

Sample Paper

CLASS - 12th Duration : 60 Minutes Total Questions : 40 Maximum Marks : 100

Computer Science

1st Level

iio Roll Number

Student's Name

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.

SECTION - A

Fundamentals of Computer Science

- In Windows Movie Maker, a file on your computer that contains an image, a clip, a soundtrack or all the footage from your video digital camera, is _____.
 (A) Project (B) Storyboard
 (C) Source file (D) Master
 (E) None of these
- Find the expression which returns 1 if both bits have a value of 1; otherwise will return a value of 0.
 (A) AND (B) OR
 (C) XOR (D) 1's complement
 (E) None of these
- Which one of the following generations of computer will work on audio command given by the user to perform the task and computer also has self intelligence?
 (A) Fourth generation (B) Fifth generation
 (C) Third generation (D) All of these
 (E) None of these
- Which one of the following is a region of memory used to temporarily hold data while it is being moved from one place to another?
 (A) Buffer
 (B) RAM
 (C) ROM
 (D) Page file
 (E) None of these
- You can make online payments through a secured web page. A secure web page can be identified by all of the following except which one?
 (A) A locked padlock
 (B) A URL that begins with https
 (C) A non-broken key at the bottom of your Web browser
 (D) A URL that begins with http
 (E) None of these

6. Which one of the following is an element in database that is used to view, enter, and edit records in a table?

- (A) Queries (B) Primary key
(C) Forms (D) All of these
(E) None of these

7. Which one of the following is a system by which stored data is accessed in a fixed order?

- (A) Random Access
(B) Sequential Access
(C) Data Access
(D) Both (A) and (B)
(E) None of these

8. There are different types of bus in the computer architecture, they are data bus address bus control bus, etc. Which one of the following types of bus is bidirectional?

- (A) Address bus
(B) Control bus
(C) Data bus
(D) All of these
(E) None of these

9. What is the process of ensuring that only valid data is entered in a table?

- (A) Data editing (B) Data encryption
(C) Data validation (D) All of these
(E) None of these

10. Other name of Karnaugh map is _____.

- (A) Venne Diagram
(B) Veitch Diagram
(C) Cononical expression
(D) Veltch Diagram
(E) None of these

11. The process of identifying specific rows and columns so that certain columns and rows are always visible on the screen is called _____.

- (A) Freezing
(B) Locking
(C) Selecting
(D) Fixing
(E) None of these

12. What is a packet-switched network?

- (A) A private network whose purpose is to share information and computing resources throughout an organization.
(B) A network in which data will be transmitted by physically switching the circuit or transmission line that the data is conducted through.

(C) A self-contained network that spans a small area in which the computers are directly connected with cables or short-range wireless technologies.

(D) A network in which a message is broken into smaller standard sized data units, which are transmitted individually to their required destination.

(E) None of these

13. Digital certificate is an attachment to an electronic message used for security purposes. What are the features of a digital certificate?

- (A) Bears the name and digital signature.
(B) Establishes the credentials of its owner.
(C) Distributes the private key to the user.
(D) All of these
(E) None of these

14. _____ layer acts like the network dialog controller and establishes, maintains and synchronizes the interaction among communicating systems.

- (A) Transport (B) Session
(C) Presentation (D) Data Link
(E) None of these

15. Match the following:

- | (A) | (B) |
|---------------|--|
| 1. Cyberspace | A. Any computer on a network that is a repository for services available to other computers on the network. |
| 2. Host | B. Any time you connect 2 or more networks together, you have an internet - as in international or interstate. |
| 3. Hypertext | C. The vast collection of inter connected networks that are connected using the TCP/IP protocols and that evolved from the ARPANET of the late 60's and early 70's. |
| 4. Internet | D. Is used to describe the whole range of information resources available through computer networks.
E. Any text that contains links to other documents - words or phrases in the document that can be chosen by a reader and which cause another document to be retrieved and displayed. |

- (A) 1 → D, 2 → A, 3 → E, 4 → B
(B) 1 → D, 2 → C, 3 → E, 4 → A
(C) 1 → B, 2 → C, 3 → D, 4 → E
(D) 1 → A, 2 → D, 3 → B, 4 → E
(E) None of these

SECTION - B

Computer Science (C++)

16. If an argument to a function is declared as const, then

- (A) Function can modify the argument
 (B) Function can't modify the argument
 (C) const argument to a function is not possible
 (D) Both (A) and (C)
 (E) None of these

17. If a program uses Inline Function, then the function is expanded inline at _____

- (A) Compile time (B) Run time
 (C) Debug time (D) Both (A) and (B)
 (E) None of these

18. To create an output stream, we must declare the stream to be of class _____

- (A) ofstream (B) ifstream
 (C) iostream (D) All of these
 (E) None of these

19. Object based language differs from Object oriented language as it does not support features

1. Encapsulation 2. Inheritance
 3. Dynamic Binding 4. Abstraction
 5. Polymorphism
 (A) only 3, 4 (B) only 1, 3, 5
 (C) 2, 4, 5 (D) only 2, 3
 (E) None of these

20. What is the output of this program?

```
#include <stdio.h>
using namespace std;
int main()
{
    int array[] = {10, 20, 30};
    cout << -2[array];
    return 0;
}
```

- (A) -15 (B) -30
 (C) compile time error (D) garbage value
 (E) None of these

21. Which function is used to position back from the end of file object?

- (A) seekg (B) seekp
 (C) seekf (D) All of these
 (E) None of these

22. What is the output of this program?

```
#include <iostream>
#include <fstream>
using namespace std;
int main ()
{
    int length;
```

```
char * buffer;
ifstream is;
is.open ("sample.txt", ios :: binary);
is.seekg (0, ios :: end);
length = is.tellg();
is.seekg (0, ios :: beg);
buffer = new char [length];
is.read (buffer, length);
is.close();
cout.write (buffer, length);
delete[] buffer;
return 0;
}
```

(A) This is sample (B) sample
 (C) Error (D) Runtime error
 (E) None of these

23. A constructor that accepts _____ parameters is called the default constructor.

- (A) one (B) two
 (C) no (D) three
 (E) None of these

24. What happens when a class with parameterized constructors and having no default constructor is used in a program and we create an object that needs a zero-argument constructor?

- (A) Compile-time error. (B) Preprocessing error.
 (C) Runtime error. (D) Runtime exception.
 (E) None of these

25. When a child class inherits traits from more than one parent class, this type of inheritance is called _____ inheritance.

- (A) Hierarchical (B) Hybrid
 (C) Multilevel (D) Multiple
 (E) None of these

26. When base class is derived in protected mode, then _____

1. public members of base class become private members of derived class
 2. public members of base class become protected members of derived class
 3. public members of base class become public members of derived class
 4. protected members of base class become protected members of derived class
 5. protected members of base class become private members of derived class
 6. protected members of base class become public members of derived class.
- (A) Only 1, 5 (B) Only 1, 6
 (C) Only 2, 6 (D) 2, 4
 (E) None of these

27. On which principle does stack work?

- (A) FILO (B) FIFO
(C) LILO (D) LIFO or FILO
(E) None of these

28. Which of the following function declaration is/are incorrect?

- (A) int Sum(int a, int b = 2, int c = 3);
(B) int Sum(int a = 5, int b);
(C) int Sum(int a = 0, int b, int c = 3);
(D) Both B and C are incorrect.
(E) All are correct.

29. What is the output of this program?

```
#include <iostream>
using namespace std;
int main ()
{
    char first, second;
    cout << "Enter a word:";
    first = cin.get();
    cin.sync();
    second = cin.get();
    cout << first << endl;
    cout << second << endl;
    return 0;
}
```

- (A) first
(B) second
(C) Returns first 2 letter or number from the entered word
(D) Both (A) and (B)
(E) None of these

30. What is the output of this program?

```
#include<iostream>
#include <fstream>
using namespace std;
int main ()
{
    ofstream outfile ("test.txt");
    for (int n = 0; n < 100; n++)
    {
        outfile << n;
        outfile.flush();
    }
    cout << "Done";
    outfile.close();
    return 0;
}
```

- (A) Done (B) Error
(C) Runtime error (D) Both (B) and (C)
(E) None of these

SECTION - C

Informatics Practices (Java)

16. What will be the output of the program?

```
class BitShift
{
    public static void main(String [] args)
    {
        int x = 0x80000000;
        System.out.print(x + " and ");
        x = x >>> 31;
        System.out.println(x);
    }
}
```

- (A) -2147483648 and 1
(B) 0x80000000 and 0x00000001
(C) -2147483648 and -1
(D) 1 and -2147483648
(E) None of these

17. What will be the output of the program?

```
class Test
{
    public static void main(String [] args)
    {
        int x= 0;
        int y= 0;
        for (int z = 0; z < 5; z++)
        {
            if (( ++x > 2 ) && ( ++y > 2))
            {
                x++;
            }
        }
        System.out.println(x + " " + y);
    }
}
```

- (A) 5 2 (B) 5 3
(C) 6 3 (D) 6 4
(E) None of these

18. In the following JDBC drivers which is known as partially java driver?

- (A) JDBC-ODBC bridge driver
(B) Native-API driver
(C) Network Protocol driver
(D) Thin driver (E) None of these

19. By using Which interface You can store images in the database in java by the help of ?

- (A) PreparedStatement interface
(B) ResultSetMetaData interface
(C) DatabaseMetData interface
(D) All of these (E) None of these

20. TCP,FTP,Telnet,SMTP,POP etc. are examples of?

- (A) Socket (B) IP Address
(C) Protocol (D) MAC Address
(E) None of these

21. What output you will get if you run this program?

```
class Modulus
{
    public static void main(String args[])
    {
        int x = 42;
        double y = 42.25;
        System.out.println("x mod 10 = " + x % 10);
        System.out.println("y mod 10 = " + y % 10);
    }
}
```

- (A) x mod 10 = 2 y mod 10 = 2.25
 (B) x mod 10 = 4 y mod 10 = 2.50
 (C) x mod 10 = 6 y mod 10 = 3.25
 (D) x mod 10 = 2 y mod 10 = 4.25
 (E) None of these

22. Which type of polymorphism is nothing but the method overloading in java?

- (A) Compile time polymorphism
 (B) Runtime polymorphism
 (C) Static polymorphism
 (D) Both (A) and (C)
 (E) None of these

23. The following two rules are defined by?

- The parameters may differ in their type or number, or in both.
 - They may have the same or different return types.
- (A) Method overloading
 (B) Method overriding
 (C) Constructor overloading
 (D) All of these
 (E) None of these

24. Which is not a package class provides methods to get information about the specification and implementation of a package?

- (A) getName()
 (B) getImplementationTitle()
 (C) getImplementationVendor()
 (D) getImplementationVersion()
 (E) All of the these

25. Give the Output for the following program?

```
class Char
{
    public static void main(String args[])
    {
        char ch1, ch2;
        ch1 = 88; // code for X
        ch2 = 'Y';
        System.out.print("ch1 and ch2: ");
        System.out.println(ch1 + " " + ch2);
    }
}
```

- (A) ch1 and ch2: X Y (B) ch1 and ch2: x y
 (C) ch1 and ch2: 1 3 (D) Both (A) and (B)
 (E) None of these

26. The following main tasks are performed by?- Loads code- Verifies code- Executes code- Provides runtime environment

- (A) JVM (B) JDK
 (C) JRE (D) Both (B) and (C)
 (E) None of these

27. Which of the following would compile without error?

- (A) int a = Math.abs(-5);
 (B) int b = Math.abs(5.0);
 (C) int c = Math.abs(5.5F);
 (D) int d = Math.abs(5L);
 (E) None of these

28. Which is true about an anonymous inner class?

- (A) It can extend exactly one class and implement exactly one interface.
 (B) It can extend exactly one class and can implement multiple interfaces.
 (C) It can extend exactly one class or implement exactly one interface.
 (D) It can implement multiple interfaces regardless of whether it also extends a class.
 (E) None of these

29. Which of these interface is implemented by Thread class?

- (A) Runnable (B) Connections
 (C) Set (D) MapConnections
 (E) None of these

30. Which of this access specifies can be used for a class so that its members can be accessed by a different class in the same package?

- (A) Public (B) Protected
 (C) No Modifier (D) All of the mentioned
 (E) None of these

SECTION - D

Python

16. What will be the output?

```
>>>my_tuple = (1, 2, 3, 4)
>>>my_tuple.append((5, 6, 7))
>>>print len(my_tuple)
```

(A) 1 (B) 2
 (C) 5 (D) Error
 (E) None of these

17. Which of the following is a features of DocString?

- (A) Provide a convenient way of associating documentation with Python modules, functions, classes, and methods
 (B) All functions should have a docstring
 (C) Docstrings can be accessed by the __doc__ attribute on objects
 (D) All of the mentioned
 (E) None of these

18. What is the output of below program?

```
def maximum(x, y):
    if x > y:
        return x
    elif x == y:
        return 'The numbers are equal'
    else:
        return y
print(maximum(2, 3))
```

(A) 2 (B) 3
(C) 4 (D) 6
(E) None of these

19. What is the output of the following?

```
x = "abcdef"
i = "a"
while i in x[:-1]:
    print(i, end = " ")
```

(A) a a a a a (B) a a a a a a
(C) a a a a a a ... (D) a
(E) None of these

20. To read two characters from a file object infile, we use

(A) infile.read(2) (B) infile.read()
(C) infile.readline() (D) infile.readlines()
(E) None of these

21. What is the output?

```
f = None
for i in range (5):
    with open("data.txt", "w") as f:
        if i > 2:
            break
print f.closed
```

(A) True (B) False
(C) None (D) Error
(E) None of these

22. print 0xA + 0xB + 0xC :

(A) 0 × A0 × B0 × C (B) Error
(C) 0 × 22 (D) 33
(E) None of these

23. What will be the output?

```
>>>t = (1, 2)
>>>2 * t
```

(A) (1, 2, 1, 2) (B) [1, 2, 1, 2]
(C) (1, 1, 2, 2) (D) [1, 1, 2, 2]
(E) None of these

24. What will be the output?

```
numberGames = {}
numberGames[(1,2,4)] = 8
numberGames[(4,2,1)] = 10
numberGames[(1,2)] = 12
sum = 0
for k in numberGames:
    sum += numberGames[k]
print len(numberGames) + sum
```

(A) 30 (B) 24
(C) 33 (D) 12
(E) None of these

25. What does the function re.match do?

(A) matches a pattern at the start of the string
(B) matches a pattern at any position in the string
(C) such a function does not exist
(D) All of these
(E) None of these

26. What is the output of the following?

```
i = 1
while True:
    if i%007 == 0:
        break
    print(i)
    i += 1
```

(A) 1 2 3 4 5 6 (B) 1 2 3 4 5 6 7
(C) error (D) 1 2 4 5 6
(E) None of these

27. How many except statements can a try-except block have?

(A) zero (B) one
(C) more than one (D) more than zero
(E) None of these

28. What happens when '12 == 1' is executed?

(A) we get a True (B) we get a False
(C) an TypeError occurs (D) a ValueError occurs
(E) None of these

29. Which operator is overloaded by __invert__?

(A) ! (B) ~
(C) ^ (D) -
(E) None of these

30. Let A and B be objects of class Foo. Which functions are called when print(A + B) is executed?

(A) __add__(), __str__()
(B) __str__(), __add__()
(C) __sum__(), __str__()
(D) __str__(), __sum__()
(E) None of these

SECTION - E

Multimedia & Web Technology

16. Which of these is not likely to be the responsibility of a multimedia project?

(A) Create interfaces
(B) Ensure the visual consistency of the project
(C) Structure content
(D) Create budgets and timelines for the project
(E) Select media types for content.

17. Consider the following syntax:

```
<MAP NAME = "World Map" >
<Area Coords=" 0,0, 100, 200" HREF="
homepage.html">
</MAP>
```

When would you use the above syntax?

- (A) When defining an image map
- (B) When referring back to homepage.html
- (C) When referring to World Map
- (D) When embedding a graphic in JavaScript
- (E) When aligning an image on a web page using JavaScript.

18. _____ refers to any type of application or presentation that involves more than one type of media, such as text, graphics, video, animation, and sound.

- (A) An executable file
- (B) Desktop publishing
- (C) Multimedia
- (D) Hypertext
- (E) None of these

19. A _____ can be added to your presentation and then used to go to a variety of locations _____ for example, a web address, an e-mail address, a custom show or document, just to name a few.

- (A) menulink
- (B) hyperlink
- (C) toollink
- (D) slidelink
- (E) None of these

20. Consider the following script:

```
<html>
<head><title>JavaScript</title></head>
<body>
<script language="JavaScript">
var a=80
var b=(a==80 ? "pass" : "fail");
document.write(b)
</script>
</body>
</html>
```

What will be the output of the above script?

- (A) pass
- (B) fail
- (C) null
- (D) 80
- (E) Error at line 6.

21. The following is a web-page:

```
<html>
<head> <title>JavaScript</title> </head>
<body bgcolor="#0000ff">
<script language="JavaScript">
<!-- document.write("<h1> hello world </h1>"); //
-->
</script>
</body>
</html>
```

When the above web page is loaded into a browser, what will happen?

- (A) The body of the web page will not contain any text
- (B) The body of the web page will contain the text "<h1> hello world </h1>"
- (C) The body of the web page will contain the text "hello world" as an H1 heading
- (D) The background color of the web page will be green
- (E) document.write("<h1> hello world </h1 >"); is a comment.

22. Consider the following entries in a Cascading Style Sheet (CSS) file.

```
P {colour: blue; background-colour: white; border-
colour: red; border-left: solid} BODY {colour: black;
border-colour: green}
```

What is the colour of text in a paragraph of an HTML document that uses the above style sheet?

- (A) green
- (B) blue
- (C) black
- (D) red
- (E) White

23. Which property does one use to align text to the right side of a block-level element in Cascading Style Sheets?

- (A) horizontal-align
- (B) align
- (C) block-align
- (D) justify
- (E) text-align.

24. Which of the following statements is incorrect regarding multimedia on the web?

- (A) The MPEG, AIFF and WAV are cross-platform formats
- (B) The MPEG, AU and MIDI are cross-platform formats
- (C) The SND format has a relatively low fidelity
- (D) VRML can be used to model and display 3D interactive graphics
- (E) The dynsrc attribute in the element can be used to include videos in web pages.

25. While working on a JavaScript project, in your JavaScript application, which function would you use to send messages to users requesting for text input?

- (A) Display()
- (B) Prompt()
- (C) Alert()
- (D) GetInput()
- (E) Confirm().

26. Which of the following statement is not true regarding JavaScript?

- (A) JavaScript is a loosely typed language
- (B) JavaScript is an object-based language
- (C) JavaScript is event driven
- (D) A JavaScript embedded in an HTML document is compiled and executed by the client browser
- (E) JavaScript can not run in stand-alone mode (without a browser).

27. Consider the following script:

```
<html>
<head><title>JavaScript</title></head>
<body>
<script language="JavaScript">
var a=80
var b=(a==80 ? "pass" : "fail");
document.write(b)
</script>
</body>
</html>
```

What will be the output of the above script?

- (A) pass (B) fail
(C) null (D) 80
(E) Error at line 6.

28. Which of the following statements is true regarding HTTP?

- (A) Web browsers use only HTTP as a communication protocol with servers
(B) It does not maintain any connection information on previous transactions
(C) It is designed to route information based on content
(D) It refers to resources using their Universal Resource Identifier (URI)
(E) It does not carry browser information to the server.

29. Acronym for VRML:

- (A) Virtual Reality Modeling Level
(B) Virtual Reality Modulation Language
(C) Virtual Rate Modeling Language
(D) Virtual Reality Modeling Language
(E) Virtual Reality Marketing Language

30. Converting bitmaps to drawn object is more difficult and is called:

- (A) Dithering (B) Morphing
(C) autotracing (D) Leading
(E) Kerning

SECTION - F (Arithmetic, Logical and Reasoning)

31. Five friends A, B, C, D and E are standing in a row facing South but not necessarily in the same order. Only B is between A and E, C is immediate right to E and D is immediate left to A. On the basis of above information, which of the following statements is definitely true?

- (A) B is to the left of A
(B) D is third from the left of E
(C) B is to the right of E
(D) A is second from the left of C
(E) None of these

32. If a number is five times as great as another number which is four less than forty, then the number is :

- (A) 220 (B) 180
(C) 144 (D) 200
(E) None of these

33. If $A + D = B + C$, $A + E = C + D$, $2C < A + E$ and $2A > B + D$ then

- (A) $A > B > C > D > E$ (B) $B > A > D > C > E$
(C) $D > B > C > A > E$ (D) $B > C > D > E > A$
(E) None of these

34. If the sum of a number and its square is 182, then what is the number?

- (A) 15 (B) 26
(C) 28 (D) 13
(E) None of these

35. Pinky walks towards East to reach a cinema hall C. From there, she turns her left and moves on. After reaching M, she turns and goes ahead. In which direction is she moving now?

- (A) South
(B) North
(C) Can't be determined
(D) East
(E) None of these

36. $DE : 10 :: HI : ?$

- (A) 17 (B) 20
(C) 36 (D) 46
(E) None of these

37. Find the odd man out.

- (A) ACDF (B) FGKL
(C) HIVW (D) TUOP
(E) None of these

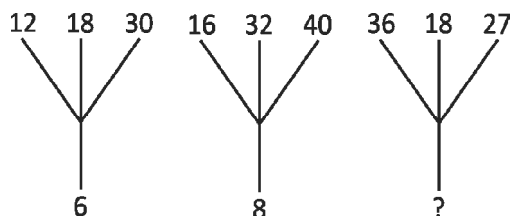
38. A and B are sister. A is the mother of D. B has a daughter C who is married to F. G is the husband of A. How is B related to F ?

- (A) Mother (B) Mother-in-law
(C) Sister-in-law (D) All of these
(E) None of these

39. Introducing a man to her husband, a woman said, "His brother's father is the only son of my grandfather." How is the woman related to the man?

- (A) Aunt (B) Mother
(C) Sister (D) Sister-in-law
(E) None of these

40. Find the missing number in the given figure.



- (A) 6 (B) 9
(C) 12 (D) 18
(E) None of these