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REVISED & UNREVISED

ಕರ್ನಾಟಕ ಪ್ರೌಢ ಶಿಕ್ಷಣ ಪರೀಕ್ಷಾ ಮಂಡಳಿ, ಮಲ್ಲೇಶ್ವರಂ, ಬೆಂಗಳೂರು – 560 003

**KARNATAKA SECONDARY EDUCATION EXAMINATION BOARD, MALLESWARAM,
BANGALORE – 560 003**

ಎಸ್.ಎಸ್.ಎಲ್.ಸಿ. ಪರೀಕ್ಷೆ, ಮಾರ್ಚ್/ಏಪ್ರಿಲ್ – 2020

S. S. L. C. EXAMINATION, MARCH/APRIL, 2020

ಮಾದರಿ ಉತ್ತರಗಳು

MODEL ANSWERS

ದಿನಾಂಕ : 04. 04. 2020]

ಸಂಕೇತ ಸಂಖ್ಯೆ : **74**

Date : 04. 04. 2020]

CODE NO. : 74

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಕಂಪ್ಯೂಟರ್ ಸೈನ್ಸ್

Subject : ELEMENTS OF COMPUTER SCIENCE

(ಶಾಲಾ ಅಭ್ಯರ್ಥಿ & ಪುನರಾವರ್ತಿತ ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / Regular Fresh & Regular Repeater)

[ಗರಿಷ್ಠ ಅಂಕಗಳು : **90**

[**Max. Marks : 90**

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
1.		Four alternatives are given for each of the following questions / incomplete statements. Select the most appropriate alternative and write it in the answer book along with its alphabet : $10 \times 1 = 10$	
	i)	A group of four bits is called (A) byte (B) nibble (C) word (D) number. Ans. (B) nibble	1
	ii)	The translator which converts assembly level language to machine level language is (A) assembler (B) compiler (C) interpreter (D) printer. Ans. (A) assembler	1






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[Turn over

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
	iii)	The language which widely used for business application is (A) PROLOG (B) FORTRAN (C) JAVA (D) COBOL. <i>Ans.</i> (D) COBAL	1
	iv)	Two parts of a program can be connected by (A) arrow (B) rhombus (C) circle (D) square. <i>Ans.</i> (C) circle	1
	v)	The symbol used for an address operator is (A) & (B) && (C) \$ (D) %. <i>Ans.</i> (A) &	1
	vi)	The formatted output function in a computer programming is (A) scanf () (B) putchar () (C) menu () (D) printf (). <i>Ans.</i> (D) printf ()	1
	vii)	Multiple branching can be implemented by using the statement (A) go to (B) switch (C) if ... else (D) break. <i>Ans.</i> (B) switch	1
	viii)	Any expression whose output is either true or false, is called (A) relational expression (B) logical expression (C) arithmetic expression (D) algebraic expression. <i>Ans.</i> (B) logical	1
	ix)	The statement allows to skip to the beginning of a control from within a structure in program is (A) break (B) loop (C) continue (D) exit. <i>Ans.</i> (C) continue	1

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
	x)	One control structure within the other control structure is termed as (A) nesting (B) parameter (C) variable (D) expression. <i>Ans.</i> (A) nesting	1
2.	a)	List the different types of language translators. 2 <i>Ans.</i> i) Assembler ii) Compilers iii) Interpreters	$2 \times 1 = 2$
	b)	Write the functions of an operating system. 3 <i>Ans.</i> i) Resource management ii) Task management iii) File management iv) User interface v) Virtual memory vi) Multi-tasking	$3 \times 1 = 3$
	c)	Write the advantages of structured programming. 5 <i>Ans.</i> i) reduces complexity. Modularity allows the programmer to tackle problems in logical fashion ii) also, using logical structures ensures that the flow of control is clear iii) there is increase in productivity iv) modules can be re-used many times v) it is also easier to update or fix the program by replacing individual modules rather than larger amount of code	$5 \times 1 = 5$
3.	a)	Mention the application of C language. 2 <i>Ans.</i> i) Compilers ii) Loaders iii) Linkers iv) Interpreters v) Operating systems vi) Database management system vii) Word processors viii) Spread Sheets ix) CAD/CAM applications x) Scientific and engineering applications	$4 \times \frac{1}{2} = 2$

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
	b)	<p>Explain character constants. 3</p> <p><i>Ans.</i></p> <p>Character constant is a single character within single quotes. The maximum length of character constant is 1. Arithmetic operations are possible in character constant since they too represent integer values. 'C' also recognizes all the back slash character constants available.</p>	3
	c)	<p>Write the benefits of using modular programming. 5</p> <p><i>Ans.</i></p> <p>i) less code has to be written</p> <p>ii) a single procedure can be developed for re-use. Eliminating the need to retype the code many times</p> <p>iii) programs can be designed more easily because a small team deals with only a small part of the entire code</p> <p>iv) allows many programmers to collaborate on the same application</p> <p>v) the code is stored across multiple files</p> <p>vi) code is short, simple and easy to understand</p> <p>vii) errors can be easily identified</p> <p>viii) the same code can be used in many applications.</p>	$5 \times 1 = 5$
4.	a)	<p>Define C key words. 2</p> <p><i>Ans.</i></p> <p>There are some reserved words in 'C' called keywords. All the keywords has standard pre-defined meanings and can be used only for the purpose intended. All keywords must be written in lower case. They cannot be used as user defined identifiers.</p>	2
	b)	<p>Explain increment and decrement operator. 3</p> <p><i>Ans.</i></p> <p>The increment and decrement operators are specifically used in 'C' or C++. They are not generally available in other languages.</p> <p>Increment operator ++ is used to increment the value of the variable by 1.</p> <p>Decrement operator -- is used to decrement the value of the variable by 1.</p> <p>They are also called as unary operators.</p>	$1\frac{1}{2} + 1\frac{1}{2} = 3$

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
	c)	Write the symbols used in the system flow chart. 5 <i>Ans.</i> i) SORT  ii) MERGE  iii) VIDEO DISPLAY UNIT  iv) ONLINE STORAGE  v) PRINTED DOCUMENT 	5 × 1 = 5
5.	a)	What are assignment operators ? 2 <i>Ans.</i> The assignment operator '=' is used to assign the value of a variable, constant, or expression to a variable the syntax is :	2
	b)	Write a C program to find the area of a square. 8 <i>Ans.</i> <pre> /* Program to find the area of square */ #include <stdio.h> main () { float side, area; side = 5; area = side * side ; printf ("\n area of square =%f", area); } </pre>	8
6.	a)	What are constants ? 2 <i>Ans.</i> Any fixed value that does not change during the execution of a program is known as constant. Types of 'C' constants are primary constants and secondary constants.	2

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
	b)	Write a C program to compute a area of circle. 8 <i>Ans.</i> <pre>/* Program to compute area of a circle */ #include <stdio.h> main () { /* Declarations */ float pi, r, area; /* Assignments */ pi = 3.14159; r = 5; /* Calculation and printing */ area = pi * r * r; printf ("\n Area of a circle = %", area); return; }</pre>	8
7.	a)	Write the advantages of shorthand assignment operator. 2 <i>Ans.</i> i) The variable on the left hand side need to be written again on the right hand side ii) The statement is short and easier to read iii) It is efficient.	2 × 1 = 2
	b)	Write a C program to find whether the given number is even or odd. 8 <i>Ans.</i> <pre>/* Program to find whether a number is even or odd */ #include <stdio.h> main () { int x; clrscr (); printf ("\n enter a number:"); scanf ("%d", &x); (x%2==0)? printf ("\n%d is even",x): printf ("\n%d is odd",x); }</pre>	8
8.	a)	Convert the following mathematical expressions into equivalent C expressions : 2 i) $S = \frac{AB}{C} + \frac{CD}{A}$ ii) $P = \frac{A - B - D}{C}$.	1 + 1 = 2

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
		<p>Ans.</p> <p>i) $S = A * B/C + C * D/A$</p> <p>ii) $P = A - B / C - D$</p>	
	b)	<p>Write a C program to find the highest marks of a student in four exams. 8</p> <p>Ans.</p> <pre> /* Program to find highest marks of a student in 4 exams */ #include<stdio.h> #include<conio.h> main () { int m1,m2,m3,m4 highest; clrscr(); printf ("\n enter the marks in 4 papers :\n"); scanf ("%d%d%d", &m1,&m2,&m3,&m4); highest=m1>m2 ? m1:m2; highest=highest>m3 ? highest: m3; highest=highest>m4 ? highest : m4; printf ("\n Highest marks in 4 papers =%d",highest); return; } </pre>	8
9.	a)	<p>Identify the errors in the following statements if any : 2</p> <p>i) $P = x + y; 5$</p> <p>ii) $6 = x + y + z;$</p> <p>Ans.</p> <p>i) Semicolon is to come at the end</p> <p>ii) On the left hand side constant not allowed.</p>	$1 + 1 = 2$
	b)	<p>Write a C program to find the largest of two numbers. 8</p> <p>Ans.</p> <pre> /* Program to find largest of 2 numbers */ #include<stdio.h> main() { int n,m,big; clrscr(); printf("\n enter two integer numbers :"); scanf("%d%d", &n,&m); big= (n>m)? n:m; printf("\n The largest of %d and %d is:%d",n,m,big); } </pre>	8