

Batch: Annapurna/Machhapuchhre

Bachelor of Computer Applications (BCA)
Course Title: Microprocessor & Computer Architecture
Code No:
Semester: **2nd Semester**

Group B

Attempt any SIX Question.

[6*5=30]

2. Define Microprocessor. Differentiate harvard vs von neumann architecture .
3. Define instruction cycle .Draw the timing diagram for LDA 2050 (LDA=3A)
4. The following block of data is stored in memory location from C055 to C05A H. Transfer the entire block of data to the locations C080 to C085 H in reverse order.
Data: 22, A5, B2, 99, 7F, 37
5. What is cache memory? Explain the element of cache design?
6. Write a program for 8085 to find the greatest number among ten numbers stored at memory location 4500H.
7. Explain about the Addressing modes of 8085 microprocessor?
8. Write Short notes on any two
 - Stack Organization
 - Common Bus system
 - 8085 flag register

Group c

Attempt any two Question.

[2*10=20]

9. Explain the functional block diagram of 8085 microprocessor?
10. What is control word. Explain about the structure of control unit and its basic requirement?
11. Write a program to evaluate the arithmetic expression

$$Y=A+B(CD+EF-G/H)$$

Using two register, one register and zero register

Thank you.



Subject Code: CAEN 153
Subject: English II
Time: 3 Hrs

Full Marks: 60
Pass Marks: 24

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

Attempt ALL the questions. **Machhapuchhre/Annapurna Batch**

Group B: Short-Answer Questions

(ANY SIX)

[6 x 5 = 30]

2. Compose a professional email to your project manager requesting an extension on a deadline due to unforeseen personal circumstances. Be sure to provide a brief explanation for the request and suggest a new deadline.
3. Write a letter to a customer who has recently made a complaint about a product or service. Apologize for the inconvenience caused, explain how you will address the issue, and offer a solution or compensation to resolve the problem. Ensure your response is empathetic and professional.
4. Write a memo to the marketing team addressing recent feedback from a client about the last campaign. Provide an overview of the feedback, suggest actionable steps for improvement, and request a follow-up meeting to discuss strategies for enhancing future campaigns.
5. What are the fundamental principles and practices of effective business writing in today's corporate world? List and briefly describe these principles.
6. How does "The Land Ironclads" portray the dehumanizing aspects of war, particularly through the lens of technological advancements?
7. What are the key differences between Hard Science Fiction and Soft Science Fiction?
8. Identify the reasons and conclusions in the following arguments:
 - a) Since the number of patients visiting the emergency room has increased dramatically over the past year, the hospital management should hire more emergency medical staff. This increase in patient volume suggests that current staffing levels are insufficient to handle the demand effectively.
 - b) Regular exercise improves mental health by reducing stress and anxiety levels. Therefore, people experiencing high levels of stress should incorporate exercise into their daily routines to manage their mental health more effectively.
 - c) The recent survey showed that employees who work remotely are more satisfied with their work-life balance compared to those who work in the office. As a result, the company should consider offering more remote work options to improve employee satisfaction.
 - d) Due to the significant increase in online shopping, the retail store's sales have decreased. To remain competitive, the store should enhance its online presence and offer exclusive online deals to attract more customers.
 - e) Many studies have shown that students who study in quiet environments perform better on exams than those who study in noisy settings. Thus, students should choose quiet places to study if they want to improve their exam performance.

Group C: Long-Answer Questions

(ANY TWO)

[2 x 10 = 20]

9. Write a letter of application for the position of IT Officer at a reputed company in Nepal based in Kathmandu. Include your qualifications, relevant experience, and why you are interested in this role at the company. Be sure to mention how your skills align with the requirements of the job and express your enthusiasm for the opportunity. Attach a detailed CV to your application.
10. What are the features of Science Fiction? How does the story, "The Land Ironclad" represent the elements of Sci-fi in it?
11. Write an argumentative essay on "The Role of Social Media in Modern Communication: Is Its Impact Mostly Positive or Negative?" In your essay, argue whether social media's influence on communication is predominantly beneficial or harmful. Provide evidence, examples, and counterarguments to support your position. Discuss aspects such as social connectivity, information dissemination, mental health, and privacy concerns.

The End

Attempt any six questions

2. Evaluate $\lim_{x \rightarrow \theta} \frac{x \sin \theta - \theta \sin x}{x - \theta}$

3. A function $f(x)$ is defined as follows

$$f(x) = \begin{cases} 2x + 3 & \text{for } x < 1 \\ 4 & \text{for } x = 1 \\ 6x - 1 & \text{for } x > 1 \end{cases}$$

Is the function $f(x)$ continuous at $x = 1$? If not state how can you make it continuous at $x = 1$.

4. Find $\frac{dy}{dx}$ from first principle $x + \sqrt{x}$

5. Find the equation of the tangent and normal to the curve $y = 2x^2 - 5x + 2$ at $(1, -1)$.

6. State L' Hospital rule, using L' Hospital rule, evaluate

$$\lim_{x \rightarrow 0} \frac{xe^x - \log(1+x)}{x^2}$$

7. State Rolle's theorem, verify Rolle's theorem for the function $f(x) = x(x-1)^2$ in $[0, 2]$

8. A man who has 144 m of fencing material wishes to enclose a rectangular garden. Find the maximum area he can enclose.

L^2

$P(0)^2$
 $< 0 = \max$
 $> 0 = \max$
 Lx

Attempt any two questions

9. (a) Evaluate $\lim_{x \rightarrow 0} \frac{|x|}{x}$ if it exists

(b) Find $\frac{dy}{dx}$ of $x = \frac{3at}{1+t^2}$, $y = \frac{3at^2}{1+t^2}$

10. A firm produces x tons of output at the total cost C
 $\left(\frac{x^3}{10} - 5x^2 + 10x\right)$.

At what level of output will the marginal cost and the average cost attain their respective minima?

11. (a) Find the maximum and minimum values of the function $f(x) = x^3 - 6x^2 + 9x - 2$. Also, find the point of inflection any

(b) Find $\frac{dy}{dx}$ of (i) $x^y = y^x$ (ii) $y = \tan^{-1}\left(\frac{2x}{1-x^2}\right)$.

Saraswoti multiple Campus
Lainchour, Kathmandu
Faculty of Management

Level: BCA 2nd semester
Time: 3 hours

Financial Accounting
1st -Term Examination 2081

FM: 60
PM: 24

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

Group B

6*5=30

Attempt SIX questions.

1. Define accounting? Explain the objectives of accounting?
2. Following cash and banking transactions were given to you.
- 1, January: Debit balance of cash in hand Rs. 10,200 and cash at bank Rs. 35,500.
- 7, January: Received a cheque of Rs. 15,000 from laxmi.
- 12, January: Goods purchased at Rs. 15,000 and paid in cash Rs. 4,000 and balance through cheque.
- 20, January: Cash drawn from bank for office use Rs. 8,000.
- 31, January: Paid salary of Rs. 10,000 by cheque and Rs. 2,000 office rent in cash.

Required: Cash book with cash and bank column.

3. Following sales transactions were given to you:
- 1, Falgun: Sold following items to S.K. Store Chitawan.

30 table fans @ Rs. 1,000 each.
20 ceiling fans @ Rs. 1,500 each.

- 15, falgun: sold following items to Gurung Store Butwal.

15 electronic heaters @ Rs. 1,500 each.
10 rice cookers @ Rs. 1,200 each
(Trade discount 10 percent)

- 22, falgun: sold 10 pressure cookers @ Rs. 1,500 each on cash to Shrestha Store Pokhara.

- 25, falgun: sold following items to Tiwari Store Dharan.

20 table fans @ Rs. 1,000 each with trade discount 5 percent.
10 ceiling fans @ Rs. 10,000

Required: Sales books and sales account.

4. Following transaction are given.

- i. Cash in hand Rs.25,000 and at bank 10,000
- ii. Bread and egg sold for Rs.1,500
- iii. Cash deposited into bank Rs.1,200
- iv. Paid Sandeep suppliers Rs.14,350 for full settlement for his debt Rs.15,000
- v. Cash withdraw from bank Rs.2,000 for office use and 500 for domestic use
- vi. Purchases provision from ABC Traders for Rs. 2,250

Required: Double column cash book with cash and bank column

6. The following information are provided:

- a. Bank balance as per pass book Rs 30,000

- b. Cheque issued but not presented into bank Rs 10,000 —
- c. Cheque paid into the bank not credited by the bank Rs 15,000 +
- d. A cheque of Rs 5000 sent for deposit dishonored by bank. +
- e. Interest charged by the bank but not recorded in cash book Rs 1,000. +
- f. Payment side of cash book found overcast by Rs 1,000. —
- g. Bank has given wrong debit of Rs 2,000 as shown by pass book. +

Required: Bank reconciliation statement.

7. What is capital? Differentiate between capital and revenue profit?

Group C

Attempt two questions.

8. Following transactions are provided to you.

01 March: Started business with cash Rs. 1,00,000.

04 March: Purchases goods from Bikash impex Rs 20,000, Received trade discount of 10% and cash discount of 5%

13 March: Sold goods to hotel kamal Rs. 20,000

17 March: Sold goods on cash Rs. 100,000.

20 March: Paid salary Rs. 15,000 through cheque and Telephone bill Rs. 10,000 cash.

23 March: Received interest Rs. 10,000.

30 March: Hotel kamal went bankrupt and 70 % collected out of its estate

31 March: goods worth Rs. 15000 was destroyed by fire but insurance company admitted only 60% of the amount claimed

Required: Journal entries and Hotel kamal account

9. Consider the following information.

A) A company ltd. Purchased a machinery for Rs. 2,00,000 on 1st Baishakh 2073. Another machinery of Rs.1,00,000 was purchased on kartik 1st 2074. On 30th Ashwin 2075, the company disposed off the machinery which was purchased on 2073 at Rs. 1,60,000 . on the same date another machinery was purchased for for Rs.1,50,000. Depreciation is to be charged @ 10% per annum on Straight line method . account are closed on 31st chaitra each year.

Required : Machinery account for 2073 to 2075

B) On 1st Kartik 2071 Rabi purchased a machinery for Rs. 36,000 and spent Rs 4,000 on installation . Another Machinery of Rs.25000 was purchases on 1st Baishak 2072. on 31st Ashwin 2073 one fourth of the machinery was sold for Rs.3000 which was installed on 1st Kartik 2071 . Assuming the books are closed on 31th chaitra each year and taking the rate of depreciation at 10% per annum on Original cost method.

Required : Machinery account for 3 Years

Level: Bachelor-1st year/2nd-Semester
Subject: C Programming

FM: 60

PM: 24

Time: 3 hr.

GROUP B

Answer the following questions (Answer any 6)

(6*5=30)

2. What is function .Write a simple C program to calculate the factorial of a given number.
[1+4]
3. What is coupling. Write a program in C to draw co-centric circle according to the users input.[1+4]
4. Implement a program that demonstrates the use of increment ('++') and decrement ('--') operators with both prefix and postfix notation.
5. WAP to find the greatest common divisor (GCD) of two numbers.
[5]
6. Write a program to check whether a number is positive, negative, or zero using an 'if-else' structure.[5]
7. What are the advantages and disadvantages of array. Write a C program to search for a specific element in an array.
[1+4]
8. Write a program to find whether a given integer is Palindrome or not? [5]

Long questions

Any Two(2X10=20)

9.
 - a. Design a program that simulates a basic calculator with options for addition, subtraction, multiplication, and division using a switch-case structure. [5]
 - b. What is jumping structure in C, explain *goto* and *break* with example. [5]
10.
 - a. Explain waterfall and prototype model with proper diagram. [5]
 - b. WAP for $\frac{1}{1!} + \frac{2}{2!} + \frac{3}{3!} + \dots + \frac{n}{n!}$. [5]
11.
 - a. What is C Operator? Discuss any 2 operators used in C. [5]
 - b. What are the features of good programming language. [5]

Thank You !