



## Question Paper

**CLASS - 12th**

Duration : 60 Minutes

Total Questions : 40

Maximum Marks :100

### Computer Science

**1<sup>st</sup> 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

- What do you mean by PS/2 port?
  - Personal System/2
  - Pocket System/2
  - Packet System/2
  - All of these
  - None of these
- Which one of the following is the layout pattern of interconnections of the various elements (links, nodes, etc.) of a computer network?
  - Network topology
  - Network IP addressing
  - Network protocols
  - Network mapping
  - None of these
- Which of the following is/are the feature(s) of an interpreter used in a high-level language?
  - Executes the source code directly
  - Translates source code into some efficient intermediate representation (code) and immediately executes this.
  - It is the language processor.
  - All of these
  - None of these

4. You can use different types of objects such as images, cliparts, wrodarts etc. in your Power Point presentation. Which one of the following terms is used for the properties or characteristics of an object in Power Point?

- (A) Orientations
- (B) Default settings
- (C) Attributes
- (D) Active applications
- (E) None of these

5. Which one of the following is manager, using which operating system manages reading and writing in the file system and the user and application file access authorizations?

- (A) Management of authorizations
- (B) Information management
- (C) File management
- (D) Management of input/output
- (E) None of these

6. MAC is a short piece of information that protects both a message's data integrity as well as its authenticity.

- (A) Message authentication code
- (B) Message authentication cryptography
- (C) Message authentication computation
- (D) Message authentication channel
- (E) None of these

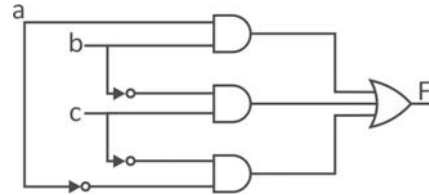
7. This type of font is most commonly used character set by MICR devices.

- (A) E3B2
- (B) A13E
- (C) 12-EB
- (D) E-13B
- (E) None of these

8. In Sql, the HAVING clause does which of the following?

- (A) It refines the query and the tuples returned by the group by clause.
- (B) It refines the query and the tuples returned by the where clause.
- (C) It sorts the tuples alphabetically.
- (D) It stores the result of the query in a new table with the indicated name.
- (E) None of these

9. Study the following diagram and select the correct function.



- (A)  $F = \bar{a}b + b\bar{c} + ca$
- (B)  $F = ab + \bar{b}c + \bar{c}a$
- (C)  $F = a\bar{b} + b\bar{c} + \bar{c}a$
- (D)  $F = ab + \bar{b}c + ca$
- (E) None of these

10. What is the use of Collection in Windows Movie Maker?

- (A) For importing new pictures.
- (B) Adding effects and transition to the Movie Clip.
- (C) To display any pictures or Music clips that have already been imported.
- (D) It is used to handle text.
- (E) None of these

11. In MS-Excel, what happens if you press the "Up arrow" key while the scroll lock is on?

- (A) Moves the active cell up one row
- (B) Moves the active cell up one screen
- (C) Scrolls the screen up one row without changing the active cell
- (D) All of these
- (E) None of these

12. For which purposes the parity bit is added?

- (A) Coding
- (B) Indexing
- (C) Error Detection
- (D) Updating
- (E) None of these

13. SGML stands for

- (A) Standard Generalized Markup Language
- (B) Structured General Markup Language
- (C) Standard Graphics Mapping Language
- (D) Standard General Markup Link
- (E) None of these

14. The disadvantage of dynamic RAM over static RAM is:

- (A) Higher power consumption
- (B) Variable speed
- (C) Need to refresh the capacitor charge every once in two milliseconds
- (D) Higher bit density
- (E) None of these

15. An AI technique that allows computers to understand associations and relationships between objects and events is called:

- (A) Cognitive science
- (B) Heuristic processing
- (C) Relative symbolism
- (D) Pattern matching
- (E) None of these

### SECTION - B Computer Science (C++)

16. Queue is based on FIFO principle. FIFO is stands for.

- (A) First in First Out
- (B) Fast in Fast Out
- (C) First input First Outcome
- (D) Fast inside
- (E) None of these

17. A \_\_\_\_\_ is a special member function whose task is to initialize the objects of its class.

- (A) constructor
- (B) friend function
- (C) inheritance
- (D) polymorphism
- (E) None of these

18. A constructor that accepts no parameter is called the \_\_\_\_\_

- (A) copy constructor
- (B) default constructor
- (C) multiple constructor
- (D) all of these
- (E) None of these

19. \_\_\_\_\_ member of base class cannot be accessed in derived class.

- (A) Protected
- (B) Public
- (C) Private
- (D) All of these
- (E) None of these

20. select the correct output from the following:

```
void main ()
{ int l , a = 10;
l = a++ + ++a + ++a + a;
cout<< l << "/t" << a;
}
```

- (A) 45 12
- (B) 13 48
- (C) 46 13
- (D) 49 13
- (E) None of these

21. Find the output of the following code:

```
int a = 40;
int main()
```

```
{
Int a = 30;
cout<<a;
cout<<::a;
}
```

- (A) 30,40
- (B) 40,30
- (C) 30,30
- (D) 30,4
- (E) None of these

22. Which of the following adds one string to the end of another?

- (A) append();
- (B) strcat();
- (C) stringadd();
- (D) stradd();
- (E) None of these

23. Which of the following denotes advantages of operator overloading?

- (A) Operator not limited to operate only with primitive Data Type
- (B) Extensibility
- (C) Both A and B
- (D) None of the Above
- (E) None of these

24. Multiprogramming systems :

- (A) Are easier to develop than single programming system
- (B) Execute each job faster
- (C) Execute more jobs in the same time period
- (D) Are used only on large mainframe computers
- (E) None of these

25. What is debugger used for?

- (A) Running and tracing programs in a controlled way
- (B) Removing comments from the source code
- (C) Removing syntax errors from C++ programs
- (D) Running diagnostics of hardware components
- (E) None of these

26. The process of creating and deleting objects in C++ is done by :

- (A) constructor
- (B) destructor
- (C) constructor and destructor
- (D) new and delete
- (E) None of these

27. Which one of the following is correct statement?

- (A) A doubly link list can be traversed forward direction only.
- (B) A doubly link list can be traversed forward and backward direction.
- (C) A doubly link list can be traversed backward direction only.
- (D) A doubly link list can not be traversed.
- (E) None of these

28. What is the result of this function

```
int test(int j) {
    int x = 5 ;
    if(j == 0 )
    { int x ;
      x = 3 ; }
    return x ;
};
```

- (A) 3
- (B) 5
- (C) 8
- (D) 3 if j==0 and 0 otherwise
- (E) None of these

29. Find out the error in the following code:

```
#include <iostream>
using namespace std;
class SimpleClass {
    int len;
public:
    SimpleClass(int l);
};
SimpleClass::SimpleClass(int l) {
    len = l;
    int i;
    for(i = 0; i < len; i++)
        cout >> '*';
}
int main()
{
    SimpleClass l(10);
    return 0;
}
```

- (A) cout should use right shift operator
- (B) cout should use left shift operator
- (C) cout should not use any operator
- (D) No error
- (E) None of these

30. Modulation is the process of

- (A) Sending a file from one computer to another computer
- (B) Converting digital signals to analog signals
- (C) Converting analog signals to digital signals
- (D) Echoing every character that is received
- (E) None of these

## SECTION - C

### Informatics Practices (Java)

16. Which one of the following features binds together the code and data, it manipulates, and keeps both safe from outside interference and use?

- (A) Polymorphism
- (B) Inheritance
- (C) Data binding
- (D) Encapsulation
- (E) None of these

17. The byte stream provide convenient mean for handling input and output of bytes. Which of the following is/are the abstract class of byte stream class?

- (A) Reader
- (B) Writer
- (C) Input stream
- (D) All of these
- (E) None of these

18. The start Thread method is used to start a thread by calling its \_\_\_\_\_ method.

- (A) Run
- (B) Join
- (C) GetName
- (D) IsAlive
- (E) None of these

19. Which of the following keyword is used to prevent a class to being inherited?

- (A) Super
- (B) Static
- (C) Final
- (D) New
- (E) None of these

20. PL/SQL stands for:

- (A) Processing Language/Structured Query Language
- (B) Procedural Language/Structured Query Language
- (C) Primary Language/Structured Query Language
- (D) Procedural Language/SQL Query Language
- (E) None of these

21. INSTR is a built in function of SQL, and is used to:

- (A) Returns specified number of characters from total width of n character xpression.
- (B) Returns the character value right justified to a given character expressions.
- (C) Returns the numeric position
- (D) Both (A) and (B)
- (E) None of these

22. ODBC stands for

- (A) Object Databse Connectivity
- (B) Open Databases Connectivity
- (C) Object Data Connectivity
- (D) Open Datasource Connectivity
- (E) None of these

23. Which of the followings is/are math functions provided by Math Class?

- (A) round (B) abs
- (C) fill (D) Both A and B
- (E) All of these

24. A \_\_\_\_\_ object is the engine that interprets the pattern and performs match operations against an input string.

- (A) Matcher (B) Pattern class
- (C) PatternSyntaxException
- (D) all of these (E) none of these

25. Java provides the Date class available in \_\_\_\_\_ package

- (A) java.util (B) jvm.util
- (C) java.date (D) all of these
- (E) None of these

26. The \_\_\_\_\_ method of Calendar returns a Gregorian Calendar initialized with the current date and time in the default locale and time zone.

- (A) getInstance( ) (B) date()
- (C) boolean after() (D) long getTime()
- (E) None of these

27. Examine the following code snippet:

```
public class Test {
    public static void main(String args[]){
        int [] numbers = {10, 20, 30, 40, 50};
        for(int x : numbers ){
            System.out.print( x );
            System.out.print(",");
        }
    }
}
```

What will be the output?

- (A) It generates garbage value
- (B) 10,20,30,40,50
- (C) 102030405060
- (D) It generates run time error
- (E) None of these

28. Examine the following code snippet:

```
public class Test{
    public static void main(String args[]){
        String s = "Java is an object oriented language";
        char result = s.charAt(8);
        System.out.println(result);
    }
}
```

What will be the output?

- (A) Java is an (B) a
- (C) n (D) object
- (E) None of these

29. Consider the following code snippet:

```
public class Student{
    public static void main(String num[]){
        double i = -100.675;
        System.out.println(Math.ceil(i));
        System.out.println(Math.floor(i));
    }
}
```

What will be the output?

- (A) -100.0 (B) 100.0
- 101.0 -101.0
- (C) -99.0
- 100.0
- (D) It generates garbage value
- (E) None of these

30. Given the declarations

```
boolean b;
short x1 = 100, x2 = 200, x3 = 300;
```

Which of the following statements are evaluated to true?

- (i)  $b = x1 * 2 == x2$ ; (ii)  $b = x1 + x2 != 3 * x1$ ;
- (iii)  $b = (x3 - 2 * x2 < 0) || ((x3 = 400) < 2 * x2)$ ;
- (iv)  $b = (x3 - 2 * x2 > 0) || ((x3 = 400) 2 * x2)$ ;
- (A) (i) & (iii) (B) (i), (ii) & (iii)
- (C) (i), (iii) & (iv) (D) (ii) & (iii)
- (E) (i) & (iv)

## SECTION - D

### Python

16. In order to store values in terms of key and value we use what core datatype.
- (A) List (B) tuple  
(C) class (D) dictionary  
(E) None of these
17. Which of the following results in a **SyntaxError**(Multiple answers possible) ?
- (A) "Once upon a time...", she said.  
(B) "He said, "Yes!" (C) '3\  
(D) "'That's okay'" (E) None of these
18. \_\_\_\_\_ represents an entity in the real world that can be distinctly identified.
- (A) A class  
(B) An object  
(C) A method  
(D) A data field  
(E) None of these
19. What is the average value of the code that is executed below ?
- ```
>>>grade1 = 80
>>>grade2 = 90
>>>average = (grade1 + grade2) / 2
```
- (A) 85 (B) 85.0  
(C) 95 (D) 95.0  
(E) None of these
20. Select all options that print
- ```
hello-how-are-you
```
- (A) print('hello', 'how', 'are', 'you')  
(B) print('hello', 'how', 'are', 'you' + '-' \* 4)  
(C) print('hello-' + 'how-are-you')  
(D) print('hello' + '-' + 'how' + '-' + 'are' + '-' + 'you')  
(E) None of these
21. What is the return value of **trunc()** ?
- (A) int (B) bool  
(C) float (D) None  
(E) None of these
22. A computer's \_\_\_\_\_ is volatile; that is, any information stored in it is lost when the system's power is turned off.
- (A) memory (B) hard disk  
(C) flash stick (D) CD-ROM  
(E) None of these

23. Python was created by \_\_\_\_\_.
- (A) James Gosling (B) Bill Gates  
(C) Steve Jobs (D) Guido van Rossum  
(E) None of these
24. To start Python from the command prompt, use the command \_\_\_\_\_.
- (A) execute python (B) run python  
(C) python (D) go python  
(E) None of these
25. To run python script file named t.py, use the command \_\_\_\_\_.
- (A) execute python t.py  
(B) run python t.py (C) python t.py  
(D) go python t.py (E) None of these
26. A Python line comment begins with \_\_\_\_\_.
- (A) // (B) /\*  
(C) # (D) \$\$  
(E) None of these
27. A Python paragraph comment uses the style \_\_\_\_\_.
- (A) // comments // (B) /\* comments \*/  
(C) "" comments "" (D) /# comments #/  
(E) None of these
28. In Python, a syntax error is detected by the \_\_\_\_\_ at \_\_\_\_\_.
- (A) compiler/at compile time  
(B) interpreter/at runtime  
(C) compiler/at runtime  
(D) interpreter/at compile time  
(E) None of these
29. To show the current location and direction of the turtle object, use \_\_\_\_\_.
- (A) turtle.show()  
(B) turtle.showLocation()  
(C) turtle.showDirection()  
(D) turtle.showturtle()  
(E) None of these
30. To move the turtle to a point at (4, 5), use \_\_\_\_\_.
- (A) turtle.move(4, 5)  
(B) turtle.moveTo(4, 5)  
(C) turtle.moveto(4, 5)  
(D) turtle.goto(4, 5)  
(E) None of these



## SECTION - E

### Multimedia & Web Technology

16. The MIDI is a format for sending music information between electronic music devices like synthesizers and PC sound cards. MIDI stands for \_\_\_\_\_
- (A) Musical Instrument Digital Interface  
 (B) Meta Instrument Digital Interface  
 (C) Musical Instrument Dynamic Interface  
 (D) Musical Intro Digital Interface  
 (E) None of these
- 
17. Which of the following statements is/are true about QuickTime format?
- (A) It is developed by Apple  
 (B) It is a common format on the Internet  
 (C) Videos stored in the QuickTime format have the extension .mov.  
 (D) Both a and b  
 (E) All of these
- 
18. \_\_\_\_\_ is the most expensive and ad-vanced type of hosting service.
- (A) Colocation web hosting  
 (B) Dedicated hosting  
 (C) Shared hosting services  
 (D) All of these  
 (E) None of these
- 
19. In multimedia combination of audio and video makes it interesting and useful. Which one of the following statement is correct about binary video file?
- (A) The extension of binary video file is .avi.  
 (B) The extension of binary video file is .bin.  
 (C) The extension of binary video file is .cvc.  
 (D) The extension of binary video file is .bix.  
 (E) None of these
- 
20. "Flash is used to create 2D animation"  
 Which one of the following combination is correct according to above?
- (A) Picasa: Simulation  
 (B) Captivate: 2D animation  
 (C) Power point: Authoring tool  
 (D) Maya: 3D animation  
 (E) None of these
- 
21. Which one of the following is correct?
- (A) ASP: Active Service Page  
 (B) XML: eXtensible Media Language  
 (C) XSLT: Extensible Stylesheet Language Transformations  
 (D) HTML: Hypertext Markup Language  
 (E) None of these
- 
22. An HTML form can be defined as a section of a document which contains normal content, special elements are called controls with a label. Which of the following is/are form controls?
- (A) Buttons  
 (B) Text Input Boxes  
 (C) Check Boxes and Radio Buttons  
 (D) Both B and C  
 (E) All A, B and C
- 
23. How can you script your ASP code in JavaScript?
- (A) JavaScript is the default scripting language  
 (B) Start the document with: <%@ language="javascript" %>  
 (C) End the document with: <% language="javascript" %>  
 (D) Both B and C  
 (E) None of these
- 
24. Which of the following statements is/are best suited about MP3 format?
- (A) It's encoding system combines good compression (small files) only  
 (B) It is high quality only  
 (C) It's encoding system combines good compression (small files) with high quality  
 (D) B and C  
 (E) None of these
- 
25. See the following domain name :  
 www.example.co.in  
 What is the top level domain in above domain name?
- (A) .co.in (B) .in  
 (C) .example.co.in (D) www  
 (E) None of these
- 
26. The <embed> tag allows to embed \_\_\_\_ in web page.
- (A) Text (B) Graphics  
 (C) Audio (D) Video  
 (E) All of these

27. See the following code :

```
<html> <head>
<script type="text/javascript">
function changetext(id) {
id.innerHTML="Oops!"; }
</script> </head>
<body>
<h1 onclick="changetext(this)">
Click on this text</h1> </body> </html>
```

What is the output if mouse is clicked on "Click on this text"?

- (A) No change in output  
 (B) Click on this text (C) Oops!  
 (D) Both A and B (E) None of these

28. Which one of the followings are uncompressed audio formats ?

- (A) WAV, AIFF (B) FLAC, WavPack  
 (C) MP3, Vorbis (D) Both A and B  
 (E) None of these

29. What will be the output of the following code if the variables are initialized to:

```
A=5,B=6,C=3
<% A > B XOR B>C %>
```

- (A) True (B) Null  
 (C) False (D) Both A and B  
 (E) None of these

30. What would be the output of the following?

```
<% sub vbproc(num1,num)
response.write(num1num2)
end sub %>
```

Result: <%call vbproc(3,4)%>

- (A) Error (B) Result: 12  
 (C) 12 (D) 34  
 (E) None of these

## SECTION - F Mental Ability

31. 'Rampant' is related to 'Widespread' then 'Sagacious' is related to which of the following?

- (A) Foolish (B) Unskilled  
 (C) Wise (D) Satiated  
 (E) None of these

32. Select the option which is different from others.

- (A) 225 (B) 64  
 (C) 256 (D) 83  
 (E) None of these

33. Code for 'LDNPF' = 'IBLNC'; code for 'PTRCX' = '?'

- (A) MRPAU (B) MPRAU  
 (C) MRPUA (D) MARPU  
 (E) None of these

34. Fill the letter coming in place of the question marks (?).

C E ? I K M ?

- (A) L, O (B) L, P  
 (C) N, o (D) G, O  
 (E) None of these

35. What comes next in the given series?

(3 x 25) (3 x 26) (3 x 27) (3 x 28) .....

- (A) (3 x 35) (B) (3 x 40)  
 (C) (3 x 29) (D) (3 x 41)  
 (E) None of these

36. What comes in place of the question mark?

Fishing Rod : Fisherman :: Priest : ?

- (A) Axe (B) Conch  
 (C) Magic Wand (D) Sword  
 (E) None of these

37. Which of the following options is different from the others?

- (A) NOPRSTU (B) ABCFGHI  
 (C) JKLOPQR (D) CDEHIJK  
 (E) None of these

38. If 'PMQE' is coded as '51', then how will 'NRSZ' be coded?

- (A) 105 (B) 85  
 (C) 98 (D) 77  
 (E) None of these

39. Find the missing element.

P p R r T t V .....

- (A) v (B) w  
 (C) x (D) y  
 (E) None of these

40. How many 5s do not come just before 8 in the series given below?

8 3 8 5 5 7 8 5 8 5 5 8 5 8 8 7 5 5 8 7 5 5

- (A) 5 (B) 6  
 (C) 2 (D) 4  
 (E) None of these