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10CCP13/23

First/Second Semester B.E. Degree Examination, Dec.2017/Jan.2018
Computer Concepts and C Programming

Max. Marks:100

Time: 3 hrs.

Note: Answer any FIVE full questions, choosing at least two from each part.

PART – A

- 1 a. Choose the correct answers for the following : (04 Marks)**
- The common keyboard arrangement is called _____ layout.
 A) QWERTY B) QYWERT C) QEWTYR D) QWERYT
 - Which of these is a computer for an organization?
 A) Smart phones B) Work station C) Tablet computer D) Main frame
 - Which of these keys is not called modifier key?
 A) SHIFT B) ALT C) CTRL D) START
 - Which of these is an example of handheld PCs?
 A) PDA B) Minicomputer C) Super computer D) Micro computer
- b. With a neat diagram, explain the information processing cycle in a digital computer. (08 Marks)**
- c. List and explain different computers for organizations. (08 Marks)**
- 2 a. Choose the correct answers for the following : (04 Marks)**
- Speed of the laser printer is measured in terms of
 A) CPS B) CPM C) PPM D) none of these
 - Which memory loses its data when power is turned off
 A) volatile B) nonvolatile C) static D) dynamic
 - Which of the following magnetic storage device
 A) CDROM B) DVD C) Flash memory D) Floppy disk
 - Decimal Equivalent of binary number 1111 is
 A) 16 B) 15 C) 10 D) 14
- b. Explain the different types of operating systems. (06 Marks)**
- c. Explain about LAN and WAN. (04 Marks)**
- d. With neat diagram, explain construction and working of Floppy disk along with its capacity. (06 Marks)**
- 3 a. Choose the correct answers for the following : (04 Marks)**
- Which of the following symbol is used for processing?
 A) Diamond B) Rectangle C) Circle D) Rhombus
 - Which of the following is the identifier?
 A) int B) char C) FLOAT D) if
 - Which of the following is the valid floating point constant?
 A) 45, 35.98 B) 95 C) 245e 6.8 D) 85E4
 - The words which have predefined meaning in C language are called _____
 A) keywords B) variables C) identifiers D) functions
- b. Write the syntax of formatted input and output statements. Explain with an example to read and display integer, character and floating point numbers. (04 Marks)**
- c. Define algorithm and flowchart. Draw the flowchart to find the factorial of a number. (07 Marks)**
- d. Define identifier. What are the rules to be followed while writing the identifier in the program? (05 Marks)**

- 4 a. Choose the correct answers for the following : (04 Marks)
- _____ logical operator is FALSE when both the operands are FALSE.
A) || B) && C) both A and B D) !
 - Which of the following is not a valid expression?
A) $4x = 10 = 6$ B) $x = 25$ C) $y\% = 5$ D) $x = x + 5$
 - If $x = 10, y = 20$ then the result of $(x > y) ? x + y : y - x;$ is
A) 10 B) 30 C) -10 D) 20
 - Which of the following has the highest precedence?
A) % B) * C) = D) ++x
- b. If $a = 2, b = 8, c = 4$ and $d = 10$. What is the result of each of the following: (06 Marks)
- $a + b / c * d - c / a$
 - $(b/a)\%c$
 - $a++ + b -- + d++$
- c. Classify the operators based on the number of operands and given one example for each. (06 Marks)
- d. Explain the following bitwise operators with one example for each: (04 Marks)
- Left shift
 - XOR

PART - B

- 5 a. Choose the correct answers for the following : (04 Marks)
- Actual and formal parameters should match in
A) number B) type C) order D) all of these
 - In function prototype, specifying _____ is optional.
A) return type B) parameter data type
C) parameter name D) all of these
 - Which of the following return statement in a function has error?
A) return; B) return (0); C) return (exp); D) none of these
 - Which of the following is the user defined function?
A) gets() B) sqrt() C) abs() D) main()
- b. Define function. What are the elements of a user defined function? (07 Marks)
- c. Write a C program to read the N numbers and find the mean, variance and standard deviation of N numbers by writing the following functions: (i) Mean (ii) Variance (iii) Standard deviation where $\text{mean} = \sum_{i=1}^N \frac{X_i}{N}$, $\text{variance} = \frac{1}{N} \sum_{i=1}^N (X_i - \text{mean})^2$, standard deviation = $\sqrt{\text{variance}}$. (09 Marks)
- 6 a. Choose the correct answers for the following : (04 Marks)
- Which of the following is the entry controlled loop?
A) for B) while C) do.....while D) both A and B
 - In the ternary operator conditional expression using '?' could be easily coded using _____ statement.
A) if B) switch C) if else D) else if ladder
 - The least number of times the do-while loop will be executed is _____.
A) 0 B) 1 C) 2 D) none of these
 - Identify the unconditional branch statement.
A) break B) continue C) goto D) all of these
- b. With neat syntax, explain switch statement. (06 Marks)
- c. Write a C program to compute the sum of PI series: $PI = \sqrt{\frac{6}{1^2} + \frac{6}{2^2} + \dots + \frac{6}{n^2}}$. (05 Marks)

d. Write a C program to print the following pattern:

```
* * * * *
* * * *
* * *
* *
*
```

(05 Marks)

7 a. Choose the correct answers for the following :

(04 Marks)

- The size of the string "CSEISE" is _____.
A) 7 B) 6 C) 3 D) 4
- The amount of storage required for holding elements of the array depends on _____.
A) data type B) data type and size C) size D) none of these
- An array is a _____ size sequential collection of elements of the _____ data type.
A) variable, same B) variable, different
C) fixed, same D) fixed, different
- Consider the following array definition $\text{int } M[3][3] = \{9, 8, 7, 6, 5, 4, 3, 2, 1\}$. The address of an element 1 is
A) $M[3][3]$ B) $M[3][2]$ C) $M[2][3]$ D) $M[2][2]$

b. Explain the declaration and initialization of one dimensional array with examples. (08 Marks)

c. Write a C program to read $N \times N$ matrix and find the sum of primary diagonal elements. (08 Marks)

8 a. Choose the correct answers for the following :

(04 Marks)

- _____ execution of instructions in a computer is referred to as parallel computing.
A) simultaneous B) serial C) sequential D) all of these
- An Open MP stands for _____.
A) open multi parallelism B) open multi processing
C) open multi programming D) open multi tasking
- Which of the following open MP environmental variables enables or disables nested parallelism?
A) `OMP_nested` B) `OMP_set_nested` C) `OMP_get_nested` D) none of these
- Which of the following is not synchronization construct?
A) single B) master C) section D) critical

b. Define concurrent processing. What is the motivation for concurrent processing? (10 Marks)

c. Explain scope of parallel computing. (06 Marks)
