

PG CBCS  
M.Sc. Semester-I Examination, 2022  
CHEMISTRY  
PAPER: CEM 104



**(FOOD PROCESSING AND PRESERVATION AND COMPUTER BASICS)**

**Full Marks: 40**

**Time: 2 Hours**

**Write the answer for each Group in a separate sheet**

**GROUP-A**

**(FOOD PROCESSING AND PRESERVATION)**

1. Answer any **TWO** questions from the following questions: **2×2 = 4**
  - a) Define hurdle technology.
  - b) What is the pasteurization of milk?
  - c) Write down the name of antibiotics that are used in food preservation.
  - d) What is glycogen?
  
2. Answer any **TWO** questions from the following questions: **4×2 = 8**
  - a) What are MUFA and PUFA? Write a short note on saponification.
  - b) What is the denaturation of proteins? Write a short note on caramelization.
  - c) What are the advantage and disadvantages of food preservation?
  - d) Define water activity. What do you mean by the shelf life of food?
  
3. Answer any **ONE** question from the following questions: **8×1 = 8**
  - a) What do you understand by the term "CANNING"? Enlist and explain the different processing steps involved in the canning of fruits and vegetables.  

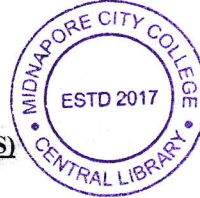
2+6
  - b) What is food? What do we need to preserve food? What are the causes of food spoilage?  

2+3+3

P.T.O.

(2)

**GROUP-B**  
**(COMPUTER BASICS)**



1. Answer any **TWO** questions from the following questions:  $2 \times 2 = 4$

- a) Explain the storage devices used in personal computers.
- b) Explain the input and output devices used in personal computers.
- c) Explain the primary memory and secondary memory used in personal computers.
- d) Differentiate between RAM and ROM.

2. Answer any **TWO** questions from the following questions:  $4 \times 2 = 8$

- a) Define the truth table and logic gate symbol of AND and OR.
- b) Define the truth table and logic gate symbol of NOT and XOR.
- c) Convert the following numbers as specified below:  
(3370)<sub>10</sub> to binary equivalent.
- d) Convert the following numbers as specified below:  
(1100011.01)<sub>2</sub> to decimal equivalent.

3. Answer any **ONE** question from the following questions:  $8 \times 1 = 8$

- a) Perform the following operations as specified below:
  - (i)  $110110 - 100001$  using 1's complement.
  - (ii)  $110110 - 100100$  using 2's complement. 4+4
- b) Draw the circuit diagram for the following Boolean expression and show the truth table:
  - (i)  $(\overline{A+B}) + (C+A)B$
  - (ii)  $B\overline{C} + (\overline{A}+C)$  4+4

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