*ii*O'13 **International Informatics** Olympiad 2013



CLASS

D

TEST PAPER TYPE BB

LEVEL 1

Organized by Computer Literacy Foundation, New Delhi, India

QUESTION PAPER

Duration : 60 Minutes

Maximum Marks : 100 **Questions: 40**

Enrollment No.	
Student Name	
School Name	

Read the following instructions carefully before you begin to answer the questions in the OMR Answer Sheets provided along with this question paper. Ask the Examination In-charge/Invigilator how to mark the OMR Answer Sheets, in case you have any doubts.

NOTE: Marking improper STREAM POINT NO. 11 in the OMR SHEET may lead inappropriate/non-availability of result.

INSTRUCTION TO CANDIDATES TO BE EXPLAINED BY THE INVIGILATORS

1.	This Booklet co	ontains 100 questions in all comprising the	following 6 Sections:		
	Section-A	Fundamental of Computer Science	(15 Questions)	2.5 Marks each	
	Section-B	Computer Science (C++)	(20 Questions)	2.5 Marks each	
	Section-C	Informatics Practices (Java)	(20 Questions)	2.5 Marks each	
	Section-D	Python	(20 Questions)	2.5 Marks each	
	Section-E	Multimedia & Web Technology	(20 Questions)	2.5 Marks each	
	Section-F	Mental Abality	(05 Questions)	2.5 Marks each	
		F are compulsery for all students. Opt any or			
2.		ontains 10 pages. Please check, if any page i		•	
3.	Collect your Ol this Booklet.	MR Answer Sheets from the Invigilator/Exam	nination In-Charge to answ	ver the questions given in	
4.	4. You must fill all the necessary information's which are required in the space provided in this booklet and OMR Answer Sheet.				
5.	5. Correct Answers must be marked by "Darkening" the corresponding circles on the OMR Answer Sheet, against the relevant question number with Pencil or Blue/Black , Ball point Pen only. Answers which are not darkened in circle will not be awarded with any mark.				
6.	No rough work	is to be done in the OMR Answer Sheet.			
7.	· · · · · · · · · · · · · · · · · · ·				
8.	8. OMR Answer Sheets must be handed over to the Examination In-charge/Invigilator before you leave the examination room/hall and recheck that you have filled all the required informations.				
9.	7. The results will be published in our web-site WWW.SILVERZONE.ORG in the month of Jan 2014. You can check it with your 12 digit Roll Number provided in the Enrollment Ticket.				
TEA	TEACHERS ARE REQUESTED TO CHECK IF THE REQUIRED INFORMATIONS ARE PROPERLY FILLED BY THE CANDIDATES IN THE				
QU	QUESTION PAPER & OMR ANSWER SHEETS, AND ALSO ENSURE THAT OMR ANSWER SHEETS ARE PROPERLY MARKED.				
PLE	ASE SEND US BAC	CK THE OMR ANSWER SHEETS ONLY.			
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SECTION - A

Fundamental of Computer Science

- In the HDD architecture, which one of the 1. following terms best describe the number of revolutions of the plates of the drive engine?
 - (A) Arm speed
 - (B) Revolution speed
 - (C) Engine speed
 - (D) Both (A) and (C)
 - (E) None of these
- Which one of the following is known as the 2. logical area on the hard disk where files are kept. (A) Directory/Folder
 - (B) My Documents

 - (C) My Network Places
 - (D) All of the above
 - (E) None of these
- 3. Which one of the following is the disadvantage of an analog computer?
 - (A) It requires digital signal to work
 - (B) It does not give accurate output
 - (C) It requires large volume of memory
 - (D) All of these
 - (E) None of these
- Which one of the following is termed as the 4. combination of hardware and software?
 - (A) Liveware (B) Firmware
 - (C) Skinware (D) System software
 - (E) None of these
- 5. Semiconductor memories are electronic data storage. They are made up of_ (B) Iron
 - (A) Copper
 - (C) Silicon
 - (E) None of these

6. S/MIME in Internet technology stands for?

(A) Secure Multipurpose Internet Mail Extension

(D) Plastic

- (B) Secure Multimedia Internet Mail Extension
- (C) Simple Multipurpose Internet Mail Extension
- (D) Simple Multimedia Internet Mail Extension
- (E) None of these
- 7. From what location are the 1st computer instructions available on boot up?
 - (A) ROM BIOS (B) win.ini
 - (C) boot.ini (D) CONFIG.SYS
 - (E) None of the above

- 8. RAID is reliable data storage. RAID technology combines more than one hard disk in an array. The full form of RAID is.....
 - (A) Redundant Array of Inexpensive Disk
 - (B) Redundant Array of Index Disk
 - (C) Redundant Array of Interactive Disk
 - (D) Redundant Array of Imperative Disk
 - (E) None of these
- 9. is the time required between the requests made for read/write operation and the time it takes for the completion of the request. (B) Action time
 - (A) Achieved Time
 - (D) Access time (C) Actual time
 - (E) None of these
- 10. Which one of the following is a region of memory used to hold data temporarily while it is being moved from one place to another?
 - (A) Buffer
 - (B) RAM
 - (C) ROM
 - (D) Page file
 - (E) None of these
- 11. Which of these are the 5 generic software engineering framework activities?
 - (A) Communication, planning, modelling, construction, deployment
 - (B) Communication, risk management, measurement, production, reviewing
 - designing, (C) Analysis, programming, Debugging, maintenance
 - (D) Analysis, planning, designing, programming, testing
- 12. The hexadecimal number system consists of the following symbols
 - (B) 0-9 (A) 0-7
 - (C) 0 9, A F (D) All of these
 - (E) None of these
- A plotter is a computer printing device for 13. printing vector graphics. Plotter's accuracy is measured in terms of repeatability and
 - (A) Buffer size
 - (B) Resolution
 - (C) Vertical dimensions
 - (D) Intelligence
 - (E) None of these

		ı —	
14.	The part of operating system which directly makes interface with hardware system is called: (A) Utilities	19.	Write the output of the following code : void main () {
	(B) Kernel		int m,n= 0;
	(C) Virtual Machine		for (m =1 ; m<=6 ; m++)
	(D) BIOS		{
	(E) None of these		if (m<= 4)
15.	Protocol is :		continue;
10.	(A) software that facilitates connection to the		n+=m:
	internet		cout << m << "\t" << n << "\t";
	(B) a list of rules for transferring data over a		}
	network		}
	(C) software that allows file copying		(A) 112336410510610
	(D) a gateway calling program for internet		
	bridging		(B) 1122336410515621
	(E) None of these		(C) 5060
			(D) 55611
	SECTION D		(E) None of these
	SECTION - B		.,
	Computer Science (C++)	20.	array a[10][2] ?
16.	What will be the output of the following C++		(A) 20
	code:		(B) 10
	void main()		(C) 200
			(D) 30
	{ int val =8;		(E) None of these
	cout << ++val<< "\t" << val<< "\t"< <val;< th=""><th>21.</th><th>Which header file is required for clrscr() in a c++</th></val;<>	21.	Which header file is required for clrscr() in a c++
	}	21.	program
	(A) 898		(A) losteram.h
	(B) 888		(B) Conio.h
	(C) 988		(C) Math.h
	(D) 889		(D) Both A and B
	(E) None of these		(E) None of these
17	Salast the logical operator from the following		
17.	Select the logical operator from the following: (A) !	22.	
	(A) : (B) ==		calling the function:
	(C) <		(A) fflush()
			(B) ferror()
	(D) >=(E) None of these		(C) exit()
	(E) None of these		(D) clearer()
18.	. Which of the following statement is/are correct? (A) By default the member of a class are private		(E) None of these
			What is correct sequence of switch command
	(B) By default the member of a structure are	23.	What is correct sequence of switch command (A) Switch, Case, Break, Default
	public		(B) Switch, Break, Case, Default
	(C) By default the member of a class are protected		(C) Switch, Case, Default, Break,
	(D) Both A and B		
			(b) All of the above(c) None of these

24. 25.	 4. Which of the following concepts means determining at runtime what method to invoke? (A) Data hiding (B) Dynamic Typing (C) Dynamic binding (D) Dynamic loading (E) None of these 5. Which of the following function prototype is perfectly acceptable? (A) int Function(int Tmp = Show()); (B) float Function(int Tmp = Show(int, float)); (C) Both A and B. (D) float = Show(int, float) Function(Tmp); (E) None of these 		a,b); put<< a<<","< <b;) 4,8 (B) 4,4) 8,4 (D) 8,8) None of these perstructor is special because its name is same the class name. Which of the following is/are pe of constructor?) Default Constructor) Parameterized Constructor) Parameterized Constructor) Copy Constructor) All of these) None of these</b;
26.	<pre>Which of the following is not user defined data type? 1: struct book { char name[10]; float price; int pages; }; 2: long int l = 2.35; 3: enum day {Sun, Mon, Tue, Wed}; (A) 1 (B) 2</pre>	ex th ex (A) (C) (D) (C) (D) (E) 31. W ot	function is a group of statements that is recuted when it is called from some point of e program. A C++ program always begins its recution by the function.) call) call by value) main) all of these) none of these hat is used to convert C++ source code into oject modules?) Compiler (B) Assembler
27.	 (C) 3 (D) Both 1 and 2 (E) None of these Where the default value of parameter have to be specified? 	(C) (E) 32. Pc or) Linker (D) All of these
	 (A) Function call (B) Function definition (C) Function prototype (D) Both B or C (E) None of these 	(A)) Function overloading) Operator overloading) Inheritance) Both A and B
28.	Observe the following C++ code and select the correct output produced by it: void X(int &A,int &B) { A=A+B; B=A-B; A=A-B; } void main() { int a=4,b=8;	(A) (B) (C)	to right.) The order of the default argument will be alternate.) The order of the default argument will be random.

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34.	<pre>Find the output : void main() { int a=10,sum=0; for(int cnt=0;cnt<=a;cnt++) { if(cnt%2==0) cnt=cnt+2; else cnt=cnt+1;}</pre>		System.out.println("Finally"); } } (A) Finally (B) Compilation fails. (C) The code runs with no output. (D) An exception is thrown at runtime. (E) None of these	
	sum+=cnt; cout< <sum;< th=""><th>18.</th><th>Consider the following code:</th></sum;<>	18.	Consider the following code:	
	 } (A) 12 (B) 14 (C) 11 (D) 15 (E) None of these 		<pre>class example { public static void main(String args[]) { System.out.println("This is simple java program"); System.out.println("Java is an object oriented</pre>	
35.	 main() is an example of: (A) library function (B) user-defined function (C) header (D) statement (E) None of these 		programming language"); }} Which one of the following is used to compile the above code? (A) javac example.java (B) java example.java (C) java example	
	SECTION - C Informatics Practices (Java)		(D) java example.java(E) None of these	
16. 17.		19.	What will be the output of the following program? class sample1 { public static void main(String args[]) { int x, y, result; float a, p; x= 45; y=20;	
	{ public static void main(String[] args) { try		result= x+a; p= y+a; System.out.println("x+a: " +result); System.out.println("y+a: " +p); }	
	{ return; } finally {		 (A) x+a: 53 (B) x+a: 53.5 (B) x+a: 53.5 (C) x+a: 53.5 (D) x+a: 53 (D) x+a: 53	

20.	The Java programming language is a high-level language. Which of the following is/are feature(s) of Java? (A) Object oriented (B) Distributed (C) Multithread (D) Dynamic	25.	 (A) Java Foundation Classes (B) Java Fundamentals Classes (C) Java First Classes (D) Java Find Classes (E) None of these
21.	(E) All of these		Consider the following code: class demo { public static void main(String args[]) { int x =15; if(x==15) { int y=10; int result; Result=x+y;
22. 23.	Which of the following features of java allows you to acquire the properties of parent class by its child class? (A) Inheritance (B) Function overloading (C) Encapsulation (D) Data abstraction (E) None of these Examine the following code snippet: public class MainClass { public static void main(String args[]) {		<pre>System.out.println("The value of x+y is " +result); } y=y+1; x=x+1 } (A) The program will not compile successfully it will produce error (B) The value of x+y is 25 (C) The value of x+y is 10 (D) The program will compile successfully but produce no output (E) None of these</pre>
	<pre>int i, k; i = -10; k = i < 0?-i: i; // get absolute value of i System.out.print("Absolute value of "); System.out.println(i + " is " + k); } } What will be the output? (A) Absolute value of 10 is -10 (B) Absolute value of 10 is -10 (C) Absolute value of 10 is 10 (C) Absolute value of 10 is 10 (D) It generates runtime error (E) None of these</pre>	27. 28.	Examine the following code snippet: int n = 10; if(n++ % 2 = = 0){ System.out.println("Even"); } else { System.out.println("Odd"); } What will be the output? (A) Even (B) Odd (C) No output (D) Both A and B (E) None of these
24.	Which of the following is/are branchingstatements in Java?(A)Break(B)Continue(C)Switch(D)All of these(E)Both A and BVV	28.	 Which of the following statements is correct about applets in java? (A) An applet is an application designed to be transmitted over the internet and executed by a Java compatible Web browser. (B) An applet is a tiny java program and dynamically downloaded across the network.

29.	 (C) An applet is an intelligence program not just an animation or media file and all applets are the application but all application are not the applets (D) All of these (E) None of these In a table in 2NF and every non-key 	 34. Which will legally declare, construct, and initialize an array? (A) int [] myList = {"1", "2", "3"}; (B) int [] myList = (5, 8, 2); (C) int myList [] [] = {4,9,7,0}; (D) int myList [] = {4, 3, 7}; (E) None of these
	at table in 2NF and every non-keyattribute is functionally dependent only on theprimary key.(A) 1 NF(B) 3 NF(C) 2 NF(D) All of these(E) None of these	35. public class Test { } What is the prototype of the default constructor? (A) Test() (B) Test(void) (C) Public Test() (D) Public Test(void) (E) None of these
30.	The Java language initially called as :(A)Perl(B)Woak(C)Oak(D)Holf(E)None of these	SECTION - D Python
31.	John writes the following code: class example { public static void main(String args[]) { Syste.out.println("This is a simple java program"); }	 16. What does the following code do? def a(b, c, d): pass (A) defines a list and initializes it (B) defines a function, which does nothing (C) defines a function, which passes its parameters through (D) defines an empty class (E) None of these
	And save it with example.java file name. Which of the following file contains the byte code version of the program that created by java compiler? (A) example.java (B) example.class (C) example.javac (D) example.exe (E) None of these	 17. What gets printed? Assuming python version 2.x print type(1/2) (A) <type 'int'=""></type> (B) <type 'number'=""></type> (C) <type 'float'=""></type> (D) <type 'double'=""></type> (E) <type 'tuple'=""></type>
32 . <u>33</u> .	From the following which one is not a DDL command: (A) CREATE (B) DELETE (C) ALTER (D) RENAME (E) None of these	 18. What is the output of the following code? print type([1,2]) (A) <type 'tuple'=""></type> (B) <type 'int'=""></type> (C) <type 'set'=""></type> (D) <type 'complex'=""></type> (E) <type 'list'=""></type>
	 programming language keywords? (A) class, if, void, long, Int, continue (B) goto, instanceof, native, finally, default, throws (C) try, virtual, throw, final, volatile, transient (D) strictfp, constant, super, implements, do (E) byte, break, assert, switch, include 	Image: The second se

What should the below code print?	28.	In Python, a syntax error is detected by theat
(A) <type 'complex'=""> (B) <type 'unicode'=""> (C) <type 'int'=""> (D) <type 'float'=""> (E) <type 'dict'=""></type></type></type></type></type>		 (A) compiler/at compile time (B) interpreter/at runtime (C) compiler/at runtime (D) interpreter/at compile time
What is the output of the following code?		(E) None of these
(A) <type 'nonetype'=""></type>(B) <type 'tuple'=""></type>(C) <type 'type'=""></type>	29.	Which of the following is a Python set? (A) [1, 2, 3] (B) (1, 2, 3) (C) {1, 2, 3} (D) {}
		(E) None of these
a = [1,2,3,None,(),[],]	30.	To start Python from the command prompt, use the command
(A) syntax error (B) 4 (C) 5 (D) 6		 (A) execute python (B) run python (C) python (D) go python (E) None of these
Suppose t = (1, 2, 4, 3), which of the following is incorrect? (A) print(t[3]) (B) t[3] = 45	31.	What is round(6.5)? (A) 4 (B) 5 (C) 6 (D) 7 (E) 8 8
(C) print(max(t))(D) print(len(t))(E) print(sum(t))	32.	Which of the following is the correct expression of character 4?
Suppose t = (1, 2, 4, 3), t[1 : 3] is (A) (1, 2) (B) (1, 2, 4) (C) (2, 4) (D) (2, 4, 3)	33.	(A) 4 (B) "4" (C) '4' (D) None of these In Python, a string literal is enclosed in
(E) (1, 2, 4, 3) You can use to create an empty		(A) parentheses
set. (B) (C) (C) <th></th> <td>(B) single-quotes(C) double-quotes(D) Both (B,C)(E) None of these</td>		(B) single-quotes(C) double-quotes(D) Both (B,C)(E) None of these
What will be displayed by the following code? d = {"john":40, "peter":45} print(list(d.keys()))	34.	Suppose x is a char variable with a value 'b'. What will be displayed by the statement print(chr(ord(x) + 1))?
 (A) ["john", "peter"] (B) ["john":40, "peter":45] (C) ("john", "peter") 		(A) a(B) b(C) c(D) d(E) None of these
(D) ("john":40, "peter":45) (E) None of these	35.	Which of the following statement prints smith/exam1/test.txt?
Which of the following is a Python list? (A) [1, 2, 3] (B) (1, 2, 3) (C) {1, 2, 3} (D) { (E) None of these		 (A) print("smith\exam1\test.txt") (B) print("smith\\exam1\\test.txt") (C) print("smith\"exam1\"test.txt") (D) print("smith"\exam1"\test.txt") (E) None of these
	print type(1J) (A) <type 'complex'=""> (B) <type 'unicode'=""> (C) <type 'int'=""> (D) <type 'float'=""> (E) <type 'dict'=""> (D) <type 'float'=""> What is the output of the following code? print type(lambda:None) (A) <type 'nonetype'=""> (B) <type 'function'=""> (C) <type 'type'=""> (D) <type 'function'=""> (E) <type 'bool'=""> What is the output of the below program? a = [1,2,3,None,(),[],] print len(a) (A) syntax error (B) 4 (C) 5 (D) 6 (E) 7 Suppose t = (1, 2, 4, 3), which of the following is incorrect? (A) print([3]) (B) t[3] = 45 (C) print(max(t)) (D) print(len(t)) (E) print(sum(t)) (D) print(len(t)) (E) print(sum(t)) (D) (2, 4, 3) (E) (1, 2, 4) (D) (2, 4, 3) (E) (1, 2, 4) (D) set() (E) None of these What will be displayed by the following code? d = {"john":40, "peter":45} print(list(d.keys())) (A) {"john", "peter"] (B) (1, 2, 3) (C) ("john", "peter") (D) ("john":40, "peter":45] (D) ("john":40, "peter":45]<td>print type(1J) (A) < type 'complex'> (B) < type 'unicode'> (C) < type 'int'> (D) < type 'float'> (E) < type 'dict'> (D) < type 'float'> (D) < type 'float'> (D) < type 'float'> (A) < type 'NoneType'> (C) < type 'type'> (D) <type 'type''<="" td=""> (D) <type'type''type''type'> (D) <type'type''type'< td=""></type'type''type'<></type'type''type''type'></type></td></type></type></type></type></type></type></type></type></type></type></type>	print type(1J) (A) < type 'complex'> (B) < type 'unicode'> (C) < type 'int'> (D) < type 'float'> (E) < type 'dict'> (D) < type 'float'> (D) < type 'float'> (D) < type 'float'> (A) < type 'NoneType'> (C) < type 'type'> (D) <type 'type''<="" td=""> (D) <type'type''type''type'> (D) <type'type''type'< td=""></type'type''type'<></type'type''type''type'></type>

16.	SECTION - E Multimedia & Web Technology What is the correct HTML tag for inserting a paragraph break? (A) (B) <break> (C) (D) <hr/> (E) None of these</break>	22. <u></u>	HTML uses markup tags to describe web pages. Which of the following is/are HTML attributes? (A) class (B) id (C) style (D) title (E) All of these What is a URL:
17.	What is the correct HTML for making a hyperlink?(A) <href a="http://www.sz.com">sz.com<a>(B) dps(C) <a>http://www.sz.com(D) sz.com(E) None of these</href>	23.	 (A) An email address (B) The title of a web site (C) The address of a page on the World Wide Web (D) A communication method between computers and printers (E) None of these
18.	What would be the output of the following Code? <script type="text/vbscript"> i=0 do while i < 2 document.write(i & ",") i=i+1 loop</td><td>24.</td><td>How can you make a list that lists the items with numbers? (A) (B) <dl> (C) (D) <list> (E) None of these</td></tr><tr><td></td><td></script> (A) 0,1,2 (B) 0,1, (C) Error in Script (D) Nothing will be printed (E) None of these	25.	What is the correct HTML for making a text input field? (A) <textinput type="text"> (B) <textfield> (C) <input type="textfield"/> (D) <input type="text"/></textfield></textinput>
19.	 What does CSS stand for? (A) Cascading Style Semantics (B) Cascading Specification Sheets (C) Cascading Software Sheets (D) Cascading Style Sheets (E) None of these 	26. 27.	 (E) None of these Which color combination produces BLUE color? (A) Yellow & Magenta (B) Yellow & Cyan (C) Magenta & Cyan (D) Magenta & Black
20.	 In the code <frameset cols="120,*"> the following would be true.</frameset> (A) Right frame would be 120 pixels high (B) Left frame would be 120 pixels wide (C) Top frame would be 120 pixels high (D) Left frame would be 120 inches wide (E) None of these 		 (E) None of these 27. Which technique is referred to as in scripting? (A) The use of SCRIPT tags in line with the H and BODY tags. (B) The addition of the INLINE tag within controlling HTML.
21.	What is the correct syntax for the presentation of comments in XML document? (A) Comment (B) /Comment (C) - Comment (D) :Comment (E) None of these		 (C) The embedding of scripting instructions within certain HTML tags. (D) The physical justification of the script (major routines on the left, and lesser routines indented and on the right). (E) None of these

28.	JavaScript usually runs on the client-side (the browser's side), as opposed to server-side. What is/are the common use(s) of JavaScript? (A) Alert messages (B) Popup windows (C) Dynamic dropdown menus (D) Form validation	34. 35.	Which one of the following operator is used to compare data with a NULL value?(A)NULL(B)IS NULL(C)BETWEEN(D)IN(E)None of theseVhich of the following templates are available
29.	 (E) All of these Which colors consist of equal amounts of all basic colors ? (A) purple, green, and red (B) black, blue, and gray (C) white, red and gray (D) white, black and gray (E) None of these 		with the Professional edition of Visual Basic 6.0? (A) VB Application Wizard (B) ActiveX EXE (C) ActiveX DLL (D) Data Project (E) Both b and c SECTION - F Mental Abality
30.	Which one of the following is used for group declaration and statements for a compound statement or a block while declaring if statement? (A) {,} (B) (,)	36.	Fill the blank space with correct option. B 8 D 9 G 17 K 44 P 10 (A) 33 (B) U (C) V (D) W (E) None of these
31.	(C) {} (D) [] (E) None of these Microprocessors vary according to their inbuilt	37.	Which of the following is the odd man?(A) Asafoetida(B) Ginger(C) Wheat(D) Coriander
	specifications and enhanced qualities. Which one of the following is not a type of Microprocessor Chip?(A) Pentium(B) Intel(C) AMD(D) Celeron(E) None of these	38.	 (E) None of these Which of the following options is unfit for the series given below? Nn Ss PP Tt Ff Gg Hh (A) Ff (B) Ss (C) Gg (D) PP
32.	To select the unselected area in photoshop document (A) Use SELECT menu -> Inverse (B) Use SELECT menu -> Transform Selection (C) Use SELECT menu -> Load selection (D) Use SELECT menu -> Similar (E) None of these	39.	 (E) None of these Find the missing number. 315 340 390 415 (A) 370 (B) 345 (C) 355 (D) 365 (E) None of these
33.	What does vlink mean ?(A) active link(B) very important link(C) visited link(D) valid link(E) None of these	40.	If code of 'FTNO' is 'GUST', then find the code of 'BPHU'. (A) CZMQ (B) CQMZ (C) CMZQ (D) CMQZ (E) None of these

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