

**2022**

**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 at the end: 1×20 = 20
- (a) An \_\_\_\_\_ is a sequence of instructions that are used for solving a problem in a systematic way.
  - (b) The \_\_\_\_\_ units interprets the instructions and carries them out.

9. (a) What is the purpose of 'if.....else' statements ?  
Explain with example. 3
- (b) What is the purpose of 'goto' statements ? Explain  
with program. 3
10. Write the purpose of the following :  $3 + 3 = 6$
- (a) Pre-test loop
- (b) Post-test loop

## UNIT- III

11. (a) What is the 'Null terminator' ? Explain. 3
- (b) What is a function? What are the types of  
function? Explain. 4
12. (a) What is a structure? Explain its syntax. 3
- (b) What is the declaration of structure? Explain with  
example. 4
13. What is Union? What are the declaration of a Union?  
Explain with example.  $3 + 4 = 7$

- (m) The \_\_\_\_\_ statement is used to skip a part of  
the statements in a loop.
- (n) In an exit-controlled loop, if the body is executed  
n times, the test condition is evaluated \_\_\_\_\_  
times.
- (o) A 'for' loop with no test condition is known as  
\_\_\_\_\_ loop.
- (p) An array can be initialized either at compile time  
or at \_\_\_\_\_.
- (q) The variable used as a subscript in an array is  
popularly known as \_\_\_\_\_ variable.
- (r) We can use the conversion specification \_\_\_\_\_  
in scanf to read a line of text.
- (s) The function \_\_\_\_\_ is used to determine the  
length of a string.
- (t) The printf may be replaced by \_\_\_\_\_ function  
for printing strings.

**List of Phrases/words :**

flowchart	puts	infinite	n+1	3
program	printf( )	Run time	ctype.h	strlen
%s	string.h	semicolon	subscripted	while
conditional	pseudocode	processing	algorithm	CU
continue	4	scanf ( )	%c	break
equality	switch	CPU	void	main( )

3. Choose the correct option from the following questions:

$$1 \times 5 = 5$$

(a) Which of the following is the first step of writing a program

- (i) Pseudocode
- (ii) Flowchart
- (iii) Algorithm
- (iv) None of the above

(b) Which of the following is a/an input devices

- (i) OMR
- (ii) VDU
- (iii) Plotter
- (iv) Both (ii) and (iii)

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

- (i) An 'if' statement
- (ii) A 'for' loop
- (iii) The 'main' function
- (iv) A C program

(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) Which of the following operator takes only integer operands?

- (i) +
- (ii) \*
- (iii) /
- (iv) %

4. Write the following in not more than 4 to 5 sentences each (*Any five*) :

$$3 \times 5 = 15$$

- (a) Flow chart
- (b) Compiler
- (c) Modulus Operator
- (d) System software
- (e) Assignment Operator
- (f) Recursion
- (g) Pseudocode

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

- (a) Algorithm is the pictorial representation of the solves problem.
- (b) All arithmetic operator have the same level of precedence.
- (c) The main function of the output unit is to produce results.
- (d) The modulus operator % can be used only with integers.
- (e) The operator  $< =$ ,  $> =$  and  $! =$  all enjoy the same level of priority.
- (f) The input list in a scanf statement can contain one or more variables.
- (g) The three loop expression used in a 'for' loop header must be separated by comma.
- (h) An exit-controlled loop executes atleast once regardless of condition.
- (i) The continue statement is used to take the execution control to sent iteration on sequence.
- (j) In C, by default, the static variable is zero.

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## SECTION – II

( PART : B – DESCRIPTIVE )

( Marks : 50 )

Answer ANY TWO questions from *each* UNIT

### UNIT– I

- 5. (a) Write the characteristics and purpose of escape sequence characters. 3
- (b) What is C character set. 3
- 6. (a) What is the relational operators? Explain in detail with suitable example. 3
- (b) What are the precedence of Arithmetic operator ? 3
- 7. Distinguish between the following pairs :  $3 + 3 = 6$ 
  - (a) getchar and scanf functions
  - (b) '%c' and '%s' specifications for reading.

### UNIT– II

- 8. Write the function and appropriate use of 'while' loop, using its syntax. Give example program.  $4 + 2 = 6$

- (c) The pictorial representation of solving the problem is the \_\_\_\_\_.
- (d) Every program statement in a C program must end with a \_\_\_\_\_.
- (e) \_\_\_\_\_ is the combination of Control Unit and the Arithmetic Logic Unit in the Organization of Digital Computer System.
- (f) The \_\_\_\_\_ function is used to display the output on the screen.
- (g) The logical operator “ = = ” checks for \_\_\_\_\_ of two value.
- (h) Every program must have a \_\_\_\_\_ function.
- (i) The expression  $15\%4$  evaluate \_\_\_\_\_.
- (j) When we need to choose one, among number of alternatives, a \_\_\_\_\_ statement is used.
- (k) Usually while using a string in a program \_\_\_\_\_ header file is used.
- (l) A set of instruction arrange in a sequential manner is known as \_\_\_\_\_.

## UNIT – IV

- 14.** (a) Distinguish between the following function :-  
 $2 + 2 = 4$   
 (i) `getc ( )` and `getchar ( )`  
 (ii) `feof ( )` and `ferror ( )`  
 (b) What is the purpose of `putchar ( )` function. 2
- 15.** (a) What is a pointer? Explain with example. 3  
 (b) How a pointer is initialized? Give example. 3
- 16.** Write the purpose or function of the following header file : (ANY TWO)  $3 + 3 = 6$   
 (a) `ctype.h`  
 (b) `string.h`  
 (c) `math.h`

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