

## Quiz - Paper 3

## Instructions

- This quiz contains 25 multiple-choice questions.
- Select the best answer for each question.
- Time allowed: 30 minutes.

[illegible]

### 1. Output of the following C code snippet:

```
int main() {
    int x = 5;
    printf("%d %d %d\n", x++, ++x, x++);
    return 0;
}
```

- A) 5 7 6
- B) 5 7 7
- C) None of the above
- D) 6 7 7

## 2. Identify the issue in this memory allocation code:

```
char *ptr = (char *)malloc(10);
strcpy(ptr, "VTU Programming Exam");
free(ptr);
```

- A) Allocates 10 bits instead of bytes
- B) Buffer overflow: allocated 10 bytes but writing more
- C) Typecast to (char \*) is unnecessary
- D) Nothing wrong, the code is perfect (said no C programmer ever)

### 3. What is the output of this macro expansion?

```
#define SQUARE(x) x*x
printf("%d", SQUARE(3+2));
```

- A) Prints 25
- B) Prints 11
- C) Compilation error
- D) Prints  $3+2*3+2$

**4. Which C function should NOT be used due to security risks?**

```
char buffer[10];  
_____(buffer);
```

- A) gets()
- B) fgets()
- C) scanf()
- D) strcpy()

**5. Output of the following pointer arithmetic:**

```
int main() {  
    int arr[5] = {1, 2, 3, 4, 5};  
    int *ptr = arr + 4;  
    printf("%d %d %d", *(ptr-2), *ptr, *(arr+1));  
    return 0;  
}
```

- A) 3 5 2
- B) 2 4 1
- C) 3 4 2
- D) Segmentation fault (core dumped)

**6. Translate this student phrase:**

*"My code is seg faulting before submission, prof is gonna yeet me fr fr"*

- A) My code is crashing before submission, the professor will certainly fail me for real
- B) My code is slow before submission, the professor will praise me frequently
- C) My code needed debugging before submission, the professor will grade me fairly
- D) My code is working perfectly before submission, the professor will be impressed

**7. What does it mean when your lab partner says, "We're in the endgame now" at 3 AM?**

- A) You've reached the final, most desperate debugging phase
- B) The program is finally compiling without errors
- C) They've been watching too many Marvel movies
- D) They're planning to drop the course tomorrow

**8. Professor's feedback: "Your code lacks elegance." What does it mean?**

- A) Your code works but looks like it was written by a sleep-deprived panda
- B) Your code needs more comments
- C) Your code doesn't use enough pointer arithmetic
- D) Your indentation is inconsistent

**9. What do VTU students actually mean by "I'll start the assignment tonight"?**

- A) "I'll start the assignment 2 hours before the deadline"
- B) "I'll copy it from my friend tomorrow"
- C) "I'm planning to watch YouTube videos about starting the assignment tonight"
- D) All of the above

**10. What does "pulling an all-nighter" for a C programming lab really mean?**

- A) Spent 8 hours debugging one semicolon error
- B) Watched coding tutorials for 2 hours, coded for 20 minutes
- C) Scrolled through Stack Overflow until sunrise
- D) All of the above, in that exact order

**11. True or False: A VTU student has ever completed a C program without printf debugging.**

- A) False - printf is the sacred debugging tool of every VTU student
- B) True - but only because they used scanf debugging instead
- C) True - but they immediately transferred to Commerce
- D) False - the compiler would reject such mythical code

**12. What's the exchange rate between attendance percentage and exam preparation?**

- A) 75% attendance = minimum preparation required to pass
- B) Each 1% below 85% attendance requires 1 additional hour of cramming
- C) Attendance is inversely proportional to coding skills
- D) No amount of last-minute preparation compensates for skipping data structures lectures

**13. What's the official name for the joy of compiling C code on the first try?**

- A) Compiler Stockholm Syndrome
- B) The Halting Problem Miracle
- C) Dennis Ritchie's Blessing
- D) A sign you forgot to write half the functionality

**14. Probability of a power cut during C programming lab submission:**

- A) Directly proportional to how close you are to finishing
- B) Inversely proportional to the number of backup generators on campus
- C) 100% if you didn't save in the last 30 minutes
- D) Always exactly when you're about to press "Submit"

**15. How often does a VTU student regret choosing engineering during memory allocation debugging?**

- A) Once per segmentation fault
- B) Directly proportional to the number of memory leaks
- C) Exponentially increasing as the submission deadline approaches
- D) Constantly, at a rate of 1 regret per minute

**16. Common reason for "It worked on my machine" in VTU lab?**

- A) "I'm using Turbo C++ and you're using GCC"
- B) "My machine uses cosmic rays for compilation"
- C) "I accidentally included my lucky charm library"
- D) "My computer has learned to correct my mistakes"

**17. First response when your C program crashes in the external exam?**

- A) Look hopefully at the examiner
- B) Blame the compiler version
- C) Quickly add 50 more printf statements
- D) Question your career choices

**18. Relationship between code commenting and correctness in VTU assignments?**

- A) Perfectly commented code that doesn't actually work
- B) Working code with nonsensical comments
- C) No comments and barely working code
- D) Comments explaining why the code doesn't work instead of fixing it

**19. VTU definition of "code optimization":**

- A) "I removed all the variables I didn't understand"
- B) "I made it 1% faster and 200% harder to understand"
- C) "I copied it from a different GitHub repo than my friends"
- D) "I deleted all the comments to make it look mysterious"

**20. What does "I understood the linked list assignment" actually mean?**

- A) "I can draw pictures of linked lists but can't code them"
- B) "I copied it but changed the variable names"
- C) "I watched three YouTube tutorials and still don't get it"
- D) All of the above

**21. How do VTU students typically debug pointers?**

- A) Print the memory address and stare at it until it makes sense
- B) Add & and \* randomly until it works
- C) Ask the lab assistant who gives an explanation more confusing than the bug
- D) All of the above, in increasingly desperate succession

**22. Best way to check if your recursive function works?**

- A) Run it and see if your computer crashes
- B) Count the number of recursive calls on your fingers
- C) Hope it terminates before the lab session ends
- D) Write it iteratively instead and pretend you understand recursion

**23. Best way to ensure your C code passes VTU practical exam?**

- A) Write test cases for every possible input
- B) Memorize expected output from lab manual examples
- C) Practice explaining how it works even when it doesn't
- D) Master the art of confidently pointing at random lines of code

**24. Most reliable way to fix a complex bug?**

- A) Explain it to a non-CS roommate
- B) Restart the computer and hope
- C) Copy a different solution
- D) Add unnecessary variables until the compiler gives up

**25. True or False: /\* Will fix before submission \*/ means you'll actually fix it.**

- A) False - it's a historical record of good intentions
- B) True - after 17 worse fixes
- C) True - if deadline is extended
- D) False - it's a coded plea for help