



Tribhuvan University
Faculty of Humanities & Social Sciences
OFFICE OF THE DEAN
2024

Bachelor in Computer Applications
Course Title: C Programming
Code No: CACS 151
Semester: II

Full Marks: 60
Pass Marks: 24
Time: 3 hours

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

Group B

Attempt any SIX questions.

[6×5 = 30]

2. What type of programming approach is followed by the C program? Write the necessary steps for the Program Development Life Cycle (PDLC). [1+4]
3. Is the break keyword mandatory in the switch statement? List the operators used in C based on utility. Explain the concept of a logical operator with an example. [1+1+3]
4. What is nested loop? Write the difference between formatted and unformatted I/O operations in C. [1+4]
5. What is DMA? List out the memory management function used in the C program. Using DMA, write a program to find the sum of N numbers. [1+1+3]
6. Write a C program to read a string from the keyboard and reverse it without using string handling function. [5]
7. What is the difference between a binary file and a text file? Write a C program to copy the contents of a student.txt file into another file called info.txt. [2+3]
8. What is the use of initgraph() in the C program? Write a C program to draw a circle, rectangle and ellipse using the graphics functions with a green background and red foreground. [1+4]

Group C

Attempt any TWO questions.

[2×10 = 20]

9. Explain different method of passing argument to a function. Write a C program to print Fibonacci sequence up to n- terms using Recursive function. [2+8]
10. What is pointer? Write a C program that uses pointers to store cricket player's data(name, age, position and height) and display them. [2+8]
11. What do you mean by nested structure? Create a structure named Book with members ISBN, Title, author and price. Use this structure to read records of 10 books and display the record of book having highest and lowest price. [10]



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Bachelor in Computer Applications
Course Title: English II
Code No: CAEN 153
Semester: II

Full Marks: 60
Pass Marks: 24
Time: 3 hours

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

Group B

[6×5 = 30]

Attempt any SIX questions.

2. Nature is both survivor and killer. Justify this statement with reference to the short story "The Metal Man."
3. What is 'science fiction?' Point out the differences between hard science fiction and soft science fiction.
4. What is the importance of 'audience' in a presentation?
5. Brevity and conciseness is one of the qualities of good writing. Re-write the following sentences and make them brief and concise.
 - i. I am going to speak on the subject of Microsoft Excel.
 - ii. The cost of this software could be in the region of 10,000 dollar.
 - iii. The new video game will be launched in the near future.
 - iv. I hope she answers my proposal in the affirmative.
 - v. Information technology is used in all walks of life at the present time.
6. Define 'classified ads'. What kinds of products and services are advertised in classified ads?
7. Write an argument about the use of animals in medical research.
8. What is meant by assumption? Give your answer with two examples of assumptions.

Group C

[2×10 = 20]

Attempt any TWO questions.

9. Suppose you are a computer dealer in Kathmandu. Write a letter to Apple Company Headquarters, Cupertino, California expressing your intention in distributing the latest Apple Laptop in Nepal.
10. The story "Billennium" is mainly concerned with overpopulation and lack of space in a point in the future. Based on your reading of the story, how will the people of Kathmandu Valley solve the problems of overcrowding and space in the future? Give your answer in about three hundred words.
11. What is oral communication? How does technology help in making oral communication effective? Write your answer with different kinds of oral communication modules.



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2024

Bachelor in Computer Applications
Course Title: Mathematics II
Code No: CAMT 154
Semester: II

Full Marks: 60
Pass Marks: 24
Time: 3 hours
Batch: 2022

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

Group B

Attempt any SIX questions.

[6 × 5 = 30]

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

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

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

3. Find the derivative of e^{-2x} using the first principle.

4. Evaluate $\lim_{x \rightarrow \frac{\pi}{4}} \frac{\sin x - \cos x}{x - \frac{\pi}{4}}$

5. Find area of the region enclosed by the parabola $y=2-x^2$ and line $y=x$.

6. Evaluate

a) $\int_0^2 \frac{dx}{\sqrt{x^2+4^2}}$

b) $\int x^2 e^x dx$

7. State Mean Value Theorem. Give its geometrical meaning. Verify the Mean Value Theorem for the function $f(x) = x^3 + x^2 - 6x$ in the interval $[-1, 4]$.

8. Examine the consistency of the system. Solve it by using Gauss elimination method.

$$3x+y+z = 5, \quad x-4y+z = -2, \quad x+y-3z = -1$$

Group C

Answer any TWO questions

[2 × 10 = 20]

9. Using simplex method, find the optimal solution of the following linear programming problem.

Minimize $Z = 10x + 15y$

Subject to $x+y \geq 8,$
 $5x+3y \geq 30,$

and, $x \geq 0, y \geq 0$

10. Solve the following : a) $x \frac{dy}{dx} - 3y = x^2$ b) $x dy - y dx = x^2 y dy$

11. a) Use Simpson's $\frac{1}{3}$ Rule to evaluate $\int_0^1 \frac{1}{1+x^2} dx$ taking $n=4$. Also find the error.

b) A man who has 130 m of fencing material wishes to enclose a rectangular garden. Find the maximum area he can enclose.



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Bachelor in Computer Applications

Course Title: Microprocessor & Computer Architecture

Code No: CACS 155

Semester: II

Full Marks: 60

Pass Marks: 24

Time: 3 hours

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

Group B

Attempt any SIX questions.

[6×5 = 30]

2. Compare 8085 and 8086 microprocessors. Let $A=454$ and $B=674$, find the content of flag register when SUB B is performed?
3. Draw timing diagram of MVI B, 354 instruction with proper explanation. [5]
4. Explain data transfer and arithmetic instruction. [5]
5. Write codes for following statement by using zero, one and three address instructions.
 $X = (A+B-C)/(D+E \cdot F)$. [5]
6. Draw and explain arithmetic pipeline. [5]
7. What is vector processing? Explain the Flynn's classification of parallel processing. [1+4]
8. Explain the following instructions. [1.5+2+1.5]
a) DAA b) RLC c) INX B

Group C

Attempt any TWO questions.

[2×10 = 20]

9. Define micro-operation, micro-instruction and micro-program. Write a program to find smallest element among block of data. The length of the block is in the memory location 2310H and block itself starts from memory location 2050H. [3+7]
10. Draw the diagram of microprogrammed sequencer for control memory and explain it. [10]
11. What is interrupt? Explain its types. Explain how matrix multiplication is carried out on a computer supporting vector computation. [1+4+5]



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Bachelor in Computer Applications
Course Title: Financial Accounting
Code No: CAAC 152
Semester: II

Full Marks: 60
Pass Marks: 24
Time: 3 hours

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

Group B

Attempt any SIX questions.

[6×5 = 30]

2. What are the objectives of accounting?
3. Define depreciation, discuss any three Advantages of depreciation.
4. Consider the following transaction of a December month are given below:

December 1. Cash in hand Rs.10,000 and at bank Rs.20,000.

December 5. Cash paid to supplier Rs.5,000.

December 13. Cash receipt from customer through bank Rs.8,000.

December 19. Interest collected by the bank Rs.2,000.

December 22. Sold goods for cash Rs.15,000.

December 26. Deposited Rs.5,000 into the bank

December 30. Salary expenses paid through cheque Rs.4,000

Required: Cash book with Cash and Bank column

5. ABC company purchased first machine on 1st January, 2015 for Rs.10,000. On 1st July in the same year another machine was purchased costing Rs.5,000. The first machine purchased on 1st January 2015 having become obsolete, was sold off for Rs.4,000 on 1st July 2016. On the 1st July 2017, a new machine was purchased for Rs.12,000 and the second machine purchased on 1st July on 2015 was sold at Rs.4,200 on the same date. Depreciation is to be provided at 10% per annum on straight line method every year.

Required: Machinery account for the first three years.

6. The following material transactions of a manufacturing company is provided to you:

2018, December, 1, Opening stock of raw material 500 units @ Rs.1 each

2018, December, 5, Purchased 300 units @ Rs.1.20 each.

2018, December, 9, Issued 500 units.

2018, December, 14, Purchased 400 units @ Rs. 1.25

2018, December, 18, Issued 500 units

2018, December, 22, Purchased 300 units @ Rs. 1.40

2018, December, 25, Issued 300 units

2018, December, 30, Loss of material 20 units

Required: Store ledger under FIFO method

7. The balance as per cash book is Rs.10,000 on the 1st Chaitra 2079. The following transactions were found disagree with pass book.

- ✕ • Cheque issued but not presented for payment Rs 1000
 - Cheque paid into bank but not yet credited by bank Rs 1500
 - Bank charges made by bank not yet entered in cash book Rs 150
 - Insurance premium directly paid by bank but not entered in cash book Rs 350
 - ✕ • Dividend directly collected by bank but not recorded in cash book Rs 1200
- Required: Bank reconciliation statement as on 31st Chaitra 2079.

8. Brothers company issued 3000 shares of Rs. 100 payables as below:

On application.....Rs 50 On allotment.....Rs 30

On final call.....Rs 30

The money was collected as below:

- The holder of 100 shares paid the final call money with allotment.
- The holder of 400 shares fail to pay final call.
- Other shareholders paid their money when required by the company.
- **Required:** Journal entries.

[1+2+2]

Group C

Attempt any TWO questions.

[2×10 = 20]

9. You are given following transactions of Jyoti Suppliers

- a) Started business with cash Rs. 5,00,000 and equipment Rs. 7,50,000
- b) Purchased goods Rs. 25,000 on account and made partial payment Rs. 10,000
- c) Paid insurance for the year Rs 6,000
- d) Sold goods on account for Rs 30,000 and received as partially Rs 20,000
- e) Paid rent Rs 4,800 and travelling expenses Rs 2,800
- f) Sold goods on cash Rs 55,000
- g) Purchased good on credit Rs 21,000
- h) Cash paid to Accounts payable Rs. 90,000 in full settlement of Rs 92,000 Disc 2,000
- i) Cash withdraw from bank Rs 40,000 for office use
- j) Paid assistant's salary Rs 12,000
- k) Goods costing Rs 12,000 lost by fire and the insurance company admits full claim
- l) Bought furniture from S.S furniture Udhyog on credit for Rs 30,000

Required: a) Journal Entries

b) Sales Account, Account Payable account and Account Receivable Account.

10. The following is the Trail Balance of a Trading concern for the year ended Ashadh 31, 2079.

Particulars	Dr. Amount	Particulars	Cr. Amount
Purchases ✓	4,00,000	Capital ✓	3,00,000
Opening Stock ✓	3,50,000	Purchase return ✓	10,000
Sales return ✓	10,000	Sales ✓	6,90,000
Carriage inward ✓	8,000	Creditors	33,000
Debtors	42,000	Bank loan ✓	80,000
Advertisement Expenses ✓	14,000		
Discount ✓	2,000		
Insurance expenses ✓	10,000		
Salaries ✓	65,000		
Interest on bank loan	4,000		
General expenses	20,000		
Wages ✓	40,000		
Furniture ✓	50,000		
Rent paid ✓	40,000		
Bad debt	3,000		
Bank and cash balance ✓	55,000		
Total	11,10,000	Total	11,10,000

Additional Information:

- i. Closing stock Rs. 3,75,000 ✓
- ii. Bad debts Rs. 2,000
- iii. Provide reserve for bad debts 5% of debtors ✓
- iv. Advance for salaries Rs. 5,000 ✓
- v. Outstanding wages Rs. 2,000 ✓
- vi. outstanding interest of bank loan Rs. 4,000 ✓
- vii. Depreciation furniture at 5% p.a.

[3+4+3]

- Required:**
- a) Trading Account
 - b) Profit and loss account
 - c) Balance sheet

11. Define Company and Explain its Features. And differentiate between shares and debentures. [5+5]
