HS/XI/V/CT/Paper-II/18

2018

COMPUTER PROGRAMMING IN C

COMPUTER TECHNIQUE (Paper - II)

(Vocational Stream : Theory)

Full Marks : 100

Time : 3 hours

The figures in the margin indicate full marks for the questions

General Instructions :

(i) Write all the answers in the Answer Script

(ii) Attempt Part — A Objective Questions serially

(iii) Attempt all parts of a question together at one place

(PART : A — OBJECTIVE)

(*Marks* : 50)

SECTION – I

1. Fill in the blanks from the list of words/phrases given below : $1 \times 20 = 20$

(a) _____ is the combination of Control Unit and the Arithmetic Logic Unit in the Organization of Digital Computer System.

(b) _____ describes the solution steps in a logical order.

(c) To 'run' a C program and to check whether the program is bug free, we require a _____.

(d) Every program statement in a C program must end with a _____.

(e) The _____ function is used to display the output on the screen.

(f) The _____ header file contain mathematical function.

(g) C supports as many as _____ Relational Operators.

(h) An expression that combines two or more relational expressions is termed as _____ expression.

(i) For using character functions, we must include the header file _____ in the program.

(j) '?:' set of symbols are known as _____ operator.

(k) A 'for' loop with no test condition is known as _____ loop.

(l) Multi-way selection can be accomplished using an 'else if' statement or the _____ statement.

(m) The variable used as a subscript in an array is popularly known as _____ variable.

(n) An array can be initialized either at compile time or at _____ .

(o) The function 'strncat ( )' has _____ parameters.

(p) We can use the conversion specification _____ in 'scanf' to read a line of text.

(q) The function _____ is used to determine the length of a string.

(r) The 'printf' may be replaced by _____ function for print.

(s) A variable declared in a function is called _____ variable.

(t) A function that calls itself is known as _____ function.

Lists of word(s)/Phrases :

static	switch	algorithm
putchar	local	infinite
recursion	eight	semicolon
six	runtime	%c
global	strlen ( )	putc ( )
%s	math.h	compiler
logical	printf	two
ctype.h	CPU	subscripted
relational	interpreter	string.h

2. State whether the following statements are *True* or *False:* $1 \times 10 = 10$

(a) Every line in a C program should end with a semicolon.

(b) Comments cause the computer to print the text enclosed between /*and*/when executed.

(c) Syntax error will be detected by the compiler.

(d) All arithmetic operators have the same level of precedence.

(e) Associativity is used to decide which of the several different expressions is evaluated first.

(f) The 'default' case is required in the switch statement.

(g) In C language, by default, the first subscript is zero.

(h) A function can not be defined and placed before the main function.

(i) Any name can be used as a function name.

(j) The keyword 'typedef' is used to define a new data type.

3. Choose and write the correct answer: $1 \times 5 = 5$

(a) A _____ data type number uses 64 bits giving a precision of 14 digits, these are known as–

(i) Single precision number

(ii) Floating point number

(iii) Double precision number

(iv) None of the above

(b) The 'break' statement is used to exit from–

(i) An 'if' statement

(ii) A 'for' loop

(iii) The 'main' function

(iv) A C program

(c) Arrays can be initialized provided they are

(i) Automatic

(ii) External

(iii) Static

(iv) All of the above

(d) To write a small number of mixed string in data files and integer variable to a file, the appropriate function is –

(i) fputs ( )

(ii) fwrite ( )

(iii) fprintf ( )

(iv) none of the above

(e) A continuous list can be implemented using an–

(i) structure

(ii) union

(iii) array

(iv) none of the above

4. Write short notes on the following *(Any five)* : $3 \times 5 = 15$

(a) system software

(b) algorithm

(c) special operators

(d) delimiters

(e) compiler

(f) the remainder operator in C

(g) assignment operator

(h) fclose ( ) in data files.

SECTION – II

(PART : B – DESCRIPTIVE)

(*Marks* : 50)

Answer ANY TWO questions from *each* unit

UNIT– I

5. *(a)* What are the four basic type of Data types? Explain. 4 + 2 = 6

(b) Write the characteristics and purpose of escape sequence characters.

6. *(a)* What is initialization? Why it is important? 3 + 3 = 6

(b) What is relational operators? Explain in detail with suitable example.

7. Distinguish between the following pairs: 3 + 3 = 6

(a) getchar and scanf functions

(b) '%c' and '%s' specifications for reading.

UNIT– II

8. *(a)* What is the purpose of 'if.....else' statements? Explain with example. 3 + 3 = 6

(b) What is the purpose of 'goto' statement? Why 'goto' statement is use occasionally? Explain.

9. *(a)* What is the meaning of 'Type-cast' in C language? Explain with a program. 3 + 3 = 6

(b) What is the purpose of 'continue' statement? Explain.

10. Write short note on the 'pre-test' and 'post-test' looping in C, with their syntaxes. 3 + 3 = 6

UNIT– III

11. *(a)* What is a function? What are the types of function? Explain. 4 + 3 = 7

(b) What is function declaration? Explain.

12. *(a)* What is initialization of one-dimensional array? Explain the 'compile time' initialization and run-time initialization. 4 + 3 = 7

(b) What is 'Null terminator' ? Explain.

13. Explain the concept of 'call-by-value' and 'call-by-reference' in function with the help of a C program. 7

UNIT – IV

14. *(a)* What is the significance of EOF? 3 + 3 = 6

(b) Distinguish between the following function: (*Any One*)

(i) getc ( ) and getchar ( )

(ii) feof ( ) and ferror ( )

15. *(a)* What is a pointer? Explain with a sample program. 3 + 3 = 6

(b) Explain the 'pointer initialization' with example.

16. *(a)* Write short note on defining a structure. Give syntax. 3 + 3 = 6

(b) What is declaration of structure variable? Explain.

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