

**Tribhuvan University**  
**Faculty of Management**  
**Model Question 2023**

**Full Marks: 100**  
**Pass Marks: 50**  
**Time: 3 Hrs.**

**BBA 3<sup>rd</sup> Semester ACC 202: Cost and Management Accounting**

Candidates are required to give their answer in their own words as far as practicable. The figures in the margin indicate full marks.

**Group "A"**

**Brief Answer Questions (Attempt ALL Questions)**

**(10x2)**

1. State any two objectives of cost account.
2. What is perpetual inventory system?
3. Define semi variable cost.
4. Write about opportunity cost.
5. What is premium plan?
  
6. A manufacturing company provides you the following information of a material:
  - Economic order quantity 4,000 units
  - Annual requirement 40,000 units
  - Cost per unit of material Rs.20
  - Carrying cost is 10% of inventory value

**Required:** Ordering cost per order.

7. The following data are given to you:

Standard and actual output =	2,000 units
Output per hour =	15 units
Rate per hour =	Rs.30

**Required:** Total wages under Gant Task Bonus Scheme

8. KK Company Ltd. is working at its annual normal capacity of 5,000 units. The total cost per unit is Rs.70. The annual fixed costs are Rs.100,000.

**Required:** Total cost at 80% of the normal capacity.

9. The following information of a manufacturing company are presented below:

Actual hours worked 2,900

Fixed overhead (4,000 hours Normal Capacity) Rs.32,000

Actual production 50 units

Standard hours per unit 60

Standard overhead rate per standard hour Rs.20

Actual overhead incurred Rs.65,000

**Required:** Overhead Spending Variance

10. The following information is available in respect of a material.

- Maximum stock level = 8,000 units
- Minimum consumption = 400 units
- Average consumption = 500 units
- Delivery period = 6 days – 10 days
- Re-order level = 6,000

**Required:** Reorder quantity

## Group "B"

**Short Answer Questions (attempt any SIX questions)**

**(6x5=30)**

11. Differentiate between fixed and flexible budget.

12. What are the limitations of cost volume profit analysis?

13. Differentiate between relevant and irrelevant cost.

14. ABC Manufacturing Company has sufficient idle capacity therefore; it would like to see the possibility of manufacturing a component used in its final products. The company has been buying the component from the outside suppliers at the rate of Rs.20. The other data have been presented below:

Annual need 25,000 units

Cost estimate for one unit:

Raw material	Rs.9
Direct labor	Rs.7
Manufacturing overheads	Rs.8

**Rs.24**

The company has followed a system of defining its plant capacity in terms of direct labor hours. The normal capacity is 60,000 direct labor hours. The annual fixed manufacturing overhead is Rs.150,000. Two labour hours is needed to produce one unit.

**Required:** Differential cost analysis to decide whether the company should make or buy the components?

15. Following information are given to you:

**Standard:**

Material	Quantity	Standard Price per kg
A	40%	Rs.20
B	60%	Rs.30

**Actual:**

Material	Quantity	Actual Cost
A	70 kg	Rs.1,470
B	130 kg	Rs.4,160

Standard Loss is 10% and Actual output is 185 kg

**Required:** Material variances

16. The overheads of a Manufacturing Company are given below:

Fuel	Rs. 46,000
Rent	Rs. 50,000
Store overheads	Rs. 36,000
Amenities to staff	Rs. 24,000

Following further details are provided to you:

	Production department	
	A	B
Horse Power	10	8
Machine hours	3,000	2,000
Area occupied sq. feet	3,000	2,000
No. of staff	15	9
Direct material Rs.	30,000	18,000

**Required:** Overhead rate per machine hour for both products

(5)

17. The following are the information of a Manufacturing Company with Normal Capacity of 20,000 units:

Years	2078	2079
Production units	20,000	21,000
Sales units	19,000	20,000
Fixed factory overhead at Normal Capacity		Rs.100,000
Fixed administrative overhead		Rs.40,000
Fixed selling overhead		Rs.30,000

Unit selling price	Rs.30
Variable cost per unit Rs.:	
Raw material	8
Direct labour	6
Direct expenses	4

**Required:** Income Statement under Absorption Costing for the year 2079 and reconcile profit without preparing Variable Costing Statement. (4+1)

## Group "C"

**Long Answer Questions (attempt any THREE questions) (3x10=30)**

18. "The main objective of inventory management is to supply all kinds of inventory regularly in such a manner that there is no shortage of materials and the production has may not have to be stopped", discuss.
19. "Management accounting provides relevant information for planning, controlling the organization activities and taking right decisions", comment.

20. Following are the information of a renowned Hotel in Kathmandu

- Total number of single rooms = 30
- Total number of double rooms = 20

Annual expenses (Rs.) summary:

- Room attendant's salary = 50,000 per month
- Administrative staff salary = 60,000 per month
- Other helpers salaries = 20,000 per month
- Lighting and heating = 160,000 per annum
- Repair and maintenance = 40,000 per annum
- Depreciation of buildings = 5% of Rs.5,000,000
- Depreciation of other fixed assets = 15% of Rs.1,000,000
- Insurance = Rs.15,000 per month
- Miscellaneous = Rs.200,000 per annum

Occupancy ratio:

- For 4 months = Single rooms 100%  
Double rooms 80%
- For 8 months = Single rooms 70%  
Double rooms 50%

Profit margin 20% on cost

Assume that the double room shall be regarded as 1.5 of the single room for fixing the rate of the room.

**Required:**

- a. Operating cost statement

b. Room charge for single and double room per day

(8+2)

21. The sales revenue and profit of a manufacturing company for two years were as follows:

Year	Sales Revenue (Rs)	Profit (Rs)
2078	500,000	(15,000)
2079	700,000	15,000

- Required:**
- i) Profit volume ratio
  - ii) Fixed cost
  - iii) Brake-even point in Rs.
  - iv) Break-even point in units if selling price per unit is Rs.100
  - iv) Sales to earn desired profit after tax of Rs.30,000 if tax rate is 25%
  - v) Profit when sales are Rs.1,000,000
  - vi) Margin of safety ratio if actual sales is Rs.900,000 (1+1+2+1+2+1+2)

### Group "D"

**Comprehensive Answer Question**

(1 × 20 = 20)

22. A renowned organization is planning to prepare functional budget for their decision purpose from the following information:

Total sales for six months are 200,000 units, which are apportioned as:

Chaitra 15%, Baisakh 20%, Jestha 15%, Ashad 10%, Shrawan 10%, Bhadra 20% and Ashwin 10% respectively. Selling price per unit will be Rs.20

Purchase: One unit of finished goods requires 2 kg of material at a cost of Rs.10.

Wages: Each unit of finished good will need 2 labour hours and rate per labour hour will be

Rs.3 Overhead: Variable manufacturing cost will be Rs.3 per unit and fixed manufacturing cost for the year will be Rs.120,000

Inventory policy: Material: 50% of the subsequent month's requirement

Finished goods: 20% of the subsequent month's sale

**Required for four months from Baisakh to Shrawan:**

- a. Sales budget
- c. Production budget
- d. Material purchase budget
- e. Labour budget
- f. Manufacturing overhead budget
- g. Cost of goods sold budget
- h. Explain, why organizations need to prepare functional budget. (2+4+4+2+2+3+3)

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**Full Marks: 100**

**Pass Marks: 50**

**Time: 3 Hrs.**

**Tribhuvan University  
Faculty of Management  
Model Question 2023**

**BBA 3<sup>rd</sup> Semester ENG 203: Business Communication**

Candidates are required to give their answers in their own words as far as practicable. The figures in the margin indicate the full marks.

**Group "A"**

**Brief Answer Questions (10×2=20)**

1. Non-verbal cues compliment verbal communication. Explain the statement.
2. What are the three basic modes of communication?
3. Briefly describe the oral communication process.
4. What is a buffer? Why should you use it in a negative message?
5. Briefly introduce types of interviews.
6. How is an ethical dilemma different from an ethical lapse?
7. What factors have brought significant changes in business communication?
8. Define etiquette.
9. How is a résumé different from a CV?
10. Why do Nepali youth still prefer government jobs?

**Group "B"**

**Short Answer Questions (Any Six) (6×5=30)**

11. How would you advise a job seeker to search and locate jobs in Nepal? Describe the process in detail.
12. Why are oral communication skills important? What can you do to enhance your oral communication skills?
13. Briefly introduce the major methods of presentation. Which one do you prefer and why?
14. Describe the collaborative writing process. What can one do to improve the process?
15. Briefly describe Bennett's model of intercultural sensitivity. Following this model, how can one overcome ethnocentrism?
16. Discuss the five techniques of writing effective persuasive business messages? What would you do to establish credibility in your writing?
17. Imagine one of your friends is about to get interviewed for a job. Write an email to him or her offering suggestions to improve his or her nonverbal aspect of communication during the interview.

**Group "C"**  
**Long Answer Questions (Any Three) (3×10=30)**

18. What are some of the challenges of business communication? Can you suggest some ways of overcoming such challenges?
19. Suppose you work in a multinational company. The company has recently deputed you to work as a production manager in one of its production facilities located in South India. You anticipate working closely with the company's frontline workers and the management team comprised of individuals belonging to three different South Asian countries. What specific barriers of communication would you face? What would you do to overcome the likely communication barriers?
20. As a sales manager of Daraz Nepal, you received a claim letter from Ms. Neera Baidhya. She had apparently bought an expensive party sari a month ago. Now she claims that the sari just faded out after she washed it in her washing machine. The instruction tag on the sari clearly stated that the fabric needs a gentle hand washing, warning the customer against machine washing the product. Clearly, you must deny the claim. But you also want to maintain goodwill. Write a letter to deny her claim but also make sure that your letter is positive and effective so that your business relationship with the client remains intact.
21. Choose a culture or society other than yours. Then conduct research to find out how that society or culture differs from your own culture in terms of nonverbal communication. Present your ideas to the class.

**Group "D"**  
**Case Studies (6+8+6=20)**

**22. Read the following case and answer the question asked below:**

Staying tuned in to a customer's concerns is the number one focus of proposal writers at Hewlett-Packard. A proposal today, especially in a global environment, involves more than merely supplying a product. Mary Piecewicz, at Hewlett-Packard, says, "It's more like a marriage between two companies. Before we can write a proposal, we need to be detectives and learn as much as possible about the potential partner." HP begins searching for information. From the customer's annual report, news release, industry reports, and other sources, HP detectives search for specifics about its products, strategies, and company culture. What hot buttons is the company likely to respond to?

In organizing proposals, HP always responds to the customer's outline. If the customer doesn't specify a plan, proposals are arranged as follows: Section 1 includes the executive summary, which is the most important part of the proposal. It spotlights the hot buttons and the proposal criteria set forth in the request for proposal (RFP). Section 2 covers specifications and technical descriptions. Section 3 lists costs, terms, and conditions. Section 4 presents supplemental literature, including generic resume and staff qualifications. Authorization to proceed is usually discussed after receipt of the proposal.

In this way customers are able to negotiate the formal agreement with the sales account manager.

Because of its importance, the executive summary gets special attention. It may open with a brief history of HP, but its primary focus is on the customer's needs. "We address every customer issue and specify our 'differentiators,'" explains Piecewicz. "What makes HP stand out from our competitors? The executive summary is really the selling tool in our proposals, and we spend the most time on it."

**Questions:**

- a. Why is it Important to become a "detective" before beginning to write a proposal?
- b. If Hewlett-Packard were preparing a proposal for a Fortune 500 company, what kinds of information, and where should the proposal team investigate? Where could it find such information?
- c. What is the most important part of an HP proposal, and what should it include?

**...The End...**



TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT

Full Marks: 100  
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Office of the Dean

Model Question [2023]

**BBA Third Semester/FIN 206: Fundamentals of Finance**

*Candidates are required to give their answers in their own words as far as practicable.*

**Group “A”**

**Brief Answer Questions:**

**[10 × 2 = 20]**

1. What do you mean by finance?
2. Give four examples of financial instruments.
3. Write major four function of finance.
4. Differentiate between yield to maturity and yield to call.
5. Why Preferred stock is called hybrid security?
6. Define working capital management.
7. Which amount is worth more at 10 percent: Rs 1000 in hand today or Rs 1500 after 5 years?
8. A Corporation issued perpetual preferred stock with 10% annual dividend. The stock currently yields 8%, and its par value is Rs 100. What is the stock's value?
9. A firm is expected to pay a dividend of Rs 12 at the end of the year. The required rate of return is 11%. Other things held constant, what would the stock's price be if the growth rate was 5%?
10. You want to buy a motorcycle, and a local bank will lend you Rs 200,000. The loan will be fully amortized over 5 years, and the nominal interest rate will be 12% p.a. What will be the annual installment?

**Group “B”**

**Short Answer Questions: (Attempt any SIX Questions)**

**[6 × 5 = 30]**

11. What is the relationship between economics, finance and accounting?
12. What is financial market? Distinguish between money markets and capital markets.
13. What is cost of money? Explain four fundamental factors affect the cost of money.
14. Explain the importance of time value of money in finance.
15. Your broker offers to sell you some shares of Bhimsen & Co. common stock that paid a dividend of Rs 20 yesterday. Bhimsen's dividend is expected to grow at 5% per year for the next 3 years. If you buy the stock, you plan to hold it for 3 years and then sell it. The appropriate discount rate is 12%.
  - a. What is the firm's expected dividend stream over the next 3 years?
  - b. What is its current stock price?

16. Nepal Oil Corporation has a target capital structure of 70 percent common stock, 5 percent preferred stock, and 25 percent debt. Its cost of equity is 11 percent, the cost of preferred stock is 5 percent, and the pretax cost of debt is 7 percent. The relevant tax rate is 40%.
- What is company's WACC?
  - The company president has approached you about company's capital structure. He wants to know why the company doesn't use more preferred stock financing because it costs less than debt. What would you tell the president?
17. Dabur Nepal has been in business for several years and is now in a stable position: placing orders, generating sales, collecting cash receipts, and paying vendors on a

recurring basis. The following data were taken from its latest financial statements:

Annual sales	Rs 12,000,000
Cost of goods sold	9,000,000
Inventory	3,000,000
Accounts receivable	3,250,000
Accounts payable	1,250,000

Calculate the cash conversion period of Dabur Nepal.

### Group "C"

**Long Answer Questions: (Attempt any THREE Questions)**

**[3 × 10 = 30]**

18. What is the cost of capital? Explain the factors that affect the cost of capital of a firm?
19. An analyst evaluating securities has obtained the following information. The real rate of interest is 2% and is expected to remain constant for the next 3 years. Inflation is expected to be 3% next year, 3.5% the following year, and 4% the third year. The maturity risk premium is estimated to be  $0.1 \times (t - 1)\%$ , where  $t$  = number of years to maturity. The liquidity premium on relevant 3-year securities is 0.25% and the default risk premium on relevant 3-year securities is 0.6%.
- What is the yield on a 1-year T-bill?
  - What is the yield on a 3-year T-bond?
  - What is the yield on a 3-year corporate bond? [3+3+4]
20. Assume that it is now January 1, 2017, and you will need Rs 1000 on January 1, 2021. Your bank compounds interest at an 8 percent rate annually.
- How much must you deposit on January 1, 2018 to have a balance of Rs 1000 on January 1, 2021?
  - If your bank compounds interest semi-annually, how much must you deposit on January 1, 2018 to have a balance of Rs 1000 on January 1, 2021?
  - If you want to make equal payments on each January 1, from 2018 through 2021 to accumulate the Rs 1000, how large must each of the 4 payments be?

- d. If you have only Rs 750 on January 1, 2018, what interest rate compounded annually would you have to earn to have the necessary Rs 1000 on January 1, 2021?
21. Kasthamandap Enterprises has bonds outstanding with a Rs 1,000 face value and 10 years left until maturity. They have an 11% annual coupon payment, and their current price is Rs 1,175. The bonds may be called in 5 years at 109% of face value (Call price = Rs 1,090).
- What is the yield to maturity?
  - What is the yield to call if they are called in 5 years?
  - Which yield might investors expect to earn on these bonds? Why?

### Group “D”

***Comprehensive Answer / Case / Situation Analysis Questions:***

[ 20 ]

Carefully read the following case and analytically answer the question given below:

22. Mr. Anjan Thapa was recently hired as a financial analyst by a manufacturer of electronic components. His first task was to conduct a financial analysis of the firm covering the past two years. To begin, he gathered the following financial statements and other data.

Balance Sheets	2022	2021
<b>Assets</b>		
Cash	Rs 52,000	Rs 57,600
Accounts receivable	402,000	351,200
Inventories	836,000	715,200
Total current assets	Rs 1,290,000	Rs 1,124,000
Gross fixed assets	527,000	491,000
Less: Accumulated depreciation	(166,200 )	(146,200)
Net fixed assets	Rs 360,800	Rs 344,800
Total assets	Rs 1,650,800	Rs 1,468,800
<b>Liabilities and Equity</b>		
Accounts payable	Rs 175,200	Rs 145,600
Notes payable	225,000	200,000
Accruals	140,000	136,000
Total current liabilities	Rs 540,200	Rs 481,600
Long-term debt	424,612	323,432
Common stock (100,000 shares)	460,000	460,000
Retained earnings	225,988	203,768
Total equity	Rs 685,988	Rs 663,768
Total liabilities and equity	Rs 1,650,800	Rs 1,468,800
Income Statements	2022	2021
Sales	Rs 3,850,000	Rs 3,432,000

Cost of goods sold	(3,250,000)	(2,864,000)
Other expenses	(430,300)	(340,000)
Depreciation	(20,000)	(18,900)
Total operating costs	Rs 3,700,300	Rs 3,222,900
EBIT	Rs 149,700	Rs 209,100
Interest expense	(76,000)	(62,500)
EBT	Rs 73,700	Rs 146,600
Taxes (40%)	29,480	(58,640)
Net income	Rs 44,220	Rs 87,960
<b>Other Data</b>		
Number of Shares	100,000	100,000
Lease payments	Rs 40,000	Rs 40,000

Industry average data for 2022

Ratio	Industry Average
Current	2.7x
Quick	1.0x
Inventory turnover	6.0x
Days sales outstanding (DSO)	32.0 days
Fixed assets turnover	10.7x
Total assets turnover	2.6x
Debt ratio	50%
TIE	2.5x
Fixed charges coverage	2.1x
Net profit margin	3.5%
ROA	9.1%
ROE	18.2%

Assume that you are appointed assistant of Anjan Thapa and that he has asked you to help to prepare a report that evaluates the company's financial condition. Your assignment is to answer the following questions.

- What are Company's current and quick ratios? What do they tell you about the liquidity position of the Company?
- What are company's inventory turnover, days sales outstanding (DSO), fixed assets turnover, and total assets turnover? How does the firm's utilization of assets stack up against that of the industry?
- What are the firm's debt, times-interest-earned, and fixed charges coverage ratios? How does the firm compare to the industry with respect to financial leverage? What conclusion can you draw from these ratios about long term solvency of the company?
- Calculate and discuss the firm's profitability ratio - that is, its net profit margin, return on assets (ROA), and return on equity (ROE). What can you say about profitability of the company?

<p><b>MODEL QUESTION</b> <b>BBA / Third Semester / MGT 232: Leadership &amp; Organizational Behavior</b></p>
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*Candidates are required to answer the questions in their own words as far as practicable.*

**Group “A”**

**Brief Answer Questions:**

**[10 × 2 = 20]**

1. Describe the meaning of organizational behavior.
2. Make a list of factors affecting perception.
3. Differentiate between Type A and Type B personality.
4. Define organizational change.
5. What is dysfunctional stress?
6. Point out any two factors affecting attitude of an individual.
7. List out any indicators of innovative work behavior?
8. Differentiate between the traits of a leader and a manager.
9. Write down any four qualities of an effective leader.
10. What is mentoring in leadership development process?

**Group “B”**

**Short Answer Questions:(Attempt any SIX Questions)**

**[6 × 5 = 30]**

11. Describe in brief the increasing need of effective application of organizational behavior.
12. Explain in brief the different factors affecting the learning.
13. What are The Big Five Personality traits? Explain them in brief.
14. Explain how does job satisfaction influence employee performance.
15. What are the organizational stressors? Describe them in brief.
16. Explain Fiedler’s Contingency Theory of leadership in brief.
17. Differentiate between transactional and transformational leadership.

**Group “C”**

**Long Answer Questions:(Attempt any THREE Questions)**

**[3 × 10 = 30]**

18. Organizational behavior is the comprehensive and proactive thought for making every individual positive in the organization. It deals with restructuring organization through understanding, predicting and controlling behavior of employees so that they will be satisfy and contribute significantly in satisfying consumers. Discuss.

19. Conflict in the organization is not always harmful, but they are the basis for organizational growth through cross-cutting innovative ideas. Based on the line, critically evaluate the different approaches in managing conflict in organization.
20. Evaluate and examine the role of leaders for the innovative work behavior of employees.
21. Critically examine the different approaches for professional development of organizational leaders.

### **Group “D”**

#### ***Comprehensive Answer / Case / Situation Analysis Questions:***

***[4 × 5 = 20]***

22. Read the following case carefully and answer the questions that follow:

It was 1:45 PM, on the third working day of second week of April, 2022, researcher encountered a restaurant around the heart of Kathmandu City for taking light tiffin. Within the restaurant, there are two chambers, one inside of the other. Both the chambers were full of smokes of cigarette around 24 customers, well dressed, were busy with their mates taking cigarette and their meal, or tiffin. The environment was quite surprising to the researcher as he was aware of the initiation of organization in the healthy employee concept.

With higher confidence, it was easy to distinguish the customers that they were from different financial institutions (from their discussion and the dress codes). Almost of them, all were middle aged and few were looking just started their career. Researcher decided to be a part of the situation as to examine the assistance of employees in the healthy employee campaign of the sector.

With gentle approach, researcher asked to one of gentlemen sitting on the last table with three gentle women sharing the table, where they belong to. He gently introduced his name, as an employee working in one of the reputed organizations around. He briefly reported that he started the career three years earlier but joined the current organization just two months ago. (Without hesitation, all the four asked one more stick of cigarette for each after completing their meal) with lighting the cigarette, he explained the new web of cigarette culture among the employees, and further reported that his three lady coworkers are new members of the smoking club. He reported that, two employees among each three used to smoke whatever may be occasion and frequency. Reasons could be varied: socialization, refreshment (as some say), addiction, or any other. With little shy, one of the lady reported that it is being one of the business curtsey in this sector, and means of social hanging. Interestingly, almost from each table, they were demanding more sticks.

Next day, researcher reached to the same restaurant an hour earlier, thinking that he could meet new people. As per the plan, he met another set of employees, interestingly again from the career of yesterday. Story was not new and different from yesterday. Researcher asked to the manager at the cash counter regarding the sales of smokes, she replied that sales of smoke generate all the fixed cost of the restaurant.

Organizations, on the other hand, are investing a huge capital to maintain healthy working environment and healthy employees. Different initiations like compulsory leave provisions with additional pay, sick leave, casual leave, insurance, etc. are the common provisions in modern organizations. With ground reality, a major question

emerges as whether the management need to be worry about the outside behavior of employees.

**Question:**

- a. Sketch the landscape and major issues of the case.
- b. What do you think, whether such behaviors are the consequence of organization stress or else other? Justify.
- c. Using the attribution error, what can be the researchers' judgment towards the young employees?
- d. Do you agree on the idea 'organizational leadership should be concerned on the outside behavior of employees. Justify.



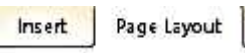

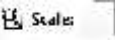
**Model Question 2023**  
**TRIBHUVAN UNIVERSITY**  
**FACULTY OF MANAGEMENT**  
Office of the Dean

**Full Marks: 40**  
**Pass Marks: 20**  
**Time: 2 Hr.**

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

*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  of the **Ribbon**, then click on both of Print  of **Gridlines** and **Heading**. Set up **Scale**  at 75%.

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.

4. Save your spreadsheet (your file) with your symbol number in the folder (named with your symbol number).
5. Make sure that you should not write beyond the column of the spreadsheet set under 75%.
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 pie-chart from the following information: **[4]**

Items	Food	Rent	Cloth	Education	Health	Misc.
Percent	45	20	15	10	10	5

- 2) The following table shows the marks in Economics and Statistics 10 students of a campus: **[5]**

Economics	47	67	40	35	42	55	50	32	57	45
Statistics	42	38	48	37	39	31	46	44	52	43

- a. Find correlation coefficient between marks in Economics and Statistics.
- b. Find the expected marks of Statistics when marks in Economics is 55.



- 3) Fit binomial distribution to the following data : [5]

Values of X	0	1	2	3	4
f	10	20	40	25	15

- 4) A random sample of 100 students is found to have a mean weight of 55 kg and a standard deviation of 5 kg. Test hypothesis that the mean height of the population is 52 kg at 5% level of significance. [5]
- 5) A random sample of 50 gave a mean of 7.5 kg and standard deviation of 1.5 kg. Find 95% confidence limits for the population mean. [5]

- 6) The following table gives the length of life of 150 light bulbs: [5]

Life(00 hours)	No of light bulbs
10-12	10
12-14	15
14-16	30
16-18	60
18-20	20
20-22	10
22-24	5
Total	150

Find mean and standard deviation of the distribution.

- 7) Find the value of median from the following distribution: [5]

Class	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	10	25	40	15	6	9

- 8) The following information shows the daily wages of workers of certain locality of Kathmandu valley. Calculate coefficient of kurtosis and interpret the data. [6]

Daily wages (Rs 00)	5-6	6-7	7-8	8-9	9-10	10-11	11-12
Workers	10	14	18	24	16	12	6

**TRIBHUVAN UNIVERSITY**  
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Office of the Dean  
**Model Question 2023**

**Full Marks: 60**  
**Pass Marks: 30**  
**Time: 3 Hr.**

<b>BBA/ Third Semester / STT 201: Business Statistics</b>
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**GROUP 'A'**

**(10X1=10)**

**Brief Answer Question (Attempt all questions)**

- 1) In a moderately asymmetric distribution, the values of mean and median are 16 and 20 respectively. Compute the value of mode.
- 2) If the values of lower and upper quartiles are 40 and 70 respectively, then calculate the quartile deviation.
- 3) Calculate combined mean from the following information:

	<b>Group A</b>	<b>Group B</b>
Mean	120	130
Number of observation	20	15

- 4) The coefficient of correlation between two variates X and Y is 0.8. Their covariance is 20. The variance of X is 16. Find the standard deviation of Y.
- 5) If quartile deviation of a distribution is 2 and their 90<sup>th</sup> and 10<sup>th</sup> percentiles are 24 and 16 respectively then find the value of kurtosis.
- 6) Calculate the Pearson's coefficient of skewness when mean, mode and standard deviation are 65, 62 and 5 respectively.
- 7) Given that  $P(A \cap B) = 0.2$ ,  $P(A) = 0.5$  and  $P(B) = 0.4$ , then find out the value of  $P(A \cup B)$ .
- 8) The mean of Poisson distribution  $(\lambda) = 2$ , find  $P(x=2)$ .
- 9) Calculate the standard error of mean when population size  $(N) = 500$ , sample size  $(n) = 50$  and standard deviation  $(\sigma) = 5$ .
- (10) List out the types of random sampling techniques.

**GROUP'B' (5X3=15)**

**Short Answer Question (Attempt any FIVE questions)**

11) Find missing frequencies when mean value is 35 and total number of workers is 60.

Wage(Rs)	0-10	10-20	20-30	30-40	40-50	50-60
Workers	4	6	-	20	-	10

12) Systolic blood pressure of a sample of 400 males was taken. A sample mean blood pressure was found to be 128 mm and standard deviation 13 mm. Find 95% confidence limits of blood pressure within which the population mean would lie?

13) Find coefficient of quartile deviation from the following income table.

Monthly income (Rs)	Number of persons
Below 1000	50
1000-1999	500
2000-2999	555
3000-3999	100
4000-4999	300
5000 and above	15

14) The following information was obtained from two brand of cars A and B:

	A	B
No. of cars	50	60
Average life in years	11	12
Standard deviation	5	6

Which of the two brands shows greater consistency in its performance regarding to their life?

15) The following table shows the marks distribution of students in a campus.

Marks	0-10	10-20	20-30	30-40	40-50	50-60
frequency	10	20	45	15	8	3

Compute mode value of the marks distribution..

16) From the following distribution of marks of 500 students of a campus, find the lowest marks of the top 10% students.

Marks	No. of students
0-20	50
20-40	100
40-50	150
50-60	90
60-80	60
80-100	50

**GROUP 'C'(3X5=15)**

**Long Answer Questions (Attempt any THREE questions)**

17) From the following distribution of marks of 500 students of a campus, calculate the coefficient of skewness. Also, interpret the results.

Marks	No. of students
0-20	50
20-40	100
40-50	150
50-60	90
60-80	60
80-100	50

18) From the following distribution, find the percentile coefficient of kurtosis. Also comment the result.

Monthly income (Rs 000)	Number of workers
Below 100	5
100-199	50
200-299	55
300-399	10
400-499	30
500 and above	10

19) Daily expenditure on lunch of the staff of a bank of 400 employees was found to be normally distributed with mean of Rs 120 and standard deviation of Rs 20. Find the probability of employees having expenditure (a) between Rs 105 to Rs 140 (b) between Rs 125 to Rs 150.

20) A random sample of 100 students is found to have a mean weight of 65 kg and standard deviation of 20 kg. Test the hypothesis that at 5% level of significance the mean weight of the population is 60 kg.

**GROUP'D'(1X20=20)**

**Comprehensive Answer Question**

21) Following table shows the income and expenditure of people of certain locality of small town city of Nepal.

Expenditure in Rs	Income in Rs				
	0-5000	500-1000	1000-1500	1500-2000	2000-2500
0-4000	12	6	8	-	-
400-800	12	18	4	5	1
800-1200	-	8	10	2	4
1200-1600	-	1	10	2	1
1600-2000	-	-	1	2	3

**Find out**

(a) Equation of two regression lines.

(b) Correlation coefficient.

(c) Probable error and hence comment the result of correlation coefficient.

(d) Estimate the expenditure of a person whose income is Rs. 4000.

[10+3+5+2=20]