



## Mid Term Examination -2081

Semester: BCA-II

Time: 3hrs.

Full Mark: 60

Subject: Microprocessor

Pass Mark: 24

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1. How many pins does the 8085 Microprocessor have?  
a) 16   b) 20   c) 32   d) 40
2. Among the following interrupts, which has the highest priority?  
a) RST7.5   b) TRAP   c) RST6.5   d) RST5.5
3. How many bytes constitute a 32-bit word?  
a) One Byte   b) Two Bytes   c) Three Bytes   d) Four Bytes
4. Which flag has a set or reset value based on the number of 1's in the result?  
a) Zero   b) Carry   c) Parity   d) Sign
5. What is the size of the MOV B, A instruction in the 8085 Microprocessor?  
a) One Word   b) Two Word   c) Three Word   d) Four Word
6. Which bit(s) indicate the direct or indirect address?  
a) Address bits   b) Opcode Bits   c) Mode Bit   d) Control Word
7. What term describes the process of converting instruction code bits to an address in the control memory where the routine is located?  
a) Mapping   b) Pipelining   c) Sequencing   d) Acknowledging
8. Which operation is not a logical and bit manipulation operation?  
a) Enable Interrupt   b) Increment   c) Clear Carry   d) Clear
9. Which of the following is not a pipelining hazard?  
a) Data dependency   b) Resource conflict  
c) Branch conflict   d) Interrupt Hazard
10. Which parallel processing organization is only of theoretical interest as no practical system has been constructed?  
a) SISD   b) SIMD   c) MISD   d) MIMD

### Group-B(6\*5=30)

Attempt any six questions:

1. Define Microprocessor with its block Diagram. Elaborate on the bus configuration of 8085 microprocessor.
2. Differentiate between Harvard and Von-Neumann Architecture along with block diagrams. How Microprocessor is different from microcontroller?
3. Clarify the Opcode retrieval machine cycle for MVI A, 32H including a timing diagram. Also draw the table for the status signal and the IO/M' stating its function.

4. Illustrate the addressing modes of 8085 instructions with example for each case

5. Define cache memory, main memory and auxiliary memory. Explain the concept of Vector Processing with examples.

6. Explain the three most common CPU organizations. Explain different types of interrupts.

7. Define the instruction pipeline and explain the four-segment instruction pipeline using an example.

### Group-C(10\*2=20)

Attempt any two questions:

Explain the internal architecture of 8085 Microprocessor. Write an ALP to multiply two bytes.

Explain delay concept in 8085 microprocessor using i) Register Pair ii) 8-bit data.

Write short notes on:

a) XCHG      b) LHLD      c) MVI

Write an ALP to perform the following

- i. Addition of square of natural numbers from 1 to 5
- ii. Division of two numbers

**Itahari Namuna college**  
 Itahari, Sunsari

Semester: BCA-II      Mid Term Examination -2081      Time: 3hrs.      Full Mark: 60  
Subject: C Programming (CACSIS151)      Pass Mark: 24

Group "A"

Attempt ALL the questions:  $10 \times 1 = 10$

1. C language is a.....  
 a) Procedural oriented programming language  
 b) General purpose programming language  
 c) Structured programming  
 d) All of the above
2. How many keywords are there in C language?  
 a) 32  
 b) 33  
 c) 64  
 d) 18
3. The C source file is processed by the.....  
 a) Interpreter  
 b) Compiler  
 c) Both Interpreter and Compiler  
 d) Assembler
4. What is the extension of a C language source file?  
 a) .c  
 b) .cpp  
 c) .c99  
 d) .cs
5. Which are the fundamental data types in C?  
 a) char  
 b) int  
 c) float  
 d) All of the above
6. What is the difference between float and double in C?  
 a) both are used for the same purpose  
 b) double can store just double value as compare to float value  
 c) double is an enhanced version of float and was introduced in C99  
 d) double is more precise than float and can store 64 bits
7. What is the correct syntax to declare a variable in C?  
 a) data\_type variable\_name;  
 b) data\_type as variable\_name;  
 c) variable\_name data\_type;  
 d) variable\_name as data\_type;
8. Which operator is used to find the remainder of two numbers in C?  
 a) /  
 b) \  
 c) %  
 d) //
9. What will be the output of the following C code?  

```
int main()
{
    int x = 20;
    x % 6 = 3;
    printf("%d",x);
    return 0;
}
```

 a) 2  
 b) 2.5  
 c) Error  
 d) Warning
10. When the condition of if statement is false, the flow of code will.....  
 a) go into the if block  
 b) Exit the program  
 c) Continue the code after skipping the if block  
 d) None of these

### Group "B"

Attempt any SIX questions: ( $6 \times 5 = 30$ )

1. Write the basic structure of a C program. Why C is called middle level language?
2. Draw flowchart and write a program to calculate the area of a rectangle.
3. Draw flowchart and write a user-defined function to find HCM of two input numbers.
4. Write a program to check whether a year is leap year.
5. Write a program to reverse a user-supplied number using function procedure.
6. Write a program to count the number of digits present in a number.
7. Write a program to generate the following pattern:

1  
121  
12321  
1234321  
123454321

### Group "C"

Attempt any TWO questions: ( $2 \times 10 = 20$ )

1. What do you mean by nested loop? Differentiate between pre-test and post-test loop. Write a program to display all the prime numbers between 1 and 2000 using function procedures.[2+4+4]
2. Define array. List the advantages of using array in programming. Write a program to find largest number from an array of 10 integers using function procedure.[2+4+4]
3. Differentiate between break and continue statement. Write a program to display all the Armstrong numbers between 1 and 2000 using function procedures.[4+6]



# Itahari Namuna college

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Mid Term Examination -2081

Semester: BCA-II  
Subject: English

Time: 3hrs.

Full Mark: 60  
Pass Mark: 24

## Group - A

Attempt all the questions.

$10 \times 1 = 10$

Tick the correct answer.

1. Which among the list belongs to the genre of science fiction?  
a. Ghost      b. robotics      c. magician      d. myths
2. An argument can have-----  
a. Only one reason supporting a conclusion  
b. Two or more reasons, each of which independently supporting the conclusion  
c. Only the stated assumption  
d. Only the unstated assumption
3. What is the problem in the following expression?  
"You have deliberately failed to reply to my letter."  
a. Too emotive      b. Too blunt      c. Too abrupt      d. Too bossy
4. "Millennium" is written by:  
a. Jack Williamson      b. J. G. Ballard  
c. Peter Williamson      d. Herbert George Wells
5. Which among the below is not a part of the SMART acronym?  
a. Specific      b. measurable      c. appropriate      d. relevant
6. CC in e-mail means:  
a. Customer copy      b. Carbon copy      c. Clear Cut      d. Client copy
7. Abbreviations are used mostly in -----.  
a. Business letters      b. essays      c. personal letter      d. official letter
8. What is the motive of writing memos?  
a. Persuasion      b. quick communication      c. legal use      d. delay message
9. Which of the following word is an argument indicator word?  
a. Although      b. therefore      c. despite      d. moreover
10. What does the KISS principle stand for in rules of good writing?  
a. Keep it straight and short  
b. Keep it short and simple  
c. Keep it sweet and simple  
d. Keep it straight and simple

## Group - B

$$6 \times 5 = 30$$

- Attempt any six questions:**
1. The Robotics Club in your campus held a meeting. Draft a minute of the meeting.'
  2. What are the top ten complaints about e-mail in practice?
  3. Explain the five key rules of good writing for the twenty-first century.
  4. List out and explain the parts of an argument.
  5. Which is the following, if true, can be a reason for the conclusion, 'Blood donors should be paid for giving blood'. Explain.
  - a. The Blood Donor service is expensive to administer.
  - b. People who give blood usually do so because they want to help others.
  - c. There is a shortage of blood donors, and payment would encourage more people to become donors.
  6. Why did Rossiter say that his room was driving him crazy?

## Group - C

$$2 \times 10 = 20$$

**Attempt any two questions:**

1. Write a letter to the education officer in your rural / urban municipality requesting him to make a computer education compulsory from class three in the local schools.
2. Who do you think is superior 'man' or 'machine' argue on the basis of Brain W.

The End.



# Itahari Namuna college

Itahari, Sunsari

## Mid Term Examination -2081

Semester: BCA-II

Time: 3hrs.

Full Mark: 60

Subject: Mathematics

Pass Mark: 24

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

### GROUP 'A'

Attempt all the questions

- 1) Tick the correct answer among the given option (multiple choice questions) [10 x 1 = 10]

I. Which of the following is not an indeterminate form

- a)  $\frac{0}{0}$       b)  $\frac{\infty}{\infty}$   
c)  $\infty - \infty$       d)  $\infty + \infty$

II.  $\lim_{x \rightarrow 0} \frac{\sin x \cos x}{3x} =$

- a) 3      b) 1  
c)  $\frac{1}{3}$       d) 0

III. While applying Simson's  $\frac{1}{3}$  rule the number of sub-interval should be

- a) odd      b) even      c) 8      d) Multiple of 3

IV. The value of  $\lim_{x \rightarrow 0} \frac{e^x - 1}{x}$  is equal to

- a)  $e^x$       b) 1      c) 0      d) -1

V. The solution of differential equation  $ydx + xdy = c$

- a)  $x \setminus y = c$       b)  $x - y = 3$       c)  $x + y = c$       d)  $xy = c$

VI. The order of differential equation  $\frac{d^4y}{dx^4} + \left(\frac{dy}{dx}\right)^3 = 0$  is

- a) 1      b) 2      c) 3      d) 4

VII. The integrating factor of differential equation is  $\frac{dy}{dx} + p.y = Q$

- a) x      b) -x      c)  $1/x$       d)  $-1/x$

viii What is the value of the derivative of  $f(x) = 3x^2 - 5x + 2$  at  $x = 2$ ?

- a. 19      b. 17      c. 13      d. 11

ix. One important condition to satisfy Rolle's Theorem by a function

$f(x)$  in  $[a, b]$  is

- a)  $f(a) > f(b)$       b)  $f(a) < f(b)$       c)  $f(a) = f(b)$       d)  $f(a) = f(b) \neq 0$

x. the integral of  $\int_1^\infty \frac{dx}{x^p}$  converges for

a)  $p > 1$

b)  $p < 1$

c)  $p = 1$

d)  $p = 0$

GROUP 'B'

Attempt three question

[6 x 5 = 30]

2) If a function  $f(x)$  is defined as:

$$f(x) = \begin{cases} 3x^2 + 2 & \text{if } x < 1 \\ 2x + 3 & \text{if } x > 1 \\ 4 & \text{if } x = 1 \end{cases}$$

Discuss the continuity of function at  $x = 1$ .

3) Find the derivative of  $\sin 3x$  by using definition.

4) Evaluate:  $\lim_{x \rightarrow 0} \frac{x \sin \theta - \theta \sin x}{\theta - x}$

5) a) Evaluate:  $\int \frac{dx}{\sqrt{x^2 + 4}}$

b)  $\int_0^1 \frac{16x \, dx}{8x^2 + 2}$

6) solve the linear differential equation:  $(1+x^2) \frac{dy}{dx} + 2xy = 4x^2$

7) Ussolve the system of equation by Gauss elimination method :

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

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

$$3x - y + 2z = 9$$

8) Use the trapezoidal rule with  $n=5$ .  $\int_1^2 \frac{1}{x} \, dx$

GROUP 'C'

Attempt any two question

[2 x 10 = 10]

9) Using simplex method, Max  $z = 5x_1 + 7x_2$

Subject to  $2x_1 + 3x_2 \leq 13$

$$3x_1 + 2x_2 \leq 12$$

$$x_1, x_2 \geq 0$$

10) a) Verify Lagrange's mean value theorem for the function

$$f(x) = \sqrt{x-1}, x \in [1, 3]$$

b) Using integration find the area of the circle  $x^2 + y^2 = a^2$ .

11) A) evaluate using L'Hospital rule :  $\lim_{x \rightarrow 0} \frac{\log(\tan x)}{\log x}$

B) Evaluate using Simsons 1/3 rule:  $\int_0^{0.2} \sqrt{1-2x} \, dx$

$$n=4$$

$$R_1 \times R_2 - 2$$

$$\frac{2}{3} \times 3^{-2}$$

$$\frac{1}{3} \times 0^{-2}$$

$$1 \times 2 - 2$$

$$\frac{6}{3}^{-2}$$

$$\frac{13}{3} \times 12^{-2}$$

$$0$$

$$\frac{6-6}{6} \cdot 0$$



## Itahari Namuna college

Itahari, Sunsari

### Mid Term Examination -2081

Time: 3hrs.

Full Mark: 60  
Pass Mark: 24

**Semester: BCA-II**  
**Subject: Financial Accounting**

Group - A

**10x1=10**

**Attempt all the questions.**

1. Kejina sold goods of Rs. 100000 on Cash, which journal entry is recorded in the account book of kejina?

- a. Kejina A/c Dr 1,00,000 To sales A/c 1,00,000
- b. Cash A/c Dr. 1,00,00 To Kejina A/c 1,00,00
- c. Sales A/c Dr: 100000 To Kejina A/c 100000
- d. Cash A/c Dr. 100000 To sales A/c 100000

2. Who Prepares the Cash book?

- a. BCA Students
- b. Teacher
- c. Account of the business
- d. Employes of the Bank

3. Trial balance is prepared to check the accuracy of

- a. Balance sheet balanced
- b. Ledger account balance
- c. Cash flow statement balance
- d. Income statement balance

4. How is Bank reconciliation statement Prepared?

- a. By matching entries in the passbook with entries in the bank cash column of the cash book.
- b. By matching the entries in the passbook with entries in the bank column of the cash book.
- c. By matching entries in the passbook with entries in the cash column of the cash book
- d. None of the above

5. Which of the following subsidiary book record goods returned by customers?

- a. Purchase book
- b. Sales book
- c. Purchase return book
- d. Sales return book

6. Depreciation is generated due to  
 a. Increase in the value of liability.  
 b. Decrease in Capital  
 c. Wear & Tear  
 d. Decrease in the Value of assets

7. Which of the following is type of account?

- a. Personal account
- b. Real account
- c. Nominal account
- d. All of the above

8. From which of the following is a ledger account prepared?

- a. Transaction
- b. Journal
- c. Events
- d. None of the above

9. "Debit all Expense & losses Credit all Income & Gain" is the rule of:

- a. Nominal Account
- b. Real Account
- c. Personal Account
- d. None of the Above

10. Who is the father of accounting?

- a. Alfred Marshall
- b. Luca Pacioli
- c. Frank Wilson
- d. Adam Smith

Group-B

(6x5=30)

Attempt any six questions.

11. What is accounting? List down the function of accounting (1+4)

12. The following facts were extracted as on 31<sup>st</sup> March 2024 from the books of Yubaraj. Prepare a bank reconciliation statement from the following Particulars.(5)

a. Bank balance as per passbook.	9,000
b. Cheque issued but not yet presented for payment.	7,000
c. Cheque issued but admitted to be recorded in the cash book but record is made on pass book.	3,800
d. Cheque paid into bank but not yet collected by bank.	2,600
e. Premium on life insurance policy paid by bank on advice not recorded in cash book.	360
f. Payment recovered from customer directly by the bank	2,000



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Itahari, Sunsari

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To Kejina A/c      1,00,00

To sales A/c 1,00,000

- c. Cash A/c Dr.      100000      d. Sales A/c Dr: 100000  
To sales A/c      100000      To Kejina A/c 100000

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$$10 \times 1 = 10$$

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c. Frank Wilson  
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**Group-B**

**(6x5=30)**

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d. Cheque paid into bank but not yet collected by bank.	2,600
e. Premium on life insurance policy paid by bank on advice not recorded in cash book.	360
f. Payment recovered from customer directly by the bank	2,000

13. Prepare Journal entries in the books of Anurag & company for the month of January, 2018  
(5)

Jan 1	Anurag Started business with cash Rs. 80000
Jan 2	Deposited cash in bank Rs. 40000
Jan 3	Purchased goods from Dikshya & Co. on credit Rs 10,000
Jan 8	Purchased furniture on cash Rs 4,000
Jan 11	Sold good worth Rs 11,000 on Credit.

14. Prepare Trial Balance in the books of Samikshya & company with the following information (5)

S.N	Account Title	Balance Amount (in Rs)
1	Capital	200000(2 lakhs)
2	Cash	1,80,000
3	Creditors	1,00,000
4	Sales	3,00,000
5	Furniture	70,000
6	Debtors	3,00,000
7	Bank Loan	1,50,000
8	Purchase	2,00,000

### Group C

Attempt any two Questions  
(2x10=20)  
18. Mr. Rohit Shah Started business from Baisakh 2080. He has given following information of business for the month.

Baisakh 1 Started business in cash Rs. 3,00,000 and furniture Rs. 50,000.

Baisakh 3 Purchased goods on cash Rs. 1,00,000 and credit Rs 1,00,000

from shah supplier.

Baisakh 4 Opened bank account at Nabil Bank Ltd. Rs 90,000

Baisakh 5 Goods sold on cash Rs.50,000 and on credit to Bhm Rs 30000.

Baisakh 10 Goods purchased of Rs.50,000 on credit from shah supplier

Baisakh 15 cash received from Bhim Rs.28,500 as full settlement.

Baisakh 22 Cash Paid to shah supplier Rs.98,000 and discount received Rs. 2000

Baisakh 24 Goods purchased from Narahari supplier at Rs.50,000

Partial payment made by cheque Rs 20,000

Baisakh 29 Electricity bill of Rs. 3,000 and house rent of Rs.10,000 paid by issue of cheques and salary Rs. 7,000 in cash.

20 bags Rice @Rs.1500 per bag  
20 bags sugar @Rs 300 Per bag  
1000kg Ghee @Rs 800 per kg.

15. Itahari Namuna College Purchased a Bus Worth Rs. 10,00,000 With salvage value of Rs 50,000 having the estimated useful life of 10 years. Calculate Annual depreciation using straight line method.
16. The following information were provided to you by shreeshak Supplier Khanar.
1. November 2023 sales of goods to Ashish store at Duhabi
  - 50 bags Mansuli Rice @Rs 2000 each
  - 30 bags Mansuli Rice @Rs 2500 Per bag
  - 70 bags onion @Rs 1500 per bag
- 15 November 2023
- '30 bags Potato @Rs. 1000 per bag
  - 10 bags sugar @Rs. 3,000 per bag  
(Trade discount 10%)
- 20 November 2023
- Goods sold on cash to Bhuwan 15 bags potato @Rs 900 per bag.
- 28 November 2023
- Goods sold to Bipin Store Haraicha

Required: Journalise the above transaction a prepare ledger account of purchase and shah supplier (8+1+1)

1778500  
14500

19. The following transaction of cash and bank of Karina for the month of July has been given to you.

2024 July 1 opening balance of Cash Rs 45,000 and bank Rs.50,000  
July 5 Goods Purchase at Rs.30,000 and payment made by cheque

July 16 Goola sold of Rs.50,000 out of which partial payment received Rs. 20,000 in cash.

July 19 A cheque of Rs. 20,000 issued to Rupesh supplier.

July 22 Credit sales of Rs 30,000 to Aman.

July 23 Cash deposited into bank Rs 20,000

July 24 Received Rs 25,000 from Aman in full settlement and discount allowed Rs 5,000

July 27 Rent Paid to house owner Rs 13,000 by cheque.

July 28 Salary paid in cash Rs 8,000

July 30 Electricity bill of Rs. 5,000 a telephone bill of Rs. 3,000 paid by a cheque.

Required: Triple column Cash book with cash bank a discount column.