

Only for 2021  
AD admitted  
Regular  
Students

TRIBHUVAN UNIVERSITY  
FACULTY OF MANAGEMENT  
Office of the Dean  
September - October 2023

Full Marks: 60  
Pass Marks: 30  
Time: 3 Hrs.

BIM / Third Semester / IT 237: Web Technology I

*Candidates are required to answer the questions in their own words as far as practicable.*

Group "A"

**Brief Answer Questions:**

[10 × 1 = 10]

1. Differentiate between web 1.0 and web 3.0.
2. What is the task of <nav> tag?
3. How do you insert external CSS?
4. What is JSON?
5. Define namespace.
6. List any two advantages of static website.
7. What is meta tag?
8. What is class selectors?
9. Define cookies.
10. How does XML affect the semantic of web?

Group "B"

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

[5 × 3 = 15]

11. Explain the client / server architecture in web.
12. Create the following table in HTML.


13. When do you prefer internal CSS? Explain with an example.
14. Describe the advantages of form validation in client side.
15. How do you define X path and X Query? Illustrate with an example.
16. Describe the different HTML tags for text formatting.

Group "C"

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

[3 × 5 = 15]

17. Describe any five HTML5 sectioning elements.

18. Write a JavaScript program to take two integers and find their sum if both are even otherwise find their differences.
19. How do you create borders, margins and padding in CSS?
20. Discuss the different types of data types in JavaScript.

**Group "D"**

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

**[2 × 10 = 20]**

21. Create the following form in HTML and write JavaScript code to validate phone, email, password and confirm password, and user id (number only).

User ID	<input style="width: 100%;" type="text"/>
Phone	<input style="width: 100%;" type="text"/>
Email	<input style="width: 100%;" type="text"/>
Password	<input style="width: 100%;" type="password"/>
Confirm Password	<input style="width: 100%;" type="password"/>
<input style="width: 150px; height: 30px;" type="button" value="Sign up"/>	

22. How do you define request and response message? What are the purposes of JQuery, React and Angular JS? Explain.



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**BIM / Third Semester / IT 236: Microprocessor and Computer Architecture**

*Candidates are required to answer the questions in their own words as far as practicable.*

**Group "A"**

**Brief Answer Questions:**

**[10 × 1 = 10]**

1. List out the components of microprocessor.
2. Name the Pin that are used for DMA operation in 8085 microprocessor.
3. Define operation code.
4. Differentiate between shift right and arithmetic shift right operation.
5. What is data transfer instruction?
6. What is data dependency problem in pipelining system?
7. Define relative addressing mode.
8. Why we need I/O interface?
9. What is the limitation of Associative memory?
10. Write down microoperation for POP operation in register stack.

**Group "B"**

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

**[5 × 3 = 15]**

11. Explain any two types of priority interrupt.
12. Illustrate and explain the bus structure of microprocessor system.
13. Describe any three addressing mode available in 8085 microprocessor.
14. Illustrate and explain the importance of memory hierarchy.
15. Describe 4-bit binary incrementer with its block diagram.
16. What are the differences between RISC and CISC architecture.

**Group "C"**

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

**[3 × 5 = 15]**

17. Explain the concept of associative mapping and direct mapping.
18. Write an assembly language program for addition of two 8-bit binary number and after addition the sum should be store in memory location 3040H.
19. Illustrate and explain arithmetic pipeline for addition of two floating point binary number.
20. Explain strobe control method for Asynchronous Data Transfer.

### Group "D"

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

***[2 × 10 = 20]***

21. Explain the internal architecture of 8085 microprocessor with its functional block diagram.
22. What is divide overflow? Divide  $+(16)_{10}$  by  $-(3)_{10}$  using any one of the division algorithm.





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Pass Marks: 50

Time: 3 Hrs.

BIM / Third Semester / ACC 201: Financial Accounting

*Candidates are required to answer the questions in their own words as far as practicable.*

Group "A"

**Brief Answer Questions:**

[10 × 2 = 20]

1. What is GAAP?
2. Define intangible asset.
3. What do you mean by business entity concept of accounting?
4. Write about cash basis of accounting.
5. Write any two importance of cheque.
6. The financial position of Kalika and Sons on Baisakh 1<sup>st</sup> 2079 is as below:

Cash in hand	100,000	Creditors	150,000
Furniture	200,000	Accruals	50,000
Debtors	100,000	Bills payable	80,000
Stock of goods	70,000		

**Required:** Opening entry

7. In the beginning, Sardul Company had share capital of Rs 100,000 and retained earnings of Rs 50,000. During the year, the company reported a net income of Rs 30,000 and paid dividends of Rs 20,000. Additionally, the company issued 1,000 shares @ Rs 100 each.

**Required:** Statement of change in equity for the year.

8. The following transaction are given:
  - Goods costing Rs 60,000 was sold at 10% profit.
  - Rent paid Rs 30,000 and outstanding rent was Rs 6,000

**Required:** Accounting equation

9. The following particulars are provided to you:

Profit for the year	Rs 15,000
Loss on revaluation	Rs 18,000
Gain from cash flow hedges	Rs 14,000
Gain on sale of investment	Rs 15,000

**Required:** Statement of Other Comprehensive Income as per NFRS

10. XYZ Company purchased a car at the cost of Rs 1,040,000 on 1<sup>st</sup> Baisakh 2079. The estimated life of the car is 100,000 KMs with salvage value of Rs 40,000. During 2079 and 2080, the car was run for 20,000 KM and 18,000 KM respectively.

**Required:** Depreciation for the year 2079 and 2080

## Group "B"

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

*[6 × 5 = 30]*

11. Explain accounting process or cycle.
12. Write the meaning of capital expenditure with suitable example.
13. What is ledger? Why it is needed?
14. Following are the information of assets of a Company:

Particulars	2078	2079
Plant and Machinery	60,000	120,000
Building	100,000	200,000
Investment	70,000	150,000
Trademarks	20,000	40,000
Cash and bank	50,000	25,000
Inventory	100,000	50,000
Account Receivable	40,000	20,000

**Required:** Horizontal Analysis

15. The bank statement of a company shows a balance of Rs 50,000 on 30<sup>th</sup> Chaitra 2079. However the company balance showed a different balance of Rs 30,000. On the investigation, the following differences were noticed:

Outstanding cheque Rs 25,000

Deposit in transit Rs 15,000

A customer's cheque of Rs 5,000 was return with the bank statement marked NSF.

Collection of notes receivable for Rs 6,000 and interest on investment Rs 2,000

Bank charge Rs 1,000 for the service provided by the bank

Bank paid Rs 10,000 under instruction of a company. However, the company recorded Rs 18,000 in its statement.

**Required:** Bank reconciliation statement

16. The following information is provided to you:

Sales	Rs 500,000
Material consumed	Rs 150,000
Carriage on purchase	Rs 30,000
Administrative expenses	Rs 40,000
Wages and salaries	Rs 60,000
Interest on loan	Rs 20,000
Dividend received	Rs 10,000
Depreciation on equipment	Rs 30,000
Income tax paid	Rs 10,000

**Required:** (a) Value added statement and (b) Net profit for the year



17. Saswat Pvt. Ltd., an automobile service center, acquired machinery on the 1st of Baisakh 2077 for Rs 400,000. They made another machinery purchase for Rs 500,000 on the 1st of Kartik 2078. On the 1st of Kartik 2079, they sold the first machinery for Rs 280,000 as it was found unusable. Depreciation is to be accounted for at a rate of 15% per annum using the straight line method.

**Required:** Machinery account for the three-year period from 2077 to 2079, assuming that the books are closed on the 31st of Ashad each year.

### Group "C"

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

[3 × 10 = 30]

18. Explain the interconnection between bookkeeping, accounting, and accountancy, illustrating with an appropriate example.
19. What is accounting standard? Also, explain the needs and limitations of accounting standards. [4+6]
20. The Trial balance of ABC Company as on 31st December 2022 is given below:

Particulars	Debit (Rs)	Credit (Rs)
Equity share capital	—	500,000
Building	400,000	—
Goodwill	20,000	—
12% Bank loan	—	100,000
Revenue from operations/sales	—	500,000
Purchase	200,000	—
Salaries expenses	33,000	—
Cash at bank	37,000	—
Investment	150,000	—
Account payable	—	70,000
Account receivable	50,000	—
Commission received	—	30,000
Prepaid insurance	24,000	—
Office rent	36,000	—
Equipment	200,000	—
Promotional expenses	50,000	—
<b>Total</b>	<b>1,200,000</b>	<b>1,200,000</b>

#### Adjustments:

- Closing stock Rs 30,000
- Depreciation rate of building 5% and equipment 25%
- Salary to be paid Rs 3,000; Prepaid insurance expired Rs 18,000

#### Required:

- a. Profit and loss statement for the year ending 31<sup>st</sup> December 2022 as per NFRS.
- b. Statement of financial position as on 31<sup>st</sup> December 2022 as per NFRS.

21. The ABC Company's Statement of Profit and Loss account and Statement of Financial Position for two years have been given below:

**Statement of Profit and Loss for the year 2022**

Particulars	Amount (Rs)
Revenue from operation	1,100,000
Less: Cost of sales	(700,000)
<b>Gross margin</b>	<b>400,000</b>
Add Other income (including interest received Rs.6,000)	60,000
<b>Total</b>	<b>460,000</b>
Less: Distribution expenses	(135,000)
Less: Administrative expenses (write-off of goodwill Rs.10,000 and depreciation of Rs.75,000)	(200,000)
<b>Operating Profit</b>	<b>125,000</b>
Less: Finance cost	(25,000)
<b>Net profit before tax</b>	<b>100,000</b>
Less: Provision for tax	(25,000)
<b>Net profit after tax</b>	<b>75,000</b>
Less: Dividend paid	(7,500)
<b>Retained Earnings</b>	<b>67,500</b>

**Statement of Financial Position of a company for 2021 and 2022**

Assets	2021	2022
Non-Current Assets:		
Property, plant and equipment	400,000	500,000
Intangible assets (Goodwill)	40,000	30,000
Investments	140,000	190,000
<b>Total Non-Current Assets</b>	<b>580,000</b>	<b>720,000</b>
Current Assets:		
Inventories/Stock	20,000	50,000
Cash and cash equivalents	50,000	40,000
Account receivables	40,000	60,000
Trade and Other receivables	20,000	30,000
<b>Total Current Assets</b>	<b>130,000</b>	<b>180,000</b>
Fictitious Assets	-	-
<b>Total Assets (Total Non-current and Current Assets)</b>	<b>710,000</b>	<b>900,000</b>
Equity:		
Share capital @Rs.100 each	400,000	500,000
Reserve/Retained earnings	40,000	107,500
Non-controlling interests	-	-
<b>Total Equity</b>	<b>440,000</b>	<b>607,500</b>



<b>Liabilities</b>		
Non-Current Liabilities:		
10% Loans and borrowings	200,000	250,000
<b>Total Non-Current Liabilities</b>	<b>200,000</b>	<b>250,000</b>
Current Liabilities:		
Trade and other payable	50,000	17,500
Income tax liabilities	-	25,000
Provisions	20,000	-
<b>Total Current-Liabilities</b>	<b>70,000</b>	<b>42,500</b>
<b>Total Liabilities (Total Non-current and Current)</b>	<b>270,000</b>	<b>292,500</b>
<b>Total Equity and Total Liabilities</b>	<b>710,000</b>	<b>900,000</b>

**Required:** Statement of Cash Flow under NFRS

[4+2+2+2]

**Group "D"**

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

[4 × 5 = 20]

22. The ABC Company's Statement of Profit and Loss account and Statement of Financial Position for two years have been given below:

**Statement of Profit and Loss for the year 2022**

Particulars	Amount (Rs.)
Revenue from operation	900,000
Less: Cost of sales	(500,000)
<b>Gross margin</b>	<b>400,000</b>
Add Other income	50,000
<b>Total</b>	<b>450,000</b>
Less: Distribution expenses	(105,000)
Less: Administrative expenses	(235,000)
<b>Operating Profit</b>	<b>110,000</b>
Less: Finance cost	10,000
<b>Net profit</b>	<b>100,000</b>

**Statement of Financial Position of a company for 2021 and 2022**

Assets	2021	2022
Non-Current Assets:		
Property, plant and equipment	400,000	500,000
Intangible assets	40,000	30,000
Investments (long term)	60,000	90,000
<b>Total Non-Current Assets</b>	<b>500,000</b>	<b>620,000</b>
Current Assets:		
Inventories/Stock	40,000	50,000
Cash and cash equivalents	40,000	30,000

Account receivables	50,000	60,000
Trade and Other receivables	40,000	55,000
<b>Total Current Assets</b>	<b>170,000</b>	<b>195,000</b>
Fictitious Assets	-	-
<b>Total Assets (Total Non-current and Current Assets)</b>	<b>670,000</b>	<b>815,000</b>
<b>Equity:</b>		
Share capital @Rs.100 each	400,000	500,000
Reserve/Net Profit	90,000	190,000
Non-controlling interests	-	-
<b>Total Equity</b>	<b>490,000</b>	<b>690,000</b>
<b>Liabilities</b>		
Non-Current Liabilities:		
10% Loans and borrowings	150,000	100,000
<b>Total Non-Current Liabilities</b>	<b>150,000</b>	<b>100,000</b>
Current Liabilities:		
Trade and other payable	20,000	25,000
Income tax liabilities	-	-
Provisions	10,000	-
<b>Total Current-Liabilities</b>	<b>30,000</b>	<b>25,000</b>
<b>Total Liabilities (Total Non-current and Current)</b>	<b>180,000</b>	<b>125,000</b>
<b>Total Equity and Total Liabilities</b>	<b>670,000</b>	<b>815,000</b>

**Required for 2022:**

- Current ratio (2:1)
- Acid test ratio (1:1)
- Debt to total capital ratio (less than 40%)
- Stock turnover ratio (at least 8 times)
- Total assets turnover ratio (more than 1 time)
- Net profit margin (at least 12%)
- Return on equity (at least 7%)
- Return on assets (at least 5%)
- Average sales period (45 days or less than 45 days)
- Account receivable turnover ratio (at least 8 times)
- Comment on the results

**[10x1.5+5]**



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**BIM / Third Semester / IT 238: Data Structure and Algorithms**

*Candidates are required to answer the questions in their own words as far as practicable.*

**Group "A"**

**Brief Answer Questions:**

**[10 × 1 = 10]**

1. Define Asymptotic notations.
2. Draw a doubly linked list.
3. Define stack.
4. What is a priority queue?
5. What do you mean by tail recursion?
6. Define a balanced tree.
7. Define hashing.
8. What do you mean by degree of a vertex?
9. List any two sorting algorithms.
10. Why is Huffman algorithm needed?

**Group "B"**

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

**[5 × 3 = 15]**

11. Explain Abstract Data Type.
12. Explain Worst-Case time complexity.
13. Write a function to traverse a binary tree in Preorder.
14. Explain different application of queue.
15. How binary search differs from linear search? Explain.
16. Explain Breadth First Traversal of a graph.

**Group "C"**

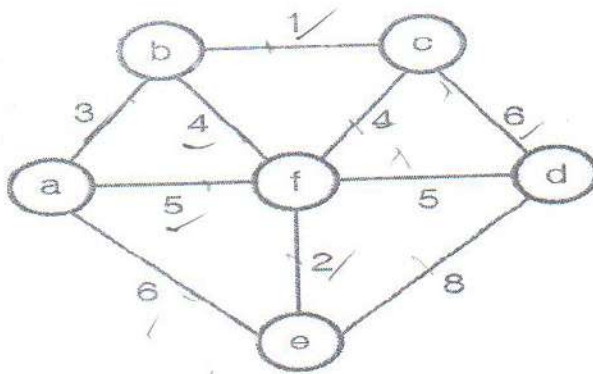
**Long Answer Questions: (Attempt any THREE Questions)**

**[3 × 5 = 15]**

17. Write an algorithm to find the factorial of n number using recursion.
18. Define an AVL tree. Construct an AVL tree from the given data: 14, 16, 22, 19, 15, 12, 21.
19. Sort the given data using quick sort algorithm: 17, 8, 91, 10, 111.



20. Draw a minimum spanning tree of the below graph using Kruskal's algorithm:



**Group "D"**

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

**[2 × 10 = 20]**

21. Write an algorithm to perform insertion and deletion operation in a binary search tree.
22. Illustrate push and pop operation in stack using linked lists.



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

Candidates are required to answer the questions in their own words as far as practicable.

Group "A"

Brief Answer Questions:

[10 × 1 = 10]

1. The covariance of X and Y is 30 and the variances of X and Y are 25 and 64 respectively. Find Karl Pearson's coefficient of correlation between X and Y.
2. If the values of upper quartile and lower quartile are 63 and 59 respectively, then calculate the coefficient of quartile deviation.
3. The equations of two regression lines are  $4X - 5Y + 33 = 0$  and  $20X - 9Y - 107 = 0$ , find the mean values of X and Y.
4. Given that  $P(A \cap B) = 0.7$ ,  $P(A) = 0.4$  and  $P(B) = 0.5$ , then find out the value of  $P(A \cup B)$ .
5. Find  $P(X=4)$ , the mean of Poisson distribution ( $\lambda$ ) is 1.5.
6. Calculate the standard error of mean when population size (N) = 1000, sample size (n) = 100 and standard deviation ( $\sigma$ ) = 10.
7. In a moderately asymmetric distribution, the values of mean and mode are 20 and 23 respectively. Compute the value of median.
8. Calculate coefficient of variation, when values of mean and standard deviation are 32 and 17 respectively.
9. Given that value of correlation coefficient is 0.84, interpret the result on the basis of coefficient of determination.
10. List out any four types of random sampling techniques.

Group "B"

Short Answer Questions: (Attempt any FIVE Questions)

[5 × 3 = 15]

11. The following table shows the marks distribution of students in a subject:

Marks	0-10	10-20	20-30	30-40	40-50	50-60
Frequency	10	25	45	20	18	12

Find the lowest marks of the top 20% of the students.

12. A random sample of 50 items gave mean weight of 7.5 kg and a standard deviation of 1.5 kg. Find 95% confidence limits of weight within which the population mean would lie.
13. The following table represents the marks of 100 students.

Marks	0-20	20-40	40-60	60-80	80-100
Students	14	-	27	-	15

Find the missing frequencies when modal marks is 48.

14. From the following income distribution of 500 workers in a locality, find the median value of the income distribution.

Income (000 Rs)	No. of workers
Below 20	50
20-40	90
40-60	150
60 - 80	100
80 - 100	60
100 & above	50

15. From the following income distribution, calculate the appropriate measures of dispersion.

Daily income (Rs)	Number of workers
Below 50	10
51-100	18
101-150	25
151-200	20
201-250	16
250 and above	11

16. The following information was obtained from two investment companies A and B:

	Company A	Company B
Average return (000Rs)	28	37
Variance	25	36
No. of observations	100	100

Calculate combined standard deviation.

### Group "C"

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

[3 × 5 = 15]

17. The following table shows the average life of electric bulbs manufactured by X and Y companies:

	Company X	Company Y
No. bulbs $n$	100	100
Mean life in hours	1300	1250
Standard deviation	80	90

Test whether there is any significant difference in mean life of the electric bulbs produced by two companies at 5% level significance.

18. Daily income of the part-time staff of a bank of 50 employees was found to be normally distributed with mean of Rs 1200 and standard deviation of Rs 120. Find the probability of employees having income (a) between Rs 1050 to Rs 1400 (b) between Rs 1250 to Rs 1500.



19. From the following distribution, find the coefficient of skewness. Also comment the result.

Monthly income (Rs 000)	Number of workers
0-100	15
100-200	50
200-300	75
300-400	40
400-500	30
500- 600	10

20. From the following marks distribution of students of a campus, calculate the coefficient of kurtosis. Also, interpret the result.

Marks	Below 10	10 - 20	20 - 30	30 - 40	40 - 50	50 & above
No. of students	50	100	150	90	60	50

### Group "D"

#### Comprehensive Answer Questions:

[20]

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

Income (000Rs)	Expenditure (000 Rs)
60	22
55	20
54	15
52	17
48	25
52	21
53	16
47	17
49	18
50	19

Find out:

- Coefficient of variations of income and expenditure and interpret the results.
- Correlation coefficient
- Two regression lines.
- Estimate the expenditure of a person whose income is Rs 70 thousand.

[8+5+6+1]

