Tribhuvan University
Faculty of Humanities & Social Sciences
OFFICE OF THE DEAN
2020

Bachelor in Computer Applications
Course Title: C Programming
Code No: CACS151
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 keywords? Explain the compiling process of C program.   [1+4]

3. Differentiate between iteration and recursion   [5]

   Define an array? Write program to generate the following output using loop.   [1+4]

   ```
   1
   1 2
   1 2 3
   1 2 3 4
   1 2 3 4 5
   ```

5. Define operator. Explain any four types of operators available in C?   [1+4]

6. Why function is required in C programming? Write a program to find smallest number from the array using function.   [1+4]

7. Why DMA is used in C language? Write a program to enter age of 20 students and count age between 18 and 25 from the array using DMA function.   [1+4]

8. Write a C program to generate following output using graphics functions.   [5]

   BCA Program

Group C

Attempt any TWO questions.   [2×10 = 20]

9. What is union? Write a C program to enter bid, title, price, pages of 100 book into structure variable called book and sort them in descending order on the basis of their title with use of pointer.   [2 + 8]

10. What is the use of data file in C? Write a C program to accept 100 numbers from user and store them in odd.txt file(if number is odd) or even.txt file (if number is even) then display odd numbers reading from odd.dat file.   [1+9]

11. What do you mean by System Design Tools? Explain any four system design tools with suitable example.   [2+8]

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Bachelor in Computer Applications

Course Title: Financial Accounting

Code No: CAAC152

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?   [5]

3. Following cash and banking transactions were given to you.   [5]

   1, January, Debit balance of cash in hand Rs.10,200 and in bank cash book Rs. 35,500.
   7, January, Received a cheque of Rs.15,000 from Kabi.
   12, January Goods purchased at Rs.15,000 and paid in cash Rs. 4,000 and balance by cheque.
   20, January, Cash drawn from bank for office use Rs.8,000.
   31, January, Paid salary Rs.10,000 by cheque and Rs.2,000 office rent in cash.
   Required: Cash book with cash and bank column.

4. Following sales transactions were given to you

   1, Falgun, Sold following items to Ale Store Damauli
      30 table fans @ Rs.1000 each.
      20 ceiling fans @ Rs.1500 each.
   15, Falgun sold following items to Gurung Store Kaireni
      15 electronic heater @ Rs.1500 each
      10 Rice cookers @Rs.1200 each

   (Trade discount 10 percent)
   22, Falgun Sold 10 pressure cookers @ Rs.1500 each on cash to Shrestha Store Dumre.
   25, Falgun, Sold following items to Tiwari Store Talchok
      20 table fans @ Rs.1000 each with trade discount 5 percent.
      10 ceiling fans @ Rs.1000 each on cash.
   Required: Sales book and sales account.   [4+1]

5. A company purchase a machinery at Rs.1000,000 on 1st January 2017. The expected scrap value
   will be Rs. 200,000 at the end of its' life. The life of machine is 10 years.
   Required: Machinery account from 2017 to 2021.   [1×5=5]

6. Nepal Star company is registered at 200,000 equity shares @ Rs.100 each. But the company issued
   100,000 shares to public. The money called up Rs.30 on application, Rs.40 on allotment and Rs.20 on

final call. The company received application for 95,000 shares and accepted in full. A shareholder Rachana holds 500 shares unpaid money of allotment, final call.

Required: Journal entries for share application, allotment and final call. [1+2+2]

7. A manufacturing company provides abstracts of material transactions of March.

    1, March, Opening balance of materials 800 units @ Rs.10 each.

    5, March, Issued 700 units

    12, March, Purchased 800, units @ Rs.11 each.

    17, March, Purchased 700 units @ Rs.12 each. -

    18 March, Issued 700 units

    22, March, Returns 100 units from work order July,5

    24, March, Purchased 700 units @ Rs.11.5 per unit.

    27, March, Issued 1100 units.

    Required: Store ledger under FIFO method

8. What are the characteristics of company?

Group C

Attempt any TWO questions.   **[2×10 = 20]**

9. Mr. X started business from Baishak 2077. He had given following information of business for the month.

    1, Baishakh, started business in cash Rs. 400,000 and Furnitures Rs. 50,000.

    2, Baishakh, Purchased goods on cash Rs. 200,000 and credit Rs. 200,000 from Karki Supplier.

    5, Baishakh, Opened bank account at Nepal Bank Rs. 100,000.

    8, Baishakh, goods sold on cash Rs. 70,000 and on credit to Shrestha Suppliers Rs. 80,000.

    12 Baishakh, Goods purchased at Rs1,50,000 on credit from Karki supplier.

    18, Baishakh, Cash received from Shrestha Supplier Rs. 50,000 and discount given Rs.5000

    19 Baishak Goods sold at Rs. 50,000 and payment receive by Cheque

    20, Baishakh, Goods sold to Shrestha Suppliers Rs.1,00,000 on credit.

    24, Baishakh, Cash paid to Karki supplier at Rs.1,50,000 and discount received Rs.5000.

    26, Baishakh, Goods purchase from Nepal Suppliers at Rs. 150,000, partial payment made by Cheque Rs. 50,000.

    27, Baishakh, Depreciate furniture by Rs.2000.

    28, Baishak, Computer purchased at Rs. 50,000 and paid by Cheque.

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

    Required: Journalized the above transactions and prepared ledger account; purchase, sales, Shrestha Suppliers and Furniture account.   [8+0.5+0.5+0.5+0.5]

10. Following is the trial balance of a Shrestha Store on the year ending December, 31, 2021.

Particulars	Dr. Rs.	Particulars	Cr. Rs.
Office equipment	2,000	Capital	210,000
Furnitur	100,000	10% loan	70,000
Debtors	90,000	Sales	815,000
Purchase	540,000	Creditors	48,000
Opening stock	45,000	Commission	5,000
Rent	40,000		
Cash in hand and bank	25,000		
Drawing	8,000		
Salary	48,000		
Carriage inward	7,000		
Prepaid insurance	15,000		
Discount allowed	4,000		
Wages	23,000		
Sales commission	10,000		
Bad debts	2,000		
Carriage on sales	8,500		
Vehicle	180,500		
	1148,000		1148,000

Adjustment

i) Provide depreciation on furniture, 10 percent and vehicle 20 percent.

ii) Prepaid insurance expired Rs.5,000 only.

iii) Advance salary Rs.10,000

iv) Closing stock Rs.50,000.

v) Interest on loan is payable

Required:

    a) Trading account [3]

    b) Profit and loss account [4]

    c) Balance sheet [3]

11. Explain any five accounting concepts. [10]

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Bachelor in Computer Applications
Course Title: Microprocessor & Computer Architecture
Code No: CACS155
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. Explain the addressing modes of 8085 with suitable example.

3. Draw the timing diagram for MVI A, 35H and explain in brief.

4. What do you mean by instruction mapping? Explain how to convert an instruction code to a microinstruction address.

5. Define stack. Explain the stack organization.

6. Explain the arithmetic pipeline with example.

7. Explain the following instructions

   a) LDA 7050H   b) CPI 35H   c) PUSH B

8. What are the typical characteristics of CISC instruction set architecture? Explain.

Group C

Attempt any TWO questions.   [2×10 = 20]

9. Define the term mnemonics, instruction cycle and machine cycle. There are two tables holding twenty data whose starting address is 3000H and 3020H respectively. Write a program to add the content of first table with the content of second table having same array index. Store sum and carry into the third and fourth table indexing from 3040H and 3060H respectively.

10. For the expression

    $Y = (A + B) * (C + D)$

    Write down the code for one address, two address and three address instruction formats.

11. What is parallel processing? Explain the benefits of parallel processing. Explain the classifications of parallel processing by M. J. Flynn.   [2+2+6]

Bachelor in Computer Applications

Full Marks: 60

Course Title: Mathematics II

Pass Marks: 24

Code No: CAMT154

Time: 3 hours

Semester: II

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. Evaluate the limit $\lim\limits_{x \to 0} \dfrac{\sin ax + bx}{ax + \sin bx}$

- 3. Find derivative of the function $f(x) = \dfrac{1}{\sqrt{x}}$ by using first principle.

- 4. Show that the rectangle of largest possible area for a given perimeter is a square.

- 5. Evaluate the integral $\int e^{ax} \cos bx \, dx$.

- 6. Find the area bounded by the curve $y^2 = 4x$ and the line $y = x$.

- 7. Use the trapezoidal rule with n = 5 to approximate the integral $\int_1^2 \dfrac{1}{x} dx$.

- 8. Solve the linear differential equation:

$$(1 + x^2)\frac{dy}{dx} + 2xy = 4x^2$$

Group C

Attempt any TWO questions.

[2×10 = 20]

9. State Rolle's theorem and Lagrange's mean value theorem with their geometrical interpretation. Verify Rolle's theorem for the function $f(x) = \sin x, \quad x \in [0, \pi]$. Also find a point in the curve represented by given function where the tangent is parallel to the x-axis.

10. Define true error and percentage error. Write three causes which suggest to stop the process bisection while solving a equation. Solve the following system of equations using Gauss elimination partial pivoting method.

$$4x_1 + 2x_2 - 3x_3 = 4$$
$$x_1 - x_2 + x_3 = 0$$
$$2x_1 + 4x_2 + x_3 = 7$$

11. Define Newton-Raphson method, write it's formula and use it to the solution of the equation $x^3 + x - 1 = 0$ in the interval [0, 1] accurate to within 10^{-4}.

Bachelor in Computer Applications

Full Marks: 60

Course Title: English II

Pass Marks: 24

Code No: CAEN153

Time: 3 hours

Semester: II

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. Describe the conflict among the machines in the story "Who Can Replace a Man?" What does the story claim by showing the machine obeying human order at the end of the story?
3. What are the points to be considered while making an oral presentation? Explain them in short.
4. As the CEO of Investment Company, write a memo informing all employees to follow social distancing protocol and other precautions in the office to avoid all possible infection of COVID-19.
5. Prepare a textual brochure highlighting the specialties of Lumbini so that the world will know it better.
6. The world is facing a major problem of overpopulation today. Point out the issues of overpopulation the story "Billennium" raises.
7. What is flaw in reasoning? How is an argument flawed? Identify the flaws in the following piece of reasoning:
   A fantastic basketball team could be created if the best player from each of the best teams formed a new club. Basketball would then become an exciting game for fans everywhere.
8. ABC Fiber, a large company with more than 500 employees has followed a flexible policy in the dress code. The employees here can wear the casual dress and yet they are supposed to look professional. For the last few months, the dress code has created some problems, and a discussion is going on about the changing of dress code. You as the president of the company, write an electronic mail to the manager calling a staff meeting to discuss the issue.

Group C

Attempt any TWO questions.

[2×10 = 20]

9. If "The Land Ironclads" presents the war fought with weapons, "Burning Chrome" presents the war fought with the computer keyboard. Compare and contrast between the wars presented in these two stories.
10. Write a report on the popularity of fast food restaurants in the cities in recent years.
11. Write a five paragraph argumentative essay on "Impact and Challenges of COVID-19 Pandemic and the Role of Information Technology on Education."