



Question Paper

CLASS - 11th

Duration : 60 Minutes

Total Questions : 40

Maximum Marks :100

Computer Science

1st Level

iiO'14 Roll Number

Student's Name

TEST PAPER TYPE

AA

INSTRUCTIONS

- MUST MARK YOUR STREAM IN OMR SHEET FOR IIO. (C++, JAVA, PYTHON OR MULTIMEDIA)
- Write your 12 digit iiO Roll Number and your name on top of the question Paper in the given space.
- Filling up improper roll number may lead to unavailability of 'Result'.
- This Booklet contains 85 questions in all comprising the following 6 Sections:

Section-A	Fundamentals of Computer Science	(15 Questions)	2.5 Marks each
Section-B	Computer Science (C++)	(15 Questions)	2.5 Marks each
Section-C	Informatics Practices (Java)	(15 Questions)	2.5 Marks each
Section-D	Python	(15 Questions)	2.5 Marks each
Section-E	Multimedia & Web Technology	(15 Questions)	2.5 Marks each
Section-F	Mental Ability	(10 Questions)	2.5 Marks each

Section A and F are compulsory for all students. Opt any one from Section B, C, D & Section E.
- Mark your answer (A, B, C, D or E) on the Answer Sheet with Pencil or Black/Blue Ball point Pen.
- Do not start attempting the test paper until you are asked to do so.

Note: Return this question paper along with answer sheet

SECTION - A

Fundamentals of Computer Science

- From where do you assign the space for virtual memory?

(A) RAM	(B) ROM
(C) Hard Disk	(D) Both (A) and (B)
(E) None of these	
- You see _____ error value if the formula refers to a cell that isn't valid.

(A) #VALUE	
(B) #REF	
(C) #NULL!	
(D) #N/A	
(E) None of these	
- A storage unit of a computer system should be evaluated on the basis of _____.

(A) Access time	
(B) Volatility	
(C) Cost per bit of storage	
(D) All of these	
(E) None of these	
- Which memory system is NOT used as a mass memory medium?

(A) Semiconductor memory	
(B) Drum Memory	
(C) Magnetic tape	
(D) Magnetic disk	
(E) None of these	

5. A device or program that connects your LAN to the internet, passes messages between the computers on LAN and on internet is called _____.
- (A) Repeater (B) Gateway
(C) Hub (D) Switch
(E) None of these
-
6. Which one of the following is the type of operating system that executes programs that are guaranteed to have an upper bound on tasks that they carry out?
- (A) Multiprocessor
(B) Distributed
(C) Networked Systems
(D) Real-Time
(E) None of these
-
7. Which one of the following is a system that allows each user to interact directly with the operating system via commands entered from a keyboard?
- (A) Real-time system
(B) Interactive system
(C) Distributed system
(D) Embedded system
(E) None of these
-
8. Which of the following is/are a set of instructions and data that a computer's central processing unit can execute directly?
- (A) 1st Generation Programming Language
(B) 2nd Generation Programming Language
(C) Machine Language
(D) Both A and C
(E) None of these
-
9. Which one of the following is the term called for the design of a network including the devices, location and cable installation?
- (A) Area topology
(B) Physical topology
(C) Multimedia topology
(D) Physical structure
(E) None of these
-
10. A new presentation can be created from _____.
- (A) Design templates
(B) Existing presentation
(C) Blank presentation
(D) All of these
(E) None of these
-
11. Which kind of terminal is entirely dependent for all its capabilities on the computer system to which it is connected?
- (A) Smart terminal
(B) Dumb terminal
(C) Intelligent terminal
(D) Micro Computer
(E) None of these
-
12. TCP/IP based communications use a four layer communications model to describe their operations. Identify the layer that guarantees communication between computers and specifies the application to which data will be passed.
- (A) The Internet Layer
(B) The Presentation Layer
(C) The Network Interface Layer
(D) The Transport Layer
(E) None of these
-
13. Which of the following statements is wrong?
- (A) An EPROM can be programmed, erased and reprogrammed by the user with an EPROM programming instrument
(B) Magnetic tape is non volatile
(C) Magnetic core and semiconductor memories are used as mass memory medium
(D) RAM is a type of volatile memory
(E) None of these
-
14. Batch operating system is the first computer operating system. Which one of the following types of computer architect worked on batch operating system?
- (A) Mechanical computer architect
(B) Electrical computer architect
(C) Transistorized computer architect
(D) All of these
(E) None of these
-
15. Which of the following is considered a direct entry input device?
- (A) Optical Scanner (B) Mouse
(C) Light Pen (D) Digitiser
(E) All of the above

SECTION - B
Computer Science (C++)

16. From the following select the fundamental data type in C++

- (A) Functions (B) Pointers
(C) Array (D) Double
(E) None of these

17. Select the logical operator from the following:

- (A) ! (B) ==
(C) < (D) >=
(E) None of these

18. 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;}
sum+=cnt;
cout<<sum;
}
```

- (A) 12 (B) 14
(C) 11 (D) 15
(E) None of these

19. Which of the following statement is/are correct?

- (A) By default the member of a class are private
(B) By default the member of a structure are public
(C) By default the member of a class are protected
(D) Both A and B
(E) All of these

20. What will be the output after the following program is executed?

```
Void main()
{
int a=9;
a+=a++ * ++a;
cout<<a;
}
```

- (A) 121 (B) 111
(C) 113 (D) 110
(E) None of these

21. Which will be the value of cnt ,a, and b after executing the following statement:

```
int a,b,cnt;
a=10;
b=15;
cnt= ++a + b++;
(A) cnt=27, a= 11, b= 16
(B) cnt=26, a= 10, b= 16
(C) cnt=26, a= 11, b= 16
(D) cnt=27, a= 10, b= 17
(E) None of these
```

22. What will be the output of the following code snippet?

```
for(int ctr=0;ctr<=9;ctr++);
cout<<ctr;
(A) 0123456789
(B) 12345678910
(C) 10
(D) 1234567890
(E) None of these
```

23. Which of the following will produce a value of 22 if x=22.9 ?

- (A) ceil() (B) log()
(C) abs() (D) floor()
(E) None of these

24. What will be the output of the following expression, where a, b, c are integers and d is floating point number?

```
a=5,b=3,d=1.5
Expression: c= (a++)* d + a
(A) 13.5                                      (B) 13
(C) 22.5                                      (D) 22
(E) None of these
```

25. Which of the following is a mechanism of static polymorphism?

- (A) Operator overloading
(B) Function overloading
(C) Templates
(D) All of the above
(E) None of these

26. Which of the following statements should be used to obtain a remainder after dividing 3.14 by 2.1 ?

- (A) `rem = 3.14 % 2.1;`
- (B) `rem = modf(3.14, 2.1);`
- (C) `rem = fmod(3.14, 2.1);`
- (D) Remainder cannot be obtain in floating point division.
- (E) None of these

27. How will you free the allocated memory ?

- (A) `remove(var-name);`
- (B) `free(var-name);`
- (C) `delete(var-name);`
- (D) `dalloc(var-name);`
- (E) None of these

28. `cout` is a/an _____ .

- (A) operator (B) function
- (C) object (D) macro
- (E) None of these

29. Which one of the following is the correct statement?

- (A) `cout >> "a" (B) cin << "a+b"`
- (C) `cout >> "Hello" (D) cin >> hh`
- (E) None of these

30. Which one of the following loop contains three expressions?

- (A) while (B) for
- (C) switch (D) All of these
- (E) None of these

SECTION - C Informatics Practices (Java)

16. The Java programming language is a high-level language. Which of the following is/are features of Java?

- (A) Object oriented (B) Distributed
- (C) Multithread (D) Dynamic
- (E) All of these

17. Which of the following keywords is/are reserved in Java?

- (A) `int` (B) `for`
- (C) `goto` (D) all of these
- (E) None of these

18. A platform is the hardware or software environment in which a program runs. Which of the following are components of Java platform?

- (A) JVM (B) Java API
- (C) bytecodes (D) both a and b
- (E) None of these

19. Examine the following code snippet:

```
public class MainClass {
    public static void main(String args[]) {
        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
- (D) It generates runtime error
- (E) None of these

20. How do you write an infinite loop using the while statement?

- (A) `while (true) { }`
- (B) `while (true); { }`
- (C) `while (true/false) { }`
- (D) `while (i=1) { }`
- (E) None of these

21. The command to remove rows from a table 'CUSTOMER' is:

- (A) `REMOVE FROM CUSTOMER ...`
- (B) `DROP FROM CUSTOMER ...`
- (C) `DELETE FROM CUSTOMER WHERE ...`
- (D) `UPDATE FROM CUSTOMER ...`
- (E) None of these

22. The SQL WHERE clause:

- (A) limits the column data that are returned.
- (B) limits the row data are returned.
- (C) Both A and B are correct.
- (D) Neither A nor B are correct.
- (E) None of these

23. Which of the following is the original purpose of SQL?

- (A) To specify the syntax and semantics of SQL data definition language
- (B) To specify the syntax and semantics of SQL manipulation language
- (C) To define the data structures
- (D) All of the above.
- (E) None of these

24. A view is which of the following?

- (A) A virtual table that can be accessed via SQL commands
- (B) A virtual table that cannot be accessed via SQL commands
- (C) A base table that can be accessed via SQL commands
- (D) A base table that cannot be accessed via SQL commands
- (E) None of these

25. The command to eliminate a table from a database is:

- (A) REMOVE TABLE CUSTOMER;
- (B) DROP TABLE CUSTOMER;
- (C) DELETE TABLE CUSTOMER;
- (D) UPDATE TABLE CUSTOMER;
- (E) None of these

26. Examine the following code snippet:

```
public class MainClass {
    public static void main(String args[]) {
        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
- (D) It generates runtime error
- (E) None of these

27. JFC stands for :

- (A) Java Foundation Classes
- (B) Java Fundamentals Classes
- (C) Java First Classes

- (D) Java Find Classes
- (E) None of these

28. The float data type specifies a single-precision value that uses _____ bits of storage.

- (A) 64
- (B) 32
- (C) 16
- (D) 8
- (E) None of these

29. See the following code snippet:

```
While (true) {};
```

Which one of the following statements is correct?

- (A) finite loop
- (B) infinite loop
- (C) false loop
- (D) All of these
- (E) None of these

30. Consider the following code:

```
class sample1 {
    public static void main(String args[]) {
        int x, y, r; char z, p;
        x=10; y=20; r=x+y;
        System.out.println("x+y: " + r);
        z="John "; p=r; r=z+p ;
        System.out.println("Hi " + r);
    }
}
```

What will be the output of the preceding code?

- (A) x+y: 30
Hi John 30
- (B) x+y: 30
Hi 30
- (C) x+y: 30
Hi John30
- (D) x+y: 30
Hi
- (E) None of these

SECTION - D Python

16. Python is a _____ language.

- (A) Scripting
- (B) Object Oriented
- (C) Object Oriented Scripting
- (D) Procedural
- (E) None of these

17. What would `len(2 ** 1000000)` print in python?

- (A) Stack Overflow
- (B) print the value
- (C) count the digits in the result
- (D) All of these
- (E) None of these

18. What are the keys to scroll and get the previous command executed in python interactive shell on Windows and Linux?

- (A) Alt + P (B) Alt + L
(C) Ctrl + P (D) Ctrl + L
(E) None of these

19. What is the key to scroll forward in the command history on Windows and Linux?

- (A) Alt + F (B) Ctrl + F
(C) Ctrl + N (D) Alt + N
(E) None of these

20. What are Frozen Binary Executables?

- (A) Compiled python code i.e. bytecodes
(B) Immutable python files
(C) Compiled python code + python interpreter
(D) All of the Above
(E) None of these

21. What does the following expression print? Consider python 2.x

- print type(5/2)
(A) <type 'float'> (B) <type 'int'>
(C) <type 'number'> (D) <type 'tuple'>
(E) None of these

22. Which of these is not a core datatype?

- (A) Lists (B) Dictionary
(C) Tuples (D) Class
(E) None of these

23. Given a function that does not return any value, What value is thrown by it by default when executed in shell.

- (A) int (B) bool
(C) void (D) All of the above
(E) None of these

24. Following set of commands are executed in shell, what will be the output?

- ```
>>>str="hello"
>>>str[:2]
>>>str
```
- (A) he (B) lo  
(C) olleh (D) hello  
(E) None of these

25. Which of the following will run without errors(multiple answers possible) ?

- (A) round(45.8)  
(B) round(6352.898,2)  
(C) round()  
(D) round(7463.123,2,1)  
(E) None of these

26. What is the return type of function id ?

- (A) int (B) float  
(C) bool (D) dict  
(E) None of these

27. In python we do not specify types, it is directly interpreted by the compiler, so consider the following operation to be performed.

```
>>>x = 13 / 2
```

objective is to make sure x has a integer value, select all that apply (python 3.xx)

- (A) x = 13 // 2 (B) x = int(13 / 2)  
(C) x = 13 / 2 (D) x = 13 % 2  
(E) None of these

28. What error occurs when you execute?

```
apple = mango
```

- (A) SyntaxError (B) NameError  
(C) ValueError (D) TypeError  
(E) None of these

29. Carefully observe the code and give the answer.

```
def example(a):
```

```
 a = a + '2'
```

```
 a = a*2
```

```
 return a
```

```
>>>example("hello")
```

- (A) indentation Error  
(B) cannot perform mathematical operation on strings  
(C) hello2  
(D) hello2hello2  
(E) None of these

30. What datatype is the object below ?

```
L = [1, 23, 'hello', 1]
```

- (A) List (B) dictionary  
(C) array (D) tuple  
(E) None of these



## SECTION - E

### Multimedia & Web Technology

16. Just as rules of a language (grammar) are important to communicate, there are some guidelines to be followed by computers over the internet. The name given to these rules/guidelines is :
- (A) Protocol (B) URL  
(C) Hyperlink (D) IP Address  
(E) None of these
- 
17. What is a URL:
- (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. How can you make a list that lists the items with numbers?
- (A) <ol> (B) <dl>  
(C) <ul> (D) <list>  
(E) None of these
- 
19. 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">  
(E) None of these
- 
20. Every computer device works through software. A term which is commonly used for the same is known as :
- (A) Device driver (B) Device manager  
(C) Registry manager (D) All of these  
(E) None of these
- 
21. Software is a program which is given to the computer for performing the specific task. There are two types of computer software. Which one of the following is correct about the both types of computer software ?
- (A) Program and system software  
(B) Application and system software  
(C) Application and program software  
(D) All of these  
(E) None of these
- 
22. Which color combination produces BLUE color?
- (A) Yellow & Magenta  
(B) Yellow & Cyan (C) Magenta & Cyan  
(D) Magenta & Black (E) None of these
- 
23. What would be the output of the following Code?
- ```
<script type="text/vbscript">
for i = 0 to 6
document.write(i & ",")
next
</script>
```
- (A) 0,1,2,3,4,5 (B) 0,1,2,3,4,5
(C) 0,1,2,3,4,5,6 (D) 0,1,2,3,4,5,6
(E) None of these
-
24. The use of DTD in XML development is:
- (A) required when validating XML documents
(B) no longer necessary after the XML editor has been customized
(C) used to direct conversion using an XSLT processor
(D) All of these
(E) None of these
-
25. Which one of the following server hosts only your web site?
- (A) Shared hosting (B) Dedicated server
(C) Virtual dedicated (D) managed hosting
(E) None of these
-
26. Which property will open a page in a new window?
- (A) target="_top" (B) target="_self"
(C) target="_new" (D) target="_blank"
(E) None of these
-
27. 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

28. The process of planning your multimedia presentation is known as a _____

- (A) design (B) storyboard
(C) development (D) layout
(E) none of these

29. The CSS syntax consists of a set of rules. Which of the following is not a part of rule ?

- (A) a selector (B) a property
(C) a value (D) All of these
(E) None of these

30. James is creating a HTML document. He wants to add some text. In which of the following tag James describes the text?

- (A) <link> (B) <body>
(C) <meta> (D) All of these
(E) None of these

SECTION - F Mental Ability

31. What will come in place of the question mark?

Author : Book :: Bust : ?

- (A) Builder (B) Weaver
(C) Conductor (D) Sculptor
(E) None of these

32. If 'TORTURE' is coded as 'ERUTROT', then 'NATURAL' is coded as _____

- (A) LARUTNA (B) LRAUTAN
(C) LARTUAN (D) LARUTAN
(E) None of these

33. The cube of a number is 8 times the cube of another number. If the sum of the cubes of numbers is 243, the difference of the numbers is

- (A) 3 (B) 4
(C) 6 (D) 15
(E) None of these

34. Establish the relationship between the two words. Then, from the given options, select one which has the same relationship as of the given two words.

Glamour is to stardom as colour is to _____

- (A) Rainbow (B) Shades
(C) Art (D) Painting
(E) None of these

35. In a certain code language 'racers are crazy' is written as 'jo la mo' and 'never get crazy' is written as 'ta ga mo', then code for 'crazy' is _____

- (A) mo
(B) ta
(C) jo
(D) la
(E) None of these

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

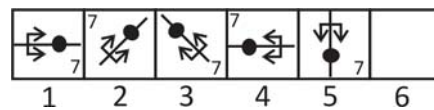
37. Which of the following is the odd man?

- (A) Asafoetida
(B) Ginger
(C) Wheat
(D) Coriander
(E) None of these

38. Degree measure of an angle of δ radian is _____.

- (A) 90°
(B) 180°
(C) 360°
(D) 245°
(E) None of these

39. What comes next in the given series?



- (A) (B)
(C) (D)

(E) None of these

40. The cube of a number is 8 times the cube of another number. If the sum of the cubes of numbers is 243, the difference of the numbers is

- (A) 3 (B) 4
(C) 6 (D) 8
(E) None of these