

KATHMANDU UNIVERSITY
End Semester Examination [C]
June/July 2024

Level : B.Sc.
Year : I
Time : 2 hrs. 30 mins.

Course : COMP 102
Semester : I
F. M. : 40

SECTION "B"

[6Q × 4 = 24 marks]

Attempt *ANY SIX* questions.

1. Write in brief about conditional operators and logical operators with appropriate example. [2+2=4]
2. What are control statements in c programming? Discuss its types. [1+3=4]
3. Write about different parts of a function definition. What is the importance of function declaration? [3+1=4]
4. Write a program which can perform basic operation of a calculator (addition, subtraction, multiplication and division) between two user input numbers. Implement switch case for +, -, * and /.
5. Write a program to check whether a number is palindrome or not. Palindrome number remains the same when its digits are reversed.
6. Differentiate between arguments pass by value and pass by reference with appropriate examples.
7. Write about storage class specifiers and their different types in C programming.

SECTION "C"

[2Q × 8 = 16 marks]

Attempt *ANY TWO* questions.

8. a. What is recursion? What are the components for a valid recursive definition? Explain in brief. [4]
b. Write in brief about constants, variables and symbolic constants in c programming. [4]
9. a. What are about jump statements, discuss with appropriate examples. [4]
b. Write a program to display the transpose of a given matrix using function. [4]
10. Write a program to store information about employees which can hold name, employee ID(int), basic salary (int), allowance(int) and net salary (basic salary + allowance). Write a function which can input information about the desired number(input) of employees and another function to display information about the employees sorted by their net salary. [4+4=8]

9. `calloc` function is appropriate to ____.
- implement data table
 - allocated compile time memory allocation
 - deallocate the memory
 - reallocate the memory
10. DMA allocates memory in ____ region of memory?
- Stack
 - running
 - heap
 - register
11. DMA functions are defined in ____ header file.
- `stdio.h`
 - `dma.h`
 - `stdlib.h`
 - `stdlib.h`
12. What does variable 'y' store in the following statement?
- ```
int y = (5 && 1) || (0 || 6)
```
- 1
  - 0
  - 5
  - 6
13. Which of the following is the correct order of evaluation for the below expression?
- ```
z = x + y * z / 4 % 2 - 1
```
- `*/%+-=`
 - `*/%-+`
 - `*/%+-`
 - `*%/-+=`
14. If you pass a variable as an argument to a function, what actually gets passed?
- Value of elements in array
 - First element of the array
 - Base address of the array
 - Address of the last element of array
15. In pass by reference, ____.
- change in formal argument can be seen only from every other function.
 - change in formal argument will not be reflected in other function definitions.
 - change in formal argument will be reflected globally.
 - change in formal argument will make change in respective actual argument.
16. What will `&p` hold if `p` is an integer pointer?
- value of `*p`
 - memory address of `*p`
 - memory address of `p`
 - value of `p`
17. What is the output of the following snippet?
- ```
int true; if (true = 4) printf("true"); else printf("false");
```
- True
  - false
  - true false
  - false true
18. C Programming Language is \_\_\_\_.
- Low level language with some high level features
  - High Level programming language
  - Low level programming language
  - High level language with some low level features
19. How many times will the word "Hello" be printed by given sections of code?
- ```
int x;
for (x= -1 ; x<=10 ; x+=2)
{
if(x > 5)
continue;
printf("Hello");
}
```
- 0 times
 - 3 times
 - 5 times
 - infinite times
20. Multipath decision making conditional statements cannot be implemented using ____.
- `switch`
 - `if else`
 - nested `if else`
 - `else if ladder`