15-19	20-24	25-29	30-34	35-39
No. of workers	28	19	10	25	16	14	8

3. Construct a histogram from the following data. [3]

Time spent (in minutes)	10-20	20-30	30-40	40-50	60-70
No. of visitors	2	7	15	12	10

4. The following table summarizes the data of a factory. [5]

Number of items ('000)	59	42	13	48	14	45	52	11	70	43	26
cost (Rs 000)	29	34	18	38	62	38	51	51	48	70	43

- (a) Find the regression equation and estimate the production cost if the number of items produced is 60 thousand.
- (b) Find the value of correlation coefficient and comment on it.

5. The following data shows the monthly salary of the workers. [6]

Salary (Rs)	100-200	200-300	300-400	400-500	500-600
No. of workers	23	35	58	45	22

- (a) Construct Box Whisker Plot and interpret it.
- (b) Find the range of middle 50% of salaries.



Roll No: 22152  
**O Set 1**

Ajay Kumar Yadav

TRIBHUVAN UNIVERSITY  
 FACULTY OF MANAGEMENT  
 Office of the Dean  
 January 2022

Full Marks: 24  
 Pass Marks: 12  
 Time: 1 Hr.

BBA / BEM / BBM / Third Semester / STT 211 / STT 201: Business Statistics

Candidates are required to answer all the questions using MS-Excel. The figures in the margin indicate full marks.

**Important instructions**

1. Write your name and roll number in question paper.
2. Create new folder on the desktop and rename it with your symbol number.
3. Click on **File**, **Layout** of **view**  **Page Layout** of the  **ribbon**, then click on both of **Print**  **Print** of **Settings and Printing** set up **book**  **Print**  **Print**.
4. Click on middle one icon of view is **Gridlines**. After clicking on **Click to add header**, type your symbol number so that your answer sheet won't be misplaced.
5. Save your spreadsheet (your file) with your symbol number in the folder named with your symbol number.
6. Make sure that you should not write beyond the column of the spreadsheet set under 71%.
7. For each and every calculation, don't forget to press **Ctrl + S** to save your essential work.
8. You should submit your hard copy (print) with your signature.

**Practical Exam Questions Using MS-Excel**

- 1) From the following data, calculate mean, standard deviation, CV and interpret. (3)

Wages (Rs.)	1-9	10-14	15-19	20-24	25-29	30-34	35-39
No. of workers	28	19	10	25	16	14	8

- 2) Construct a histogram from the following data. (4)

Time spent (in minutes)	10-20	20-30	30-40	40-50	60-70
No. of students	2	7	15	12	10

- 3) Fit Poisson distribution and find expected frequencies, mean, and standard deviation. (4)

Value	0	1	2	3	4	5	6	7
Frequency	65	43	34	26	26	40	60	37

- 4) The following table summarizes the data of a factory. (4)

Number of items ('00)	38	42	11	48	14	45	32	11	70	43	28
cost (Rs. '00)	29	34	18	38	62	38	51	51	48	70	43

(a) Find the regression equations and estimate the production cost if the number of items produced is 50 thousand.

(b) Find the value of correlation coefficient and comment on it.

- 5) The following table shows the monthly salary of the workers. (4)

Salary ('000 Rs.)	10-20	20-30	30-40	40-50	50-60	60-70
No. of workers	12	12	21	25	18	28

(a) Find the free number of summary.

(b) Construct the Whisker Plot and interpret it.

Set 2

TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT

Full Marks: 24  
Pass Marks: 12  
Time: 1 Hr.

Office of the Dean  
January 2022

BBA / BIM / BBM / Third Semester / STT 211 / STT 201: Business Statistics

Candidates are required to answer all the questions using MS-Excel. The figures in the margin indicate full marks.

Important instructions

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2. Create new folder on the desktop and rename it with your symbol number.
3. Click on Page Layout of Insert Page Layout of the Ribbon, then click on both of Print  Print of Gridlines and Heading. Set up Scale  Scale: 100% at 75%.
4. Click on middle one icon of view i.e.    100%. After clicking on Click to add header, type your symbol number so that your answer sheet won't be misplaced.
5. Save your spreadsheet (your file) with your symbol number in the folder (named with your symbol number).
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Practical Exam Questions Using MS-Excel

- 1) Draw less than ogive and locate median. [3]

Age	20 - 25	25 - 30	30 - 35	35 - 40	40 - 45
No. of students	12	29	48	13	8

- 2) Find the expected frequencies assuming Poisson distribution. [5]

No of accident	0	1	2	3	4
No of days	110	60	15	10	5

- 3) The average life of 64 bulbs was found to be 1500 hours with standard deviation 130 hours. Test whether the sample is from a batch having average life of 1520 hours at 5% level of significance. [5]

- 4) Using percentile method, find the kurtosis for the following data [6]

Salary ('000 Rs)	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80
No. of employees	6	12	28	10	7	5	2

- 5) The advertisement expenditure and sales of detergent powder of ABC Company is given below [5]

Advertisement Expenditure 000rs	10	12	15	19	25	30
Sales'000 Rs	35	50	80	105	120	110

- (a) Calculate correlation coefficient between advertisement and sales.
- (a) Find the regression line and predict the sales value when advertisement expenditure is Rs 5,000.



**0 Set 3**

**TRIBHUVAN UNIVERSITY**  
**FACULTY OF MANAGEMENT**  
Office of the Dean  
January 2022

Full Marks: 24  
Pass Marks: 12  
Time: 1 Hr.

**BBA / BHM / BDM / Third Semester / STT 211 / STT 201: Business Statistics**

Candidates are required to answer all the questions using MS-Excel. The figures in the margin indicate full marks.

**Important Instructions**

1. Write your name and roll number in question paper.
2. Create new folder on the desktop and rename it with your symbol number.
3. Click on Page Layout of  Home  Page Layout of the Ribbon, then click on both of Print  Print  Print of Gridlines and Heading Setup Scale  Scale  Scale at 75%.
4. Click on middle one icon of view i.e.  Print  Print. After clicking on Click to add header, type your symbol number so that your answer sheet won't be misplaced.
5. Save your spreadsheet (your file) with your symbol number in the folder (named with your symbol number).
6. Make sure that you should not write beyond the column of the spreadsheet set under 75%.
7. For each and every calculation, don't forget to press Ctrl + S to save your essential work.
8. You should submit your hard copy (print) with your signature.

**Practical Exam Questions Using MS-Excel**

1) Draw histogram from the following data. [3]

Age	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35
No. of students	10	29	45	13	5

2) Fit binomial distribution from the following data. [5]

Value	0	1	2	3	4	5	6
Frequency	60	40	30	70	50	60	40

3) A random sample of 50 workers is selected from 350 workers at a random. The mean income of 50 workers is found to be Rs 5050 and standard deviation of income is Rs 210. Construct a 99% confidence interval for mean of all workers. [5]

4) Calculate the Bowley's coefficient of skewness from the following data [6]

Salary ('000 Rs)	10 - 20	20 - 30	30 - 40	40 - 50	50 - 60	60 - 70	70 - 80
No. of workers	4	12	25	10	7	5	2

5) The table below show the height in inches and the pulse rate per minute for nine students. [5]

Height(inch)	68	72	65	62	75	78	64	68	70
Pulse rate(min)	90	85	88	105	98	70	65	72	100

- (a) Calculate Pearson's correlation coefficient (r).
- (b) If a student's height is 73 inches, estimate the pulse rate of him/her.

