Tribhuvan University

Faculty of Humanities and Social Science

Semester: II

Subject: Microprocessor and Computer Architecture

2017 Batch

Group B

Attempt any SIX questions

2. Explain the bus organization of 8085 microprocessor.

3. Explain the opcode fetch machine cycle for MVI A, 32H with timing diagram.

4. Explain 8085 instruction addressing mode with example.

5. Explain the memory hierarchy with diagram.

6. Explain the organization of Microprogrammed Control Unit.

7. Define control word. Explain the procedure for generating control word for specific operation.

8. Define instruction pipeline. Explain the four-segment instruction pipeline with example.

Group C

Attempt any TWO questions.

9. Explain the functional block of 8085 microprocessor.

10. Explain the design and control logic of Accumulator.

11. Explain the different data transfer and manipulation instruction with example

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Semester: II

Subject: Mathematics

2017 Batch

Group B

Attempt any SIX questions

2. If a function f(x) is defined as:
    $$f(x) = 3x^2 + 2 \quad if \; x < 1$$
    $$2x + 3 \quad if \; x > 1$$
    $$4 \quad if \; x < 1$$
    Discuss the continuity of function at x = 1.

3. Find the derivative of $sin3x$ by using definition.

4. Using L-Hospital's rule evaluate:
    $$\lim_{n \to \infty} \frac{2x^2 + 3x}{1 + 5x^2}$$

5. If demand function and cost function are given by
    P(Q) = 1-3Q and
    C(Q) = Q2 – 2Q respectively, Where Q is the quality (number) of the product then find output of the factor for the maximum profit.

6. Evaluate: a) $\int \frac{dx}{1-\sin x}$ b) $\int_0^1 (x^2 + 5) \, dx$

7. Solve: $\frac{dy}{dx} = \frac{xy+y}{xy+x}$

8. Examine the consistency of the system of equation and solve if possible.
    x1 + x2 - x3 = 1
    2x1 + 3x2 + 3x3 = 3
    x1 - 3x2 + 3x3 = 2

Group C

Attempt any TWO questions.

9. Define Homogeneous equation and solve the following system of equations using Inverse Matrix Method.
    - 2x + 2y + z = - 4
    - 8x - 7y - 4x = - 47
    9x - 8y + 5z = 55

10. State Rolle's Theorem and interpret it geometrically. Verify Rolle's theorem for $f(x) = x^2 - 4 \; in \; -3 \leq x \leq 3$.

11. Using Composite Trapezoidal Rule, compute $\int_2^0 (2x^2 - 1) dx$ from 0 to 2 with four intervals. Find the absolute error of approximation from its actual value.

Tribhuvan University

Faculty of Humanities and Social Science

Semester: II

Subject: English II

2017 Batch

Group B

Attempt any SIX questions

2. How do you distinguish a science fiction from other kinds of fiction? Explain basing on the stories given in your textbook.

3. What are the basic components of arguments? Explain with appropriate examples.

4. Lists are used in letters, e-mails, fax message, and memos. What are the major objectives and advantages of using lists and bullets? Explain.

5. In the story, "But Who Can Replace A Man", the penner claims to have class three brain. Why do the tractors and the field minder leave the penner behind rejecting his request for help? Why he becomes useless after crashing down to the ground? Explain.

6. What are the guidelines to be followed while designing leaflets? Explain basing on the text prescribed in your course.

7. What do you mean by brainstorming a topic? Explain with an appropriate example.

8. An argument states with a basic reason. Read the following sentence and draw an intermediate and then a main conclusion.
   If Cigarette advertising were banned, Cigarette manufacturers would save the money they would otherwise have spent on advertising.

9. 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.

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Group C

Attempt any TWO questions.

10. Of late, major cities, especially the capital city, of Nepal have become notorious become 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.

11. You work for Aurora Holdings Plc, a large manufacturing company. In a recent board meeting, it was decided to review the company's staff benefits. At present they include only a company pension scheme and a subsidized canteen. The human resource director asks you to research the additional benefits which could be introduced. You should also recommend three benefits which you consider would be most welcome by all members of staff. Compile a formal report following the prescribed series of headings as discussed in your text of Communication for Business.

12. 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 of for future where it is not war, but overpopulation that threatens the human race.

Tribhuvan University

Faculty of Humanities and Social Science

Semester: II

Subject: C programming

2017 Batch

Group B

Attempt any SIX questions

2. What is software process model? Differentiate between cohesion and coupling in programming?

3. Define keywords and identifiers. Define rules for defining valid identifiers.

4. List the operators used in C on the basis of utility. Explain the concept of bitwise operation.

5. Differentiate between while loop and do while loop. Write a C program to find input number is prime or composite.

6. What is DMA? Write a program to find the largest and smallest number in a list of n numbers using DMA.

7. What is the difference between binary file and text file? Write a C program to write some text "Welcome to BCA program" in a file test.text.

8. Explain any four graphics function in C. Write a program to draw two concentric circles with center (50, 50) and radii 75 and 125.

Group C

Attempt any TWO questions.

9. What is one dimensional array? How it is initialized? Write a C program to find the sum of two matrix of order m x n.

10. Define structure and union. Write a C program using structure that reads the record of 35 students with member's roll, name, address and makes and display the records of students who have obtained greater than 250 marks.

11. What is a function? List its advantages. Explain the concept of function call by value and call by reference with example

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Tribhuvan University

Faculty of Humanities and Social Science

Semester: II

Subject: Financial Accounting

2017 Batch

Group B

Attempt any SIX questions

2. Following cash and bank transactions of a month are given to you,
   1. Balance of cash Rs 30,000 and bank 40,000.
   2. Purchased goods for Rs 15,000, paid Rs 5,000 on cash and the balance through cheque after allowing a discount of Rs 500.
   15. Rent received Rs 12,000.
   22. Sales of goods at Rs 21,000, received Rs 5,000 on cash and the balance through cheque after the deduction discount of Rs 1,600.
   27. Deposited cash into the bank Rs 10,000

   Required: Cash book with cash and bank column.

3. Following information are given to you

   On 30th Chaitra, the cash book showed debit balance Rs. 16,000
   - Cheque sent for collection of Rs 5,000 but credited by bank only Rs 2,000
   - Cheque issued of Rs 4,000 but not presented at bank
   - Bank interest of Rs 1,000 has been collected by bank but not recorded in cash book
   - Service charge of Rs 200 shown in pass book only
   - A debtor directly deposited Rs 2,000 into bank

   Required: Bank Reconciliation Statement

4. The transactions related to machinery are as under

   01.07.2015   Purchased a machinery for Rs. 60,000.
   01.01.2016   Purchased machinery for Rs. 40,000.
   30.06.2017   Sold machinery purchased on 2015 for Rs. 48,235 and purchased next machinery Rs. 20,000

   Accounts are closed on 31 December and rate of depreciation: 10%

   Required: Machinery account for three years under reducing balance method

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5. Stores transaction during the month Magh are as under

Purchased

Magh 1: Opening balance: 500 units @ Rs 10 per unit

Magh 4: 600 units @ Rs 11 per unit

Magh 9: 600 units @ Rs 12 per unit

Magh 20: 800 units @ Rs 12 per unit

Issued:

Magh 7: 500 units

Magh 15: 500 units

Magh 25: 400 units

Stock verification loss

Magh 28: 20 units

Required: Store ledger unit FIFO method.

6. Define accounting. Mention any three objective of accounting.

7. What are the various user of accounting information? Explain.

8. Differentiate between Going concern concept and Business entity concept.

Group C

Attempt any TWO questions.

9. Following transactions are provided to you. :

01 March	Started business with cash Rs 2,00,000.
04 March	Deposited cash into bank Rs 50,000.
13 March	Purchased goods from creditors for Rs 80,000 and paid cash only 30,000.
17 March	Sold goods on cash Rs 1,00,000.
20 March	Paid salary Rs 15,000 through cheque.
23 March	Received interest Rs 10,000.
30 March	Paid to creditors cash Rs 18,000 and received discount Rs 2,000.
31 March	Returned goods to creditors of Rs 5,000.

Required: Journal Entries and Creditors' Account.

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10. The following is the trial balance of a businessman as on 31st December 2017.

Particulars	Dr. Amount	Particulars	Cr. Amount
Opening stock	18,000	Sales	220,000
Purchase	71,000	Return outwards	1,500
Return inwards	1,000	Loan	20,000
Wages	11,000	Bills payable	2,500
Carriage on purchase	2,500	Capital	40,000
Printing and stationery	2,000	Discount received	1,000
Salaries	2,800		
Insurance expenses	3,000		
Plant & machinery	120,000		
Debtors	10,500		
Cash at bank	11,600		
Rent expenses	6,600		
Drawings	3,000		
Furniture	22,000		
	2,85,000		2,85,000

Additional information:

Closing stock is valued at Rs. 25,000.

Depreciation on plant & Machinery @ 15% & on Furniture @ 10%

Outstanding wages Rs. 4,000.

Prepaid insurance Rs. 500.

Prepare:

  a. Trading account

  b. Profit and loss Account

  c. Balance sheet as on 31st December 2017

11. Define company. Differentiate between private and public company.

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