

CBCS Scheme

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16/17SFC23

Second Semester M.Tech. Degree Examination, June/July 2018

Secured Programming

Time: 3 hrs.

Max. Marks: 80

Note: Answer FIVE full questions, choosing one full question from each module.

Module-1

- 1 a. Define file descriptor. Explain with example how invalid filenames are harmful to the system. (10 Marks)
b. What are environment variables, how are they dangerous and mention the solutions. (06 Marks)

OR

- 2 a. Discuss the important of setuid/setgid program. (04 Marks)
b. Explain any 4 (four) ways to minimize privileges given to programs to protect them from damage. (12 Marks)

Module-2

- 3 a. Explain with example, what happens when an attempt is made to modify constant objects? (08 Marks)
b. What happens when uninitialized memory is read? (04 Marks)
c. What are the different functions for dynamic memory allocation? (04 Marks)

OR

- 4 a. With appropriate example, explain freeing dynamically allocated memory. (05 Marks)
b. Explain identifier declaration with conflict linkage classifications. (03 Marks)
c. Explain in detail the behavioral impact due to incompatible declarations. (08 Marks)

Module-3

- 5 a. Explain divide by zero errors with compliant code and non compliant code examples. (06 Marks)
b. What are all the possible methods to wrap unsigned integers, discuss in detail. (10 Marks)

OR

- 6 a. Describe pointer conversion to Integer and Vice-Versa. (10 Marks)
b. Write short notes on : i) Integer conversion ii) Integer overflow (06 Marks)

Module-4

- 7 a. Explain pointer arithmetic with reference to adding and subtracting scaled integer to pointers. (08 Marks)
b. Discuss the impact of Null terminator absence in strings operation. (03 Marks)
c. Write the compliant solution for wide strings with Narrow string functions. (05 Marks)

OR

- 8 a. What does Buffer overflow cause during string manipulations. (08 Marks)
b. Write the impact caused by reading pointers to deallocated memory. (08 Marks)

Module-5

- 9 a. Explain shared objects and signal handlers, using signal () within interruptible signal handlers. (10 Marks)
b. Explain the result of indeterminate values of errno with examples. (06 Marks)

OR

- 10 a. Explain the usage of following with examples :
i) fgets ii) fgetws iii) getc iv) putc v) putwc (10 Marks)
b. Explain user input and format strings and opening a pre-opened file. (06 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.