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PG CBCS
M.Sc. Semester-I Examination, 2021
CHEMISTRY
PAPER: CEM 104
(FOOD PROCESSING AND PRESERVATION AND COMPUTER BASICS)

Full Marks: 40

Time: 2 Hours

Write the answer for each Group in separate sheet

Group-A

(FOOD PROCESSING AND PRESERVATION)

Answer any **TWO** questions of the following:

2X10=20

1. Classify the vitamins systematically with proper examples. Write name of four minerals, its food source, physiological roles and food applications. (6+4)
2. What are the plant sources of protein? Describe the the classification of protein on the basis of shape and size. What are essential and non-essential amino acids? (2+5+3)
3. What is food preservatives? Give two examples. What is Modified atmosphere packaging (MAP)? What is Pasteurization? (3+4+3)
4. What do you mean by simple lipid, Compound lipids and Derived lipids? What do you mean by saturated and unsaturated fatty acid? (2+2+2+2+2)
5. What is Oligosaccharides? Draw the Cyclic structure of D-Glucose. What is glycogen? What is Hypoglycemia? (2+3+2+3)

Group-B

(COMPUTER BASICS)

Answer any **TWO** questions of the following:

2X10=20

1. Write short notes on
 - (a) Input device
 - (b) Output device
 - (c) Primary memory
 - (d) Secondary Memory
 - (e) Cache Memory (5×2)
1. Convert the following numbers as specified below:
 - (a) $(7689)_{10}$ to Binary number (5+5)
 - (b) $(1100011)_2$ to octal and hexadecimal number

(P.T.O.)

(2)

2. Perform the following operations as specified below:
- (a) $100110 - 100001$ using 1's complement.
 - (b) $101110 - 100100$ using 2's complement. (5+5)
3. Define truth table and logic gate symbol of AND, OR, NOT, XOR, and XNOR. (5×2)
4. Draw the circuit diagram for the following Boolean expression and show the truth table:
- (a) $\overline{(A + B)} + (C + A)B$
 - (b) $B\bar{C} + (\bar{A} + C)$ (5+5)
