

BCA/ Second Semester / CAMT154: Mathematics-II
FIRST-TERMINAL EXAMINATION

Attempt any three Questions: [3×3=9]
Group B

1. Evaluate: $\lim_{x \rightarrow 0} \frac{\sqrt{1+4x} - \sqrt{1-4x}}{x}$
2. Determine the value of 'a' so that the given function is continuous at $x=1$
$$F(x) = \begin{cases} 2ax + 3 & \text{if } x < 1 \\ 1 - ax^2 & \text{if } x \geq 1 \end{cases}$$
3. Compute: $\lim_{x \rightarrow 0} \frac{1 - \cos 3x}{1 - \cos 5x}$
4. Find $\frac{dy}{dx}$ when $y = e^{ax} + 7x^5$

Group C

Attempt any two Questions: [2×8=16]

1. Find the derivative of: x^9 w.r.t. x from first principle.
2. Use L'Hospital's rule to evaluate: $\lim_{t \rightarrow 0} \frac{t \sin t}{1 - \cos t}$
3. Find the intervals at which $f(x) = x^2 - 2x$ is increasing or decreasing.

BCA/ Second Semester / CACS153: English II
FIRST-TERMINAL EXAMINATION

Short Answer Questions:

Group "B"

Attempt any three questions:

(3x5=15)

1. Describe the setting and characters of "Billemum".
2. What is a science fiction? How is it different from other works of fictions?
3. Compare a Fax message to an E-mail?
4. Why is clear subject line required in E-mail? Discuss the idea of the SMART subject heading.
5. You are employed at Franklin College. The head of department of ITC Mr. James Watson, tells you to write a memo to all teachers who use the computer rooms. You have to inform them to be careful about the USB devices that the students are connecting to the lab computers. They are to be checked before use to avoid the viruses that harm the computers. You have to remind them to lock up the rooms when they leave. Tell them to be careful what they say to the students as the students who have introduced virus are not identified yet. Prepare a memo.

Group "C"

Long Answer Questions:

Attempt any one question:

(1 x 10 = 10)

6. Discuss "who can replace man" as a prediction of futuristic world.
7. An E-mail often becomes less effective due to some common errors by the writer. What are the errors that may occur while communication through Emails? Discuss the ways to make E-mail writing effective.

Group B

Short answer type questions

Attempt any three questions. (3x5 = 15)

1. Explain the process of accounting.
2. Define double entry system and state its features.
3. Consider the following transaction of ABC Furniture

Baishak 2 Sold karuna Furniture, Dilli Bajar:

- 10 Chairs @ Rs 1,000 each
- 5 Tables @ Rs. 3,000 each

Less: Trade discount 10%

Baishak 5 Sold to Nisha Furniture, Balaju:

- 5 Almirahs @ Rs. 10,000 each (25% trade discount)
- 6 Chairs @ Rs. 2,000 each

Baishak 12 Sold to Nimesh Kastha Udyog, Bhaisepati:

- 5 Steel cabinets Rs.20,000 each
- Delivery charges Rs. 3,000

Less: Trade discount 10%

Baishak 28 Sold Furniture on cash for Rs 6,000

Required: Sales Book and Sales Account

~~Required: Purchase book and Purchase account.~~

4. Following information is provided to you from bank column of cash book of A Traders.

- a. Debit balance as per cash book, Rs 40,000
- b. Cheque sent for collection Rs 10,000 on 20th Chaitra has not yet collected by Bank. —
- c. Cheque issued but not presented for payment up to 31st Chaitra, amounted Rs 10,000.
- d. Interest on investment collected by bank but not debited in the cash book, Rs 5,000
- e. Insurance premium paid by bank but not entered into the cash book amounted to Rs 5,000. —

Required: Bank reconciliation statement.

Cash 28 Dr
To Sales A/c
40,000

Analytical questions

Attempt any two questions. (1x10 = 10)

5. Write the rule of debit and credit with example.
6. Following transactions are provided to you:
 - a. Started business with cash Rs. 40,000 and equipment Rs. 75,000
 - b. Purchased goods Rs 25,000 on account and made partial payment Rs. 10,000
 - c. Sold goods on account for Rs. 30,000 and received as partially Rs. 20,000
 - d. Paid insurance for the year Rs. 6,000
 - e. Purchased goods Rs. 90,000 on credit and paid custom charged Rs. 7,500
 - f. Sold goods on credit for Rs. 1,30,000 and made partial received Rs.95,000
 - g. Appoint Ram as an office assistant on the basis of per month salary Rs 5,000
 - h. Goods returned from customer Rs. 1,300
 - i. Cash paid to Accounts payable Rs. 90,000 in full settlement of Rs. 92,000
 - j. Sold goods on cash Rs. 55,000
 - k. Paid rent Rs. 4,800 and travelling expenses Rs. 2,800
 - l. Purchased goods on credit Rs 21,000

Required:

- i. Journal entries (6)
- ii. Creditors account (2)
- iii. Debtors account (2)

FIRST-TERMINAL EXAMINATION

Group - B

Attempt any Three Questions:

[3 x 5 = 15]

1. Differentiate between microprocessor and microcontroller.
2. Explain the opcode fetch machine cycle with timing diagram.
3. Explain the 8085 Instruction addressing modes with example.
4. WAP to transfer 10 consecutive data from one block of memory to another.
Take necessary assumption for memory location.

Group - C

[10 x 1 = 10]

Attempt any One Question:

1. Draw Block Diagram of 8085 microprocessor and explain each block.
2. Explain 5 data transfer instruction. Swap two data from two memory location.
Assume necessary memory location..... ..