



**Tribhuvan University**  
**Faculty of Humanities and Social Science**  
**Semester: II**

**Subject: Microprocessor and Computer Architecture**  
**2020 Batch**

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**Group B**

**Attempt any SIX questions**

2. What is the use of flag? Explain different flags of 8085 with an example.
3. Draw the timing diagram of LXI H, 5070H instruction.
4. Explain how does control unit determines the type of instruction after it is read from memory.
5. What is microprogram sequencer? Differentiate between hardwired control unit and microprogrammed control unit.
6. What are the basic differences between a branch instruction, a call subroutine instruction, and program interrupt?
7. What do you mean by pipelining hazards? Explain briefly.
8. Write short notes on:
  - a) Addressing modes of 8085
  - b) Vector Processing

**Group C**

**Attempt any TWO questions.**

9. Define symbolic microprogram, you have a list of data stored at memory location starting at 8050H. The end of the data array is indicated by data byte 00H. Write a program to add the set of readings. Store the sum at 9050 and total carry at 9051H.

10. Write a program to evaluate the arithmetic statement:

$$X = \frac{A-B+C*(D+E+F)}{C+H*K}$$

- a) Using a general register computer with two address instructions.
  - b) Using an accumulator type computer with one address instructions.
  - c) Using a stack organized computer with zero-address operation instructions.
11. Define Control Word. Explain in detail about the structure of control unit and its basic requirement.

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**Group B**

**Attempt any SIX questions**

2. A function  $f(x)$  is defined as

$$f(x) = \begin{cases} 2x + 3 & \text{for } -3/2 \leq x < 0 \\ 3 - 2x & \text{for } 0 \leq x < 3/2 \\ -3 - 2x & \text{for } x \geq 3/2 \end{cases}$$

show that  $f(x)$  is continuous at  $x = 0$  and discontinuous at  $x = 3/2$ .

3. Find the  $\frac{dy}{dx}$  when  $x = a(t + \sin t)$ ,  $y = a(1 - \cos t)$ .

4. State L'Hospital's Rule. Use it to evaluate:  $\lim_{x \rightarrow 0} \frac{x e^x - \ln(1+x)}{x^2}$

5. State Rolle's Theorem. Verify the Rolle's Theorem for the function  $f(x) = x^2 - 9$  in the interval  $-3 \leq x \leq 3$ .

6. Evaluate: a)  $\int_0^2 \frac{dx}{x^2 - 25}$       b)  $\int \frac{2x+5}{\sqrt{x^2+5x}} dx$

7. Solve:  $\sin x \frac{dy}{dx} + (\cos x)y = -\sin x \cos x$ .

8. Solve the following system of equations by Gauss-Seidel method

$$-4x + y - z = -8$$

$$3x + 6y + 2z = 1$$

$$x - y + 3z = 2$$

**Group C**

**Attempt any TWO questions.**

9. Using simplex method, find the optimal solution of  $Z = 7x_1 + 5x_2$

$$\text{Subject to } x_1 + 2x_2 \leq 6 \quad 4x_1 + 3x_2 \leq 6 \quad x_1 \geq 0, x_2 \geq 0$$

10. What do you mean by stationary points and inflection points? Using derivatives, find two numbers whose sum is 20 and sum of whose squares is minimum.

11. Using Simpson's  $\frac{1}{3}$  rule evaluate,  $\int_0^1 \frac{1}{1+x} dx$  with 3 points of intervals. Find the error of approximation. How many points are to be considered to make the approximation value within  $10^{-5}$ ?

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**Tribhuvan University**  
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**Semester: II**  
**Subject: English II**  
**2020 Batch**

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**Group B**

**Attempt any SIX questions**

2. Can human be replaced by machine according to Brian Aldiss in his story 'Who Can Replace a Man?'
3. How does the story 'Billennium' picture one of the most burning problems in cities- the shortage of space and the challenges faced by over-population?
4. Elaborate, the principle of AIDA in advertisement?
5. Discuss the five key rules of good writing for the twenty-first century.
6. What are the key points to remember while composing a letter?
7. Pick out the premises and conclusions of the following argument:  
Sir Edmund Hillary is a hero, not because he was the first to climb Mount Everest, but because he never forgot the Sherpas who helped him achieve this impossible feat. He dedicated his life to helping build schools and hospitals for them.  
- Patre S. Rajashekhar, "Mount Everest," *National Geographic*, September 2003
8. What are the ways in which arguments can be flawed?
9. What are the steps in constructing strong arguments?

**Group C**

**Attempt any TWO questions.**

10. Write a memo to your staffs in your company Nepal Apple Incorporation, informing them that, an international acclaimed motivational speaker, Shiv Khera would be conducting a session in the company that you work. The venue of the session would be in the company hall, from 9 AM to 4PM on 25th of September 2022, with a half hour break in between as that would be decided by key speaker. Please inform that the Company Executive Officer (CEO) will also be taking part in the meeting as a participant.
11. What is the theme of Jack Williamson's story 'The Metal Man'?
12. Write an argument supporting your view that: "Democracy is a rule of the people, for the people and by the people".

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**Tribhuvan University**  
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**Semester: II**  
**Subject: C programming**  
**2020 Batch**

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**Group B**

**Attempt any SIX questions**

- Write a C program to generate the following output using loop.  
10101  
0101  
101  
01  
1
- How will you define pointer? Write a program that illustrate how pointer variable change the value of normal variable.
- Write a C program to calculate sum of the natural number up to N number using recursive function.
- Write a C program to calculate following expression:  $5x \sqrt{y^2 + 5}$ .
- Write a C program to copy contents of student.txt file into another file called info.txt.
- Why do you use DMA instead of array? Explain DMA with suitable example.
- Write a C program to generate following output using graphics functions.

BCA

**Group C**

**Attempt any TWO questions.**

- Write a C program to store the player name, runs scored, wickets taken of 20 cricketers using structure along with pointer then arrange the players in order of maximum wickets to minimum wickets they had taken.
- Write a C program to generate following series using function:  
$$\text{Sum} = 1 + \frac{x}{1!} + \frac{x^2}{2!} + \frac{x^3}{3!} + \dots + \frac{x^n}{n!}$$
- Define SDLC. Explain software process models.

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**Tribhuvan University**  
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**Semester: II**  
**Subject: Financial Accounting**  
**2020 Batch**

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**Group B**

**Attempt any SIX questions**

2. Define accounting and discuss any three functions of accounting.
3. Discussed about accounting process/cycle.
4. On 1st October 2018 a company purchased a machine at Rs.4,50,000. On 1st January 2020 the company purchased second Machinery at Rs.3,50,000. On 1st July 2021 the company has found first machine out of order and sold at Rs.2,30,000. The company applied diminishing method of depreciation @ 10 percent per year. The company closed the book of account 31st December each year.

**Required:** Machinery Account 2018, 2019, 2020 and 2021.

5. The following information of a Cloth Merchant has been provided to you.  
Magh 1st Sold to Sagar Store, Simle  
15 pieces Coat @ Rs.7000 each  
10 pieces shirt @ Rs. 2,000 each (Trade discount 10 percent)  
12 Magh sold to Tamang Store Malekhu  
200 pieces T shirt @ Rs.2000 each trade discount 20 percent discount 20 percent  
100 pieces ladies ware @ Rs.1000 each  
20 Magh sold to Rajan Admghat  
150 pieces coat @ Rs.5000 each on cash  
10 pieces ladies Kurtha @ Rs.1000 each on cash

**Required:** Sales book and sales account

6. On 31 July 2020 the pass book of the firm showed credit balance of Rs. 17,000. The following transactions were found disagree with cash book  
— A cheque of Rs. 4,000 issued for payment but not presented at bank  
— A debtor directly deposited Rs. 5,000 at bank but not recorded in cash book.  
— Dividend from Everest Bank deposited in bank Rs. 4000 but not recorded in cash book.  
— The bank has directly paid Rs.5000 bank interest but not recorded in cash book .  
— The credit side of pass book has found under cast By Rs.2000.

**Required:** Bank reconciliation statement as on 31st July.

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7. The following are the store transactions of a manufacturer for the month of Ashadh, 2079.

Ashadh, 1 Opening stock 2000 units @Rs.50 each  
Ashadh, 4 purchased 4000 units @ Rs.60  
Ashadh, 7 issued 3000 units  
Ashadh, 12 purchased 1000 units @ Rs.70 each  
Ashadh, 16 Returned to store 500 units (Issued out of opening stock)  
Ashadh, 20 Purchased 2000 units @ Rs.80 each  
Ashadh, 25 Issued 4000 units  
Ashadh 28 Store surpluses 200 units  
Ashadh 30 issued 1000 units

**Required:** Store ledger under LIFO method

8. A company issued 50,000 share @ Rs.100 each. The company called money Rs.30 on application, Rs. 40 on allotment and Rs.40 on final call. The company received application for 55,000 shares. The board of director return over application money and allotted in full. A shareholder holds 300 shares unpaid money of allotment and final call and forfeited after final call.

**Required:** Journal entries application, allotment, final call and share forfeiture.

### Group C

**Attempt any TWO questions.**

9. You are given following transactions of Kalanki Supplier
- 1 Baishakh started business cash Rs.4,00,000 and Computer Rs. 50,000
  - 2nd Baishakh, open bank account at Nabil Rs.1,00,000
  - 5th Baishakh goods purchased on cash Rs. 50,000 and credited from Himal supplier Rs.3,00,000
  - 7th Baishakh Goods sold to Bhaktapur Supplier on cash Rs.1,00,000 and on credit Rs.1,00,000
  - 12th Baishakh Cash received from Bhaktapur supplier Rs. 97,000 in full settlement.
  - 16th Baishakh payment made Himal supplier supplier Rs. 98,000 by cheque and discount received Rs.2000
  - 19th Baishakh loan taken from SBI bank Rs. 1,50,000
  - 20th Baishakh, Furniture purchased at Rs.50,000 payment made by Cheque.
  - 22nd Baishakh, Goods purchased at Rs.2,00,000 and partial payment made by Cheque Rs.40,000.
  - 23rd Baishakh Commission earned Rs.20,000 partial payment received Rs.5000 only
  - 24th Baishakh Goods of Rs. 10,000 lost by fire and insurance claim admitted by insurance company Rs.5000 only.
  - 29th Baishakh house rent paid Rs.20,000, salary 10,000 and salary payable Rs.5,000
  - 30, Baishakh electricity bill Rs.3000 and telephone bill Rs.2000 payable

**Required:** a. Journal entries, b. Himal supplier account, Purchase account and commission account.

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10. The following trial balance of Trading concern as on 31<sup>st</sup> Chaitra 2078.

Particular	Debit Rs.	Credit Rs.
Sales		16,00,000
Return outward		10,000
Capital		4,00,000
Creditors		2,20,000
Bank loan		50,000
Interest on investment		15,000
Commission		10,000
Provision for bad debts		7,000
Opening stock	1,00,000	
Purchase	8,05,000	
Rent	50,000	
Carrying inward	60,000	
Building	3,00,000	
Wages	1,30,000	
Plant and Machinery	3,50,000	
Investment	50,000	
Furniture	50,000	
Debtors	1,30,000	
Cash	20,000	
Salary	1,80,000	
Advertisement	30,000	
Bad debts	20,000	
Interest on bank loan	5,000	
Drawing	12,000	
Insurance	20,000	
<b>Total</b>	<b>23,12,000</b>	<b>23,12,000</b>

Additional information

Value of closing stock, Rs. 1,30,000

Salary outstanding Rs. 5,000

Additional bad debts Rs. 3,000

Provision for bad debt 5 percent of good debtors

Depreciate, furniture 10% and plant and machinery by 15%

**Required:** Trading Account, Profit and loss account and balance sheet.

11. Define depreciation, what are the causes of depreciation? Discuss about advantages and disadvantages of depreciation.

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