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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 — **2019**

S. S. L. C. EXAMINATION, MARCH/APRIL, 2019

ಮಾದರಿ ಉತ್ತರಗಳು

MODEL ANSWERS

ದಿನಾಂಕ : 23. 03. 2019] ಸಂಕೇತ ಸಂಖ್ಯೆ : **74**

Date : 23. 03. 2019] **CODE NO. : 74**

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಕಂಪ್ಯೂಟರ್ ಸೈನ್ಸ್

Subject : ELEMENTS OF COMPUTER SCIENCE

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

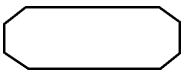
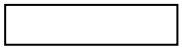
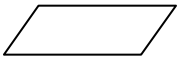
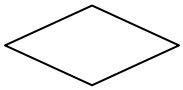
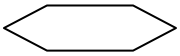
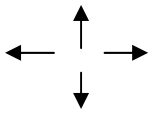
[ಗರಿಷ್ಠ ಅಂಕಗಳು : **90**

[Max. Marks : 90

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
1.		Fill in the blanks with the correct symbol/word(s) by selecting from the choices given in the brackets : $10 \times 1 = 10$	
	i)	The part of the computer which performs arithmetic and logic operation is ..... . *Ans.* ALU	
	ii)	The longest key on the key board is ..... . *Ans.* space bar	
	iii)	Pay roll is an example of ..... software. *Ans.* application	
	iv)	Processing box in a flow chart is indicated by ..... . *Ans.* rectangle	

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
	v)	An identifier whose value does not change throughout the program is called a ..... . *Ans.* constant	
	vi)	The integer conversion character is ..... . *Ans.* d	
	vii)	The logic AND operator is ..... . *Ans.* &&	
	viii)	One control structure with in the other control structure is termed as ..... . *Ans.* nesting	
	ix)	The statements allow the user to store values in the computer memory is ..... . *Ans.* input statement	
	x)	The values of variables used in a call statement is termed as ..... . *Ans.* parameters	
2.	a)	Define software. 2 *Ans.* An instruction given to the computer tell the hardware how to process data. A program refers to a set of instruction. A collection of programs forms the software. Software is the intangible invisible part of the computer.	2
	b)	Explain the applications of *C* language. 3 *Ans.* i) Operating system ii) Text editing iii) Database management system iv) Spread sheets v) Accounting packages	3 × 1 = 3
	c)	Explain the characteristics of algorithm. 5 *Ans.* i) Algorithm is an aid for the programmer to write precise programs ii) Algorithm gives general sequence of steps and is not related to any one programming language iii) The steps specified in the algorithm must be performable by the computer iv) Algorithm must take care of all possibilities including exceptional events.	5 × 1 = 5

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
3.	a)	Define arithmetic logic unit. 2 *Ans.* The algorithm logic unit (ALU) operates on the data available in the main memory and sends data back to main memory after processing it.	2
	b)	Write short notes on system software. 3 *Ans.* System software are a collection of programs needed to operate and control the functioning of a computer. These are the software which provide the environment for writing and running the application program. These software include i) The operating system which act an interface between user and computer hardware ii) The service programs like compiler and interpreters used developing application programs.	3
	c)	Explain the characteristics of flow chart. 5 *Ans.* i) They are easy to understand as they are diagrammatic representations ii) They are concise and precise iii) Flow chart language free. After developing a flow chart, coding can be done in any of the programming languages iv) Flow chart makes the programming easy v) Flow chart provides a convenient way of documentation.	$5 \times 1 = 5$
4.	a)	Mention any four basic steps in developing the solution to any problem. 2 *Ans.* i) Define the problem ii) Plan the solution iii) Test the solution iv) Implement the solution v) Document the solution	$4 \times \frac{1}{2} = 2$
	b)	How are computer languages are classified ? 3 *Ans.* Computer language Low level language — High level language Machine language — Assembly language	3

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
	c)	Draw any five symbols used in flow charts. 5 *Ans.* Symbols used in flow charts Symbol — Meaning  Terminal symbol (Start or end of a flow chart)  Process symbol (Computational steps)  I/O symbol (Input or output operation)  Decision Symbol (Testing a condition and branches to different paths in the flow chart  Connector (for joining different parts of a flow chart  Loop symbol (Used for FOR loops)  Flow lines (Arrows to show transfer of control)	5 × 1 = 5
5.	a)	What are compilers ? 2 *Ans.* Compiler is a software which takes the high level language as a whole and converts it into equivalent machine language program which can be executed. Compiler differs from interpreter in that it takes the program as a whole, compiles it into equivalent machine codes and stores external storage.	2

	b)	Write a *C* program to find the area of a triangle given the three sides. 8
		Ans.
		`/ * Program to find the area of a triangle given three sides */`
		`#include<math.h>`
		`main ( )`
		`{`
		`float i,j,k,s, area;`
		`clrscr ( );`
		`printf ("\n Enter the three sides of the triangle :");`
		`scanf ("%f%f", &i, &j, &k);`
		`if (i<j+k && j<i+k && k<i+j)`	

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
		{ **s=(i+j+k)/2;** **area = sqrt (s*(s–i)*(s–j)*(s–k);** **printf ("\n Area of triangle is %f" area);** **else** **printf ("\n The three sides do not make a triangle ...");** **}** **getch ();**	8
6.	a)	List out the different types of statements in *C*. 2 *Ans.* Statements are the different types, they are i) Null statements v) Output statements ii) Declaration statements vi) Expression statements iii) Assignment statements vii) Block statements iv) Input statements viii) Labeled statement.	$4 \times \frac{1}{2} = 2$
	b)	Write a *C* program to find the smallest of 3 Nos. using conditional operator. 8 *Ans.* **/* Write a C program to find smallest of 3 Nos. using conditional operator */** **#include<stdio.h>** **#include<stdio.h>** **main( )** **{** **int a,b,c, x;** **clrscr ( );** **printf ("enter the value of a,b,c");** **scanf ("%d%d%d%d", &a, &b, &c);** **x=a<b ? a:b;** **x=x<c ? x:c;** **printf ("%d is smallest no.",x);** **getch( );** **}**	8
7.	a)	What is the conversion specifier for decimal integer and string ? 2 *Ans.* Specifier Explanation %d Decimal integer %s String	$2 \times 1 = 2$

Qn. Nos.	Sub. Qn.No.	Value Points	Marks

	b)	Write a *C* program to find reverse order of given numbers. 8
		Ans.
		`/* Write a C program to find reverse order of given nos.*/`
		`#include<stdio.h>`
		`#include<conio.h>`
		`main( )`
		`{`
		`int a,r,s=0;`
		`printf ("enter the a nos\n")`
		`scanf ("%d", &a);`
		`while (a1=0)`
		`{`
		`r=a%10;`
		`s=s*10+r;`
		`a=a/10;`
		`}`
		`printf ("the reverse of given no.: %d"s);`
		`}`
			8

8.	a)	Identify the errors in the following statements : 2 i) $x + y$ = sum ii) $5 = x + y + z$ *Ans.* i) $x + y$ = sum = It has to be sum = $x + y$; ii) $5 = x + y + z$ = On the left hand side a constant is not allowed.	2 × 1 = 2

	b)	Write a *C* program to compute the largest of three numbers. 8
		Ans.
		`/* Program to compute largest of 3 numbers */`
		`main ( )`
		`{`
		`int a,b,c, larger`
		`printf ("please enter 3 integer numbers\n");`
		`scanf ("%d%d%d", &a, &b, &c);`
		`large=a;/*assume first number as largest*/`
		`if(b>larger)/*compare with second number*/`
		`large=b;/*replace large with b if b is largest*/`
		`if (c>large)/*compare with third number*/`
		`large=c;/*replace large with c if c is largest*/`
		`printf =("largest of 3 numbers is= "%d=%d\n"larger);`
		`}`
			8

Qn. Nos.	Sub. Qn.No.	Value Points	Marks
9.	a)	What are logical operators ? 2 *Ans.* These are used to combine two or more conditions. They yield a value of either true or false depending on whether the combined condition is true or false.	2

	b)	Write a *C* program to convert decimal to binary. 8
		Ans.
		`#include<stdio.h>`
		`#include<conio.h>`
		`#include<math.h>`
		`main( )`
		`{`
		`int n,r,s–0,i;`
		`clrscr( );`
		`printf ("enter the value of n");`
		`scanf ("%d", &n);`
		`i=1`
		`while (n>=1)`
		`{`
		`r=n–(n/2)*2;`
		`s=s+r*i;`
		`n=n/2`
		`n≠i*10;`
		`printf ("the decimal number is =%d\n",s);`
		`getch( );`
		`}`
			8