



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

2024

Bachelor in Computer Applications

Course Title: Financial Accounting

Code No: CAAC 152

Semester: II

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

Full Marks: 60

Pass Marks: 24

Time: 3 hours

Group B

Attempt any SIX questions.

[6x5 = 30]

2. Define accounting. Mention any three functions of accounting.

3. Differentiate between capital and revenue expenditures.

4. The following banking and cash transactions of Chaitra 2079 are given below:

Chaitra 2 : Business started with cash and bank balance Rs.2,50,000 and Rs. 1,70,000 respectively.

Chaitra 6 : Goods purchased from Sabina for Rs. 40,000 and 50% amount paid by cheque and balance on cash.

Chaitra 11 : Purchased goods from Ram for Rs 50,000

Chaitra 11 : Cash deposited into bank Rs. 25,000.

Chaitra 12 : Paid for stationary Rs. 15,000.

Chaitra 17 : Cheque received from Sujina Rs. 4,500 after 10% discount.

Chaitra 24 : Sold goods for Rs.20,000 and discount allowed Rs.2,000.

Chaitra 29 : Withdrew cash Rs.20,000 from bank for office use.

Required: Cash book with cash, bank and discount column.

5. The following information are given in respect of materials transactions during the month of Jestha 2079.

Jestha 2: Opening balance 1500 units @ Rs. 11

Jestha 5: Issued 500 units

Jestha 8: Purchased 500 units @ Rs 12

Jestha 10: Issued 400 units

Jestha 12: Purchased 200 units @ Rs 12

Jestha 13: Returned to store 50 units issued from 10th Jestha

Jestha 18: Purchased 300 units @ Rs 11

Jestha 25: Purchased 400 units @ Rs 12

Jestha 30: Shortage on verification 100 units

Required: Store ledger under LIFO method

c.o.v.p.b

6. Consider the following information as on 31st December 2023

± +

a) Balance of cash book Rs.20,000

- -

b) Cheque issued but not presented for payment Rs. 5,000

- -

c) Cheque received and entered in the bank column of cash book but not deposited into bank for collection Rs. 9,000

- -

d) Bank charges and commission of Rs. 550 not entered in cash book.

- -

e) Credit side of cash book overcast by Rs. 3,000

- -

f) Bank paid electricity bill Rs. 1500 as per instruction

Q Q

Required: Bank reconciliation statement.

7. On 1st Baishak 2075 a construction company purchased a machine for Rs. 10,00,000 and paid Rs. 2,00,000 for transportation and installation charges. It purchased another machine for Rs. 7,00,000 on 1st Kartik 2076. On 1st Baishak 2077, the first machine was sold for Rs. 8,00,000 and on the same date another machine was purchased for Rs. 5,00,000. Charge depreciation @ 10% p.a. under fixed installment method.

Required: Machinery account for the first three year

8. Following are the transactions relating to credit sales:

a) Sold to A furniture :

20 Tables @ Rs. 1,000 each

10 Beds @ Rs. 5,000 each

b) Sold to B furniture :

5 Sofa sets @ 10,000 each

10 Beds @ Rs. 5,000 each

Less: 10% Trade discount

c) Sold to K. store on cash:

30 chairs @ Rs. 2000 each

20 small table @ Rs. 600

Required: Sales book and Sales account

Group C

Attempt any TWO questions.

[2×10 = 20]

9. The following transactions of A Supplier provided to you.

a) Started business with cash Rs.5,00,000 and furniture Rs.40,000

b) Opened bank account at Nepal Bank Ltd. Rs.2,00,000

c) Goods purchased on cash Rs.1,00,000 and credit Rs.2,00,000.

d) Goods sold to Karki store at Rs.2,50,000, partial payment received Rs.50,000 by Cheque.

e) Goods purchased from Himal Supplier Rs. 1,00,000

f) Cash paid Rs.95,000 as full settlement to Himal supplier.

g) Cheque received from Karki store Rs.1,90,000 in full settlement.

h) Purchased computer at Rs. 70,000

i) Bank loan taken from NIC Asia Rs. 3,00,000

j) Goods lost by fire Rs. 15,000 but insurance company accept Rs.10,000 only.

k) Salary Rs.20,000 and electricity bill Rs. 5,000 paid by cheque.

l) Depreciate furniture by Rs.1000

Required a) Journal entries

b) Purchase account, sales account and Accounts payable account

10. The trial balance of a trader at the end of Chaitra 2080 is as under

Particulars	Debit (Rs)	Credit (Rs)
Opening stock TDR -	30,000	
Fixed assets A (DR) ✓	120,000	
Accounts receivable A	80,000	
Cash at bank A	26,000	
Purchase TDR DR ✓	2,00,000	
Wages TDR	30,000	
Carriage inward PL	5,000	
Office salaries PL	25,000	
Bad debt PL ✓	500	
Sundry expenses DR PL	1,500	
Insurance premium PL	2,000	
Office rent PL	20,000	
Drawing DR Capital LCM -	15,000	
Capital Liabilities		1,50,000

Bank loan <i>Dr</i>		50,000
Accounts payable <i>Cr</i>		40,000
Sales <i>PL Dr</i>		3,00,000
Purchase return <i>Purchase Cr</i> //		10,000
Commission <i>PL</i>		5,000
	5,55,000	5,55,000

Additional Information

- Fixed assets depreciated by 10% *PL Dr → Assets (Fin -)* ✓
- Provision for bad debt to be maintained @ 5% *PL(Bd -)*, *Liabilities* ✓
- Outstanding rent Rs. 5,000 *PL Rent +*, *Liab*
- Closing stock Rs.40,000 *Tra Cr*, *Liabilities*

Required: a) Trading account

b) Profit and loss account

c) Balance sheet

11. Define Public limited company with its features. Also differentiate between shares and debentures. [5+5]



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

2024

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

Attempt any SIX questions.

[6×5 = 30]

2. How does "The Land Ironclads" critique the reliance on technology in warfare and its impact on human courage and adaptability?
3. Compose an email to your immediate boss about the arrangements you have made for the upcoming IT fair at your campus premises.
4. What issues should a web designer be concerned about when planning a web page?
5. Make a flow-chart diagram of your dream application.
6. Write a short oral presentation on the impacts of reliance on Artificial Intelligence in today's world.
7. What future condition of the world does the writer present in the story, "But Who Can Replace a Man?" *Omnia abire*
8. In the following passage, identify any unstated assumptions, and say whether they are assumptions which underlie a basic reason, or assumptions which function as an additional reason, or assumptions which function as an intermediate conclusion.

Allowing parents to choose the sex of their children could have serious social costs. There would be a higher percentage of males who were unable to find a female partner. Also, since it is true that 90 per cent of violent crimes are committed by men, the number of violent crimes would rise.

Group C

[2×10 = 20]

Attempt any TWO questions.

9. Suppose you are working as an IT expert in the National Bank of Nepal, and working staff need five laptops for daily operation. Your manager asks you to present a proposal with time, cost, and objectives. Write a short proposal comparing the laptops available in market of at least three renowned companies. Your proposal must include problems, solutions, and findings.
10. 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.
11. Evaluate Shirley Taylor's approach to distinguishing between inductive and deductive reasoning. Compare the strengths and limitations of each reasoning method as described in the book, and provide examples to demonstrate their application in real-world problem-solving.

Bachelor in Computer Applications (BCA)

Course Title: Microprocessor and Computer Architecture

Code No: CACS 155

Semester: II

SEC A

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.

[$6 \times 5 = 30$]

1. Explain routine, subroutine and instruction mapping. [5]
2. Define addressing modes. Explain different types of addressing modes. [1 + 4]
3. Explain arithmetic pipelining with an example. [5]
4. Explain the memory read operation for MVI B 32H using timing diagram.
[Opcode: MVI B = 06H] [5]
5. Classify the instructions of 8085 microprocessor based on operations. [5]
6. Define micro-instruction format. Differentiate between symbolic and binary microprogram. [2 + 3]
7. Write an ALP to transfer 5 memory data blocks from one location to another using loop. [5]

Group - C

Attempt any Two Questions.

[$10 \times 2 = 20$]

8. Mention the characteristics of 8085 microprocessor Explain pin diagram of 8085 microprocessor. [2+8]
9. Explain instruction format with reference to a program $X=(A+B)*(C+D)$ mention zero address, One address, Two address and three address instruction. [10]
10. a. Differentiate between RISC and CISC architecture. [3]
b. Write an ALP to calculate the sum of 10 numbers stored in memory location starting from 80B0h using 8085 Microprocessor. [7]

Best of Luck!



Tribhuvan University
Faculty of Humanities & Social Sciences
Patan Multiple Campus, Lalitpur
Mid-Term Examination
2024

Bachelor in Computer Applications (BCA)
Course Title: Microprocessor and 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.

[$6 \times 5 = 30$]

1. Differentiate between 8085 and 8086 microprocessors. [5] ✓
2. Explain different types of registers of basic computer microprocessor. [5]
3. Explain the Bus organization of 8085 Microprocessor. [5]
4. Explain the opcode fetch machine cycle for MVI A, 20H with timing diagram. [Opcode: MVI B = 06H] [5]
5. Explain instruction cycle for basic computer with flowchart [5]
6. Write an ALP to multiply two numbers 02H and 05H [5]
7. Explain the instruction formats of Mano's Basic Computer with example. [5]

Group - C

Attempt any Two Questions.

[$10 \times 2 = 20$]

8. Explain the functional block diagram of 8085 Microprocessor. [10]
9. Explain the types of addressing modes of 8085 Microprocessor. [10]
10. Write the concept of stored program organization. Explain the design of control unit of Mano's Basic Computer. [4 + 6]

DCR
AL
Registers A, M
JVA
Absolute Direct
DIY MVE
In Direct MZ A, B
Indirect to Direct
Absolute
Address to Register
LDA A, 2000H DLD B
Immediate
Relayed
SN2 Back
STA 300H
HLT

Best of Luck!

11. a. Draw the architecture of 8086 microprocessor.
b. Write a program in assembly language that copies 10 bytes of data stored in location starting from 8000H to the memory location starting from 9000H.



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

2024

Bachelor in Computer Applications

Course Title: Microprocessor and Computer Architecture

Full Marks: 60

Code No: CACS 155

Pass Marks: 24

Semester: II

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 branch instructions in 8085 microprocessor [5]
3. Differentiate between instruction cycle and machine cycle. What are different machine cycles in instructions: STA 2050H and LDA 2060H? [1+2+2]
4. Write a program in assembly language that finds the greatest number among 8 bytes of number stored in the memory locations starting from 5001H. Store the greatest number in 5050H. [5]
5. What is memory mapped I/O? Explain different types of instruction format in a basic computer system. [1+4]
6. What are the different operations in stack organization? Explain. [5]
7. Differentiate between RISC and CISC computer. [5]
8. What is instruction pipelining? Explain in detail. [1+4]

Group C

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

9. What is addressing mode? Explain different addressing modes. [2+8]
10. What is a microprogram? Explain different formats of microinstructions. Draw the design of the control unit. [1+4+5]
11. a. Draw the architecture of 8086 microprocessor. [5]
b. Write a program in assembly language that copies 10 bytes of data stored in the memory location starting from 8000H to the memory location starting from 9000H. [5]



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

Bachelor in Computer Applications

Course Title: Mathematics II

Code No: CAMT 154

Semester: II

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

Group B

Full Marks: 60

Pass Marks: 24

Time: 3 hours

Attempt any SIX questions.

[6×5 = 30]

2. Define Indeterminate forms.

✓ Evaluate : $\lim_{x \rightarrow 0} \frac{\tan x - \sin x}{x^3}$

✓ 3. Find $\frac{dy}{dx}$ if a) $x = t^2 - 1$, $y = t^4 - 1$ b) $x^2 + y^2 = \sin xy$.

✓ 4. Find from first principle, the derivate of $\sqrt{3x + 1}$

✓ 5. Using the trapezoidal rule, compute $\int_0^2 (2x^2 - 1) dx$ with 4 intervals. Find the absolute error of approximation from its actual value.

✓ 6. Evaluate the following integrals: a) $\int \frac{2x+3}{\sqrt{x^2+3x}} dx$ b) $\int e^x \cos x dx$

✓ 7. Solve the differential equation: $x \frac{dy}{dx} + 2y = x^2 \log x$

✓ 8. Using Newton-Raphson method, find a root of $x^3 - x - 4 = 0$ between 1 and 2 to three places of decimal.

Group C

Attempt any TWO questions.

[2×10 = 20]

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

Maximize, $z = 15x + 12y$

Subject to, $2x + 3y \leq 21$

$3x + 2y \leq 24$

$x, y \geq 0$

10.a) Using Simpson's $\frac{1}{3}$ Rule, evaluate $\int_0^1 \sqrt{1 + 2x^2} dx$; $h = 0.25$

b) Find the maximum and minimum values of the function $f(x) = 4x^3 - 15x^2 + 12x - 1$. Also, find the point of inflection.

11. a) Find the area of the region between the curve $y = 4 - x^2$, $0 \leq x \leq 3$ and the x-axis.

b) Solve: $\frac{dy}{dx} = \frac{x^2 + y^2}{2x^2}$

Group 'B'

Attempt Any SIX Questions.

[6×5=30]

11. A function $f(x)$ is defined as follows: $f(x) = \begin{cases} 2x + 1 & \text{for } x < 1 \\ 4 & \text{for } x = 1 \\ 6x - 1 & \text{for } x > 1 \end{cases}$

is the function ~~is~~ continuous at $x = 1$? If not, how can you make it continuous?

12. Verify the Lagrange's theorem for the function $f(x) = x^3 - 4x$, $x \in [-2, 2]$

13. Find, from first principle derivative of $\sin(ax + b)$

14. Using L'Hospital's rule, evaluate $\lim_{x \rightarrow 0} \frac{\sin x - x \cos x}{x^3}$

15. Evaluate the followings

a. $\lim_{x \rightarrow \theta} \frac{x \tan \theta - \theta \tan x}{x - \theta}$ b. $\lim_{x \rightarrow \infty} \sqrt{x} (\sqrt{x+1} - \sqrt{x})$

16. Find the equations of the tangent and normal to the curve $y = x^3 - 2x^2 + 4$ at $(2, 4)$.

17. Solve $(xy^2 + x)dx + (x^2y + y)dy = 0$,

Group 'C'

Attempt Any TWO Questions.

[2×10=20]

18. Find local maximum and local minimum along with point of inflection of $y = x + \frac{5}{x}$

19. Find dy/dx of followings:

I. $y = x^2 + y^2 + 3axy + 3bx$

II. $x = \frac{3at}{1+t}$ and $y = \frac{3at^2}{1+t^2}$

20. Find the points on the curve $y = x^3 - 3x^2 + 1$ where the tangents is parallel to (i) x axis
(ii) y axis

* * *

C

Patan Multiple Campus

English II, Section-A,
Term Exam 2081

Full Marks: 60

Pass Marks: 24

Group B [5x6 = 30]

Attempt any SIX questions.

11. Distinguish a science fiction from other kinds of fiction? Explain with textual evidences.
12. "The Land of Iron Clads" by H. G. Wells is a science fiction on war. Justify it with logics and reasons.
13. Write an email to your campus chief about providing scholarship for your further study.
14. Discuss the five key rules of a good writing for the twenty-first century.
15. Explain the concept of critical reasoning.
16. Write a notice of a college.
17. Write an advertisement of a product to be published on TV.
18. Analyze the character of John Ward of "Billennium" by J. G. Ballard.

Group-C

Attempt any two questions [2x10=20]

19. What is business communication? How can we make effective writing? Explain with evidences.

OR

What is an oral presentation? Write the ways to present an issue in front of the audience.

20. In the story "The Land Ironclads", the young lieutenant believes that there are other things in life better worth having than proficiency in war. However, the war correspondent argues that civilization has science, which has invented rifles and guns used by us. What happens after the guns are fired at the illusion of the lieutenant? Does it mean the war correspondent is more realistic than the lieutenant? Discuss.

OR

Discuss "Billennium" by J.G. Ballard as a story for future where it is not war, but overpopulation that threatens the human race.

GROUP B (6*5=30)

Attempt any Six questions

The following transactions are given:

- 1 Ashadh 2079 Good purchased of Rs. 70000
- 2 Ashadh 2079 Goods purchased on credit from Ram of Rs. 30000
- 3 Ashadh 2079 Goods sold for Rs. 80000
- 4 Ashadh 2079 Goods withdrawn by proprietor for personal use Rs. 3000
- 5 Ashadh 2079 Goods destroyed by fire of Rs. 5000 and claim admitted by insurance company for Rs. 3000
- 6 Ashadh 2079 Paid to Ram Rs. 29000 in full settlement of his account.

Required: a. Journal Entry b. Ram account

2. The purchase transactions of Sunjeeta electronic shop are provided for recording:

- March 1 Purchased from Ananda Electric Store, Banepa
30 pcs of 60 watt bulb @Rs. 30 each
50 pcs of electric holder @ 20 each less trade discount @ 10%.
- March 5 Purchased from Akirti Electric Concern, Jawalakhel
500 pcs of multiplug @ Rs. 100 each
15 meter electric wire @ Rs. 100 each.
(Less trade discount @ 5 %)
- March 10 Purchased from Gauri Store of Lalitpur
20 pcs on Nokia Mobile sets @ Rs. 6000 each on cash
Less trade discount @ 10%
- March 15 Purchased from Rama Electric House, Kamaladi.
40 pcs of transistors @ Rs. 1500 each.
5 pcs of DVD player @ Rs. 3000 each

Required : a. Purchase book b. Purchase account

3. Following cash and banking transactions are given:

- July 1 Cash in hand Rs. 10000 and cash at bank (overdraft) Rs. 90000.
July 2 Goods sold on cash Rs. 30000.
July 5 Deposited in Bank Rs. 40000.
July 7 Salary paid Rs. 1000 by cheque.
July 8 Interest received from Ramesh Rs. 2000.
July 9 Received a cheque from Sujan of Rs 24000 and paid into bank. Allowed him discount of Rs. 1000.

Required : Double column cash book.

4. The following are the transactions of Gupta Electronic Suppliers relating to credit sales:

- Baisakh 10 : Sold to Ram & Sons Tansen:
40 fan eaters @ Rs. 350 per unit
25 automatic heater @Rs 1,500 per unit.
(Less 5% trade discount on bill)
- Baisakh 15 : Sold to ABC store, Bhairahwa:
50 table fans @ Rs. 1,200 per unit
50 ceiling fans @ 550 per unit
- Baisakh 20 : Sold to Shah Brother, Janakpur on cash
100 pieces ceiling fans @ Rs. 450 per unit, 10% cash discount
- Baisakh 25 : Sold to Poudel & Sons, Illam:
20 electric Heater @ Rs. 450 per unit
30 washing machines @ Rs. 16,000 per unit

Required: a. Sales Book b. Sales Account

5. Define accounting. Explain the advantages of accounting

6. Following transactions are given to you

- Jestha 1, 2067 : Commencement of business with Rs. 600000.
Jestha 5, 2067 : Purchased good from Ram stores Rs.100000
Jestha 10, 2067 : Sold goods on cash Rs.50000
Jestha 15, 2067 : Payment made to Ram stores Rs.95000 and received discount Rs.5000
Required : journal entry and Ram a/c.

7. Explain the double entry bookkeeping system. Also explain its objectives.

Group C

Attempt any two questions.

(10*2=20)

1. Following transaction are given:

- Poush 1: Balance of cash in hand Rs.20000 and cash at bank Rs. 30000
Poush-5: purchased good for Rs. 4000 and received discount Rs. 200
Poush-9: received cash from ram Rs. 3600 after deducting 10% discount
Poush-15: deposited cash into bank Rs.200
Poush-25: received cash from Hari Rs. 2400 in full settlement of his account Rs. 2500
Poush-29: withdraw cash Rs. 6000 from bank for the office use.

Required: Triple Column Cash book

2. The Trial balance of A Company as on 31st Chaitra, last year is as under:

Debit	Amount	Credit	Amount
Beginning stock	50,000/-	Share capital Rs. 100 each	5,00,000/-
Purchases	6,60,000/-		60,000/-
Building	3,00,000/-	Creditors	40,000/-
Machinery	50,000/-	Profit and Loss appropriation account	9,00,000/-
Investment	2,00,000/-		
Carriage	30,000/-	Sales	
Salaries	50,000/-		
Debtors	1,00,000/-		
Cash at bank	20,000/-		
Wages	40,000/-		
	15,00,000/-		15,00,000/-

Additional information

- Provide depreciation on building at 10% and machinery at 5%.
- Provision for doubtful debt is to be made at 5% on sundry debtors.
- Outstanding salaries Rs. 5500.
- Stock at the end Rs. 60000.
- The directors proposed 10% dividend on Share capital.

Required:

- Trading Account
- Profit and Loss Account
- Profit and Loss Appropriation Account →
- Balance Sheet as on Chaitra 31st, last year.

3. Write in brief about accounting concept.

Group B

Attempt any SIX questions. [6×5 = 30]

1. How do you distinguish a science fiction from other kinds of fiction? Explain basing on the stories given in your textbook.
2. What is memo? Why is it important in any organization?
3. What are the features of oral presentation skills? Explain.
4. What are the key-points to be remembered while preparing E-mail?
5. What is logical reasoning? What are its key characteristics and principles?
6. Prepare a format of report (only format not report) with different steps, based on your book.
7. 'Billennium' is a science fiction story. Explain with examples.
8. A lot can be done to make meetings effective. What measures would you suggest to make meeting effective if you were a member of a meeting? Explain.

Group-C

Attempt any two questions [2x10=20]

19. Of late, major cities, especially the capital city, of Nepal have become notorious of frequent traffic congestion. In this context, write an argumentative essay about the benefits and disadvantages of our widespread use of the motor cars. Come to a conclusion as to whether the motor can be a good thing or bad thing in light of daily problem faced by the commuters in the capital city and elsewhere in Nepal.
20. Prepare a piece of advertisement to promote your recent business you have begun in New Road. Your business includes mobile sets, laptops and other electronic devices. While preparing advertisement, include prices, models, features and some specification so that the customers are attracted to your business house.
21. In the story "The Land Ironclads", the young Lieutenant believes that there are other things in life better worth having than proficiency in war. However, the war correspondent argues that civilization has science, which has invented rifles and guns used by us. What happens after the guns are fired at the illusion of the Lieutenant? Does it mean the war correspondent is more realistic than the Lieutenant? Discuss.

Best of Luck!

been ... in Computer Applications (BCA)
as ... Title: Microprocessor and Computer Architecture
Code No: CACS 155
Semester: II

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

SEC A

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

Group - B

Attempt any SIX questions. [6 x 5 = 30]

1. Explain routine, subroutine and instruction mapping. [5]
2. Define addressing modes. Explain different types of addressing modes. [1 + 4]
3. Explain arithmetic pipelining with an example. [5]
4. Explain the memory read operation for MVI B 32H using timing diagram. [Opcode: MVI B = 06H] [5]
5. Classify the instructions of 8085 microprocessor based on operations. [5]
6. Define micro-instruction format. Differentiate between symbolic and binary microprogram. [2 + 3]
7. Write an ALP to transfer 5 memory data blocks from one location to another using loop. [5]

Group - C

Attempt any Two Questions. [10 x 2 = 20]

8. Mention the characteristics of 8085 microprocessor Explain pin diagram of 8085 microprocessor. [2+8]
9. Explain instruction format with reference to a program $X=(A+B)*(C+D)$ mention zero address, One address, Two address and three address instruction. [10]
10. a. Differentiate between RISC and CISC architecture. [3]
b. Write an ALP to calculate the sum of 10 numbers stored in memory location starting from 80B0h using 8085 Microprocessor. [7]

Best of Luck!

Year: 2019
Exam: BCA, Second Semester

Full Marks: 60

Course: Mathematics II (CAMT 154)

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.

Section A

Group 'B'

Attempt Any SIX Questions.

[6×5=30]

- 11. Find derivative of $\sqrt{x-3}$ using definition.
- 12. Using L'Hospital's rule, evaluate $x \xrightarrow{\lim} 0 \frac{\sin ax+bx}{ax+\sin bx}$
- 13. If the AC function is given by $AC = 25 - 8x + x^2$, then show that the cost and average cost are minimum at $x = 4$. Also, find the minimum average cost.
- 14. Evaluate: $\int e^{ax} \cos bx dx$
- 15. Solve the differential equation $\frac{dx}{dy} = \frac{x^2+y^2}{2x^2}$
- 16. Show that the rectangle of largest possible area for a given perimeter is a square.
- 17. Test the consistency and solve the following equation by Gauss elimination method.

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

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

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

Group 'C'

Attempt Any TWO Questions.

[2×10=20]

- 18.a. Prove that the area of the circle $x^2 + y^2 = a^2$ is πa^2 .
- b. Verify Rolle's theorem for $f(x) = x^2 - 4$ if $-3 \leq x \leq 3$.
- 19. Using simplex method, find optimal solution of
Maximize $z = 7x + 5y$

$$\text{Subject to } x + 2y \leq 6$$

$$4x + 3y \leq 6$$

$$x, y \geq 0$$

- 20. Using trapezoidal rule compute $\int_0^2 (2x^2 - 1) dx$ with four intervals. Find the absolute error of approximation from its actual value. How many points to be considered to make the approximation within 10^{-4} ?

Course Code: CAC 101
Course Title: Computer Applications
Code No: CACS 151
Semester: 2nd

Full Marks: 60
Pass Marks: 24
Time: 1 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]

11. Define keywords and identifiers. Differentiate between cohesion and coupling in programming. [2+3]
12. List the operators used in C programming. Explain the concept of bitwise operator. [2+3]
13. Differentiate entry-controlled and exit-controlled loop with example. [5]
14. What is control statement? Write a C program to find number of prime and composite numbers stored into array from user. [1+4]
15. What is DMA? WAP to find the largest and smallest number in a list of N numbers using DMA. [1+4]
16. Explain any four graphics functions in C and Write a program to draw two concentric circles with center (50, 50) and radius 75 and 125. [2+3]
17. What is function? List its advantages. WAP to find factorial of N number using recursion. [1+1+3]

Group C

Attempt any two question.

[2×10 = 20]

18.
 - a. What is difference between binary file and text file? Write a C program to write some text "Welcome to BCA program" in a file test.txt. [5]
 - b. WAP to find the sum of two matrix of order m×n. [5]
19. Define structure and union. Write a C program using structure that reads the records of n number of students ask with user with members roll, name, address and marks and display the record of students who have obtained greater than 250 marks. [2+8]
20.
 - a. Explain types of functions in C with example? [5]
 - b. Explain the concept of function call by value and function call by reference with example. [5]

Group - 'B' Short Question

Attempt any 6 question

[6×5=30]

11. Define Capital Expenditure and Revenue expenditure and differentiate between those two expenditure with suitable example.
12. Define financial statement. Explain in brief the objectives of financial statements.
13. The following transactions are given:
 - i. Commenced business with cash Rs. 70,000 and furniture of Rs. 10,000.
 - ii. Paid for general expenses Rs. 2,000.
 - iii. Purchased goods from Gautam Rs. 6,000.
 - iv. Paid to Gautam Rs. 5,800 in full settlement of his debt.
 - v. Goods lost Rs. 1,000 destroyed by fire but insurance company admitted only 50% of the amount claim.

Required:

- a. Journal entries
- b. Gautam account

14. Following cash and banking transactions are given to you for 2019 June 1 Cash in hand Rs. 20,000; bank overdraft Rs. 10,000

5 Cheque received from S.K. Rs. 12,000 and discount allowed to S.K. Rs. 500

6 Cheque which received from S.K. deposited into bank

9 Cheque paid to Shyam Nath Rs. 4,000 and discount received from Shyam Nath Rs. 100 (2). Amount withdrawn from bank for office uses Rs. 5,000 and for private use Rs. 100 (15) School fees of owner's children paid through cheques Rs. 2,000

24 Bank charged interest on overdraft Rs. 800 (29) Cash deposited into bank Rs. 11,000

Required: Cash book with cash, bank and discount column.

15. Consider the following information as on 31st December 2018

- a. Balance of cash book Rs. 6,000
- b. Cheque issued to the supplier but not presented for payment into the bank Rs. 3,000
- c. Cheque received and entered in the bank column of cash book but not deposited into bank for collection Rs. 8,500
- d. Bank charges and commission of Rs. 250 not entered in cash book.
- e. Credit side of cash book overcast by Rs. 2,000
- f. Bank paid electricity bill Rs. 1550 as per instruction.

Required: Bank reconciliation statement.

16. On 1st Kartik 2073 a construction company purchased a machine for Rs. 9,00,000 and paid Rs. 2,00,000 for transportation and installation charges. It purchased another machine for Rs. 6,00,000 on 1st Baisakh 2074. On 31st Aswin 2075, the first machine was sold for Rs. 6,00,000 and on the same date another machine was purchased for Rs. 2,00,000. Charge depreciation @ 10% p.a. under fixed installment method.

Required: Machinery Account from 2073 to 2075. Account are closed on 31st Chaitra each year.

17. Following information are given in respect of materials transactions during the month of Jeththa 2068.

Jeththa 1 : Opening balance 2,000 units @ Rs. 10

Jeththa 5 : Issued 200 units

Jeththa 8 : Purchased 500 units @ 12

Jeththa 10 : Issued 400 units

Jeththa 12 : Purchased 200 units @ 11

Jeththa 13 : Returned to store 40 units issued from 8th Jeththa Jeththa 18 :

Purchased 300 units @ 10

Jeththa 25 : Purchased 400 units

Jeththa 30: Shortage on verification 10 units Required: Store ledger under LIFO method.

Group - 'C' Short Question

Attempt any 2 question

[10×2=20]

18. XYZ Company Ltd. was registered with a share capital of Rs. 15,00,000 divided into 15,000 shares of Rs. 100 each. 14,000 shares were offered to the public for subscription at Rs. 120 per share. The money was payable as follows:

On Application Rs. 30 per share

On Allotment Rs. 40 per share (including premium) On first call Rs. 20 per share

On final call Rs. 30 per share

Applications were received for 14,000 shares. All calls were duly made and received except:

- i. A shareholder holding 500 shares paid the full value of shares on allotment
- ii. A shareholder holding 700 shares failed to pay the first and final call on due date.

Required: Journal entries for: (a) Application (b) Allotment (c) First call (d) Final call

19. The trial balance prepared by a trader as 31st March 2019 is given below:

Particular	Debit Rs.	Credit Rs.
Investment	50,000	
Debtors	30,000	
Purchase	2,10,000	
Wage	20,000	
Sundry Creditors	86,000	
Sales	3,60,000	
Capital	2,90,000	
Discount allowed and received	13,000	4,000
Cash and bank	20,000	
Opening stock	38,000	
Sales promotion expenses	10,000	
Machinery	1,38,000	
Interest		4,000
Administrative expenses	8,000	
Goodwill	20,000	
Commission	6,000	
Salary	20,000	
Trade expenses	4,000	
Building	1,20,000	
Carriage	7,000	
Furniture	36,000	
Bills payable	36,000	
Bills payable		6,000
Total	7,50,000	7,50,000

Additional information:

- i. Stock at the end was Rs. 44,000
- ii. Provide for reserve for doubtful debt @ 5% on debtors
- iii. Depreciate machinery by 5% and furniture by 10% p.a.
- iv. Goods lost by fire of Rs. 12,000 and insurance company has admitted the claim for Rs. 10,000 only.
- v. Wages still to pay is Rs. 2,500
- vi. Interest accrued but not yet received Rs. 1,000

Required: (a) Trading account (b) Profit and Loss account
(c) Balance Sheet as at 31st March, 2019.

20. What do you mean by accounting concepts? Mention them brief

exam (Set-B)

Financial accounting

Create your own company in Tally. Create 5 ledger in tally. Also create 5 stock group (also write in your copy) (5)

The following transaction are provided to you (5)

- i) Salary paid Rs.6000.
- ii) Interest received Rs 12000.
- iii) Wages outstanding Rs 4000.
- iv) Sales of Rs 150000
- v) Purchase for Rs 80000.

Required: accounting voucher (In tally require ledger posting)

1	4	9	16	
1	4	9	16	25

Section A

SET A

1. Use Simplex method to maximize $z = 7x + 5y$

Subject to

$$x + 2y \leq 6$$

$$4x + 3y \leq 12$$

$$x, y \geq 0$$

2. Write a MATLAB code to solve the problem mentioned above.

3. Write C program to print following pattern using for loop.

1

1 4

1 4 9

1 4 9 16

1 4 9 16 25

Processor and Computer architecture Practical exam question

(attempt any two questions)

Write an ALP to arrange 10 numbers stored in memory location is ascending order.

2. Write an ALP to move 5 data which are stored sequentially in memory location to another location.
3. Write an ALP to find the largest number among 10 numbers stored in memory location

~~III) write a program to check whether a character is vowel or consonant.~~

~~In a bank, there are n number of customers with attribute balance. Write a WAP to find out the details of customer having balance n.~~

4. Write C program to print following pattern using for loop.

1

1 4 .

1 4 9

1 4 9 16

1 4 9 16 25

Practical Exam

Subject Code: CACS151 (C Programming) – SET C

1. Write Algorithm, Flowchart & Program to find factorial of user input number.
2. Write C program to check whether a character is vowel or constant.
3. In the bank, there are n number of customers with attributes name, account_no, and balance using structure; WAP to find out the details of customer having balance more than 20000.
4. Write C program to print following pattern using for loop.

1

1 4

1 4 9

1 4 9 16

1 4 9 16 25