

Do not start attempting the test paper until you are asked to do so.

ENROLLMENT NUMBER:

STUDENT NAME:

To get Year-wise Performance Comparison Report, Map your Admission No. at www.silverzone.org/MapMyAdmissionNo within 10 days of this examination.

Maximum Marks : 100

Duration : 60 Minutes

Total Questions : 50

Test Paper Type

BB

Class

10

iiO **16th**
INTERNATIONAL
INFORMATICS
OLYMPIAD
2019-2020

Instructions for the Candidates

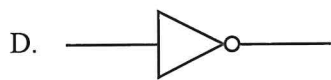
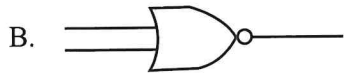
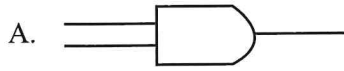
1. Write your 12 digit Enrollment Number and your name on top of the Question Paper in the given space.
2. Keep the OMR Sheet in good/neat condition. Do not fold/damage the OMR Sheet.
3. Do not forget to sign the OMR sheet.
4. The Question Paper Booklet consists of 50 questions, divided into three sections.
5. Section-A: Computer Science (30 questions); Section-B: Reasoning and Aptitude (10 questions); Section-C: Scholar's Zone (10 questions).
6. Each question of Section-A carries 2 marks, Section-B carries 1.5 marks and that of Scholar's Zone carries 2.5 marks.
7. All the questions are compulsory and there is no negative marking.
8. Use of calculator or any other devices in the examination is strictly prohibited.
9. Choose only ONE OPTION as an answer.
10. BLUE/BLACK ball pen is preferred to darken the circle, however, in case of non-availability an HB pencil can be used. Mark your choice of answer in the OMR sheet, by darkening a circle as shown below.
 A B C D
11. Rough work should be done on the blank sheet/space provided in the Question Paper Booklet.

Section–A (Computer Science)

1. If a signal passing through a gate is inhibited by sending a low into one of the inputs and the output is high, then the gate is a(n):

- A. NAND B. AND
C. NOR D. OR

2. Which of the following symbols represents a NOR gate?



3. The octal equivalent of the decimal number $(417)_{10}$ is:

- A. $(641)_8$ B. $(619)_8$
C. $(640)_8$ D. $(598)_8$

4. The correct HTML to left align the content inside a table cell is:

- A. `<tdleft>` B. `<td ralign = "left" >`
C. `<td align = "left">` D. `<tdleftalign>`

5. Which one of the following programs protects against hackers and other types of unauthorized access?

- A. Firewall B. Web page
C. Surf watch D. Spyware

6. A single transistor can be used to build which of the following digital logic gates?

- A. OR gates B. NAND gates
C. AND gates D. NOT gates

7. When one page is linked to another website, it is called _____ linking.

- A. mail B. external
C. internal D. All of these

8. Which of the following is the command centre of the access file that appears when you create or open the MS-Access 2013 database file.

- A. Database window B. Query window
C. Design view window D. Switchboard

9. The basic logic gate whose output is the complement of the input is the:

- A. OR gate B. AND gate
C. INVERTER gate D. Comparator

10. How do you insert a comment in a CSS file?

- A. `/* this is a comment */`
B. `? this is a comment`
C. `// this is a comment`
D. `// this is a comment //`

11. The gate whose output is 0 only when inputs are different is called:

- A. XOR B. XNOR
C. NOR D. NAND

12. What do you mean by virtual classroom?

- A. It is one of the significant features of e-shopping learning platform.
B. It is a teaching and learning environment where participants can interact, communicate, view and discuss.
C. A virtual classroom is a private online meeting space for synchronous real time activities.
D. Students are limited to the courses available in their geography.

13. In the context of Microsoft Access, which of the following statements is true?

- A. Reports are used to retrieve and calculate data from tables.
B. Queries can be printed and presented as the information.
C. Queries can include calculated fields that do not exist in table.
D. Reports and forms are similar but forms are used to print while reports to display on screen only.

14. Internet helps the government of any country to _____.

- A. improve its efficiency of service delivery
B. exchange of information
C. improve administrative skills
D. All of these

-
15. Which of the following is not the element associated with HTML table layout?
- A. Size B. Spanning
C. Alignment D. Color
-
16. Which of the following provides a complete simulation of a normal meeting environment?
- A. E-mail B. E-shopping
C. Video conferencing D. E-commerce
-
17. CSS can be applied to your document in different ways. What is the correct HTML for referring to an external style sheet?
- A. `<stylesheet>mystyle.css</stylesheet />`
B. `<link rel="stylesheet" type="text/css" href="mystyle.css">`
C. `<style src="mystyle.css" />`
D. `<call = "mystyle.css"/>`
-
18. Which key has the maximum eligibility to make primary key?
- A. Candidate key B. Unique key
C. Foreign key D. All of these
-
19. HTTP is a protocol that allows transfer of the information on the World Wide Web between clients and servers. What is its main purpose?
- A. Processing the requests that are sent by the client
B. Publishing and retrieving of the Web pages
C. Allows linking another place in the same document
D. All of these
-
20. CSS offers many benefits for creating web pages. Which one of the following is not a benefit while creating a web document?
- A. Controls layout of many documents from one single style sheet
B. More precise control of layout
C. Applies different layout to different media-types (screen, print, etc.)
D. Provides a centralized database management system
-
21. What happens when you release the mouse pointer after you drop the primary key of a table into the foreign key of another table?
- A. A relationship is created
B. Edit relationship dialog box appears
C. Error occurs
D. Nothing happens
-
22. _____ is a field property that determines what kind of data a field can store.
- A. File type B. Data type
C. Data select D. All of these
-
23. While sending e-mails using BCC option, we can:
- A. send e-mails with big attachment files.
B. send e-mails faster.
C. send an e-mail asking for delivery report.
D. send an e-mail to several people, and the recipient won't know about the other recipients of this mail.
-
24. Given below are the statements about different operators used in MS-Access. Which of the following statements is/are correct?
- A. The AND operator returns True if both Boolean expressions are True.
B. The OR operator returns True, if either Boolean Expression is True, or if both of them are True.
C. The XOR operator returns True if either of Boolean expression is True but not if both of them are True or if both of them are False.
D. All of these
-
25. _____ is used to specify a style for a group of elements.
- A. ID selector B. Class selector
C. CSS comment D. All of these
-
26. A method of providing information for error detection is:
- A. Bug fix B. Correction
C. Error detection D. Checksum
-
27. When trying to access a URL, the following message is displayed on the browser:
Server; Error 403.
What could be the reason for the message?
- A. The requested HTML file is not available.
B. The path to the interpreter of the script file is invalid.
C. The first line of the output from the script is not a valid HTTP header.
D. The requested HTML file or CGI script has insufficient permission.

28. The CSS property background-image is used to insert a background image. Which one of the following background commands would you use to repeat the image horizontally?
- background-repeat: repeat-x
 - background-repeat: repeat-y
 - background-repeat: repeat
 - background-image: url("MyImage.gif")

29. How can you open a link in a new browser window?
- ``
 - ``
 - ``
 - ``
30. Which of the following captures, stores and transmit spoken message?
- E-mail
 - Voice mail
 - Video conferencing
 - E-shopping

Section-B (Reasoning and Aptitude)

31. Find the missing term.

953, 946, 858, 721, 559, 388, ?

- 157
- 216
- 262
- 292

32. To establish the same relationship between two pair of terms on either side of '::' choose the option that will replace the question mark(?).

$P * I * N * K : 45 :: L * O * V * E : ?$

- 0
- 1
- 2
- 3

33. Find the missing term.

7		4		8		7		12		11
	8			40			?			
15		5		13		3		57		24

- 25
- 32
- 51
- 60

34. Sunita is sister of Ram. Arun is brother of Gaurav. Arun has only one son. Megha is the wife of Arun and daughter of Sunita. Ram is brother-in-law of Vivek. Raghav is the husband of Kriti and son of Megha. Ram is unmarried. How is Vivek related to Raghav?
- Father-in-law
 - Son-in-law
 - Maternal Grandfather
 - Paternal Grandfather

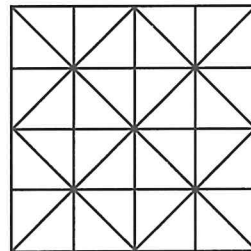
35. Study the following information to answer the given question. In a certain code language,

- 'finance amazon money market' is written as 'su da nc ki',
- 'invest market booster secure' is written as 'ph ra tk da',
- 'premium secure money business' is written as 'tk gi ki zo',
- 'business premium booster finance' is written as 'zo nc ph gi'.

What is the code for 'amazon'?

- da
- su
- nc
- ki

36. Find out the number of squares in the given pattern.



- 26
- 30
- 35
- 38

37. In the following questions, the symbols @, #, %, \$ and © are used with the following meaning as illustrated below-

- 'P@Q' means 'P is neither greater than nor equal to Q'
- 'P*Q' means 'P is neither equal to nor smaller than Q'
- 'P\$Q' means 'P is neither smaller than nor greater than Q'

- 'P%Q' means 'P is not smaller than Q'
- 'P#Q' means 'P is not greater than Q'

Now in each of the following questions assuming the given statement to be true, find which of the three conclusions I, II and III given below them is/are definitely true and give your answer accordingly.

Statements:

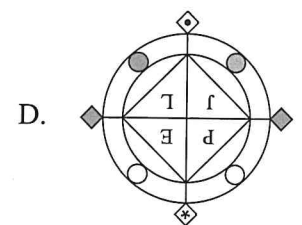
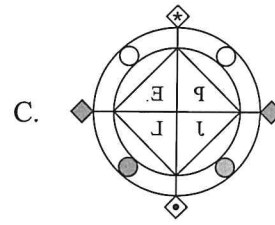
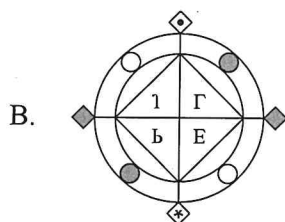
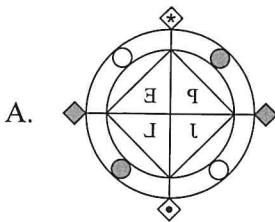
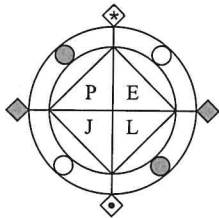
- $L \$ P,$
- $P * U,$
- $U @ M,$
- $Y * U$

Conclusions:

- I. $L * Y$
- II. $U @ L$
- III. $Y * L$

- A. Only II and III are true
- B. Only II is true
- C. Only I and II are true
- D. None is true

38. Find the water image.



Directions (39-40): Study the following information carefully and answer the questions given below-

Eight persons are sitting around a square table. All of them have different number of books. Persons who sit at corner have even number of books and face inside while persons who sit middle of the side have odd number of books and face outside. The person who has highest number of books is 44. U sits third to the right of T. R sits third to the right of S who has second highest number of books. R is not an immediate neighbour of U. V sits second to the right of the one who sits third to the left of W. Q sits second right of the one who has square of an odd number of books. W has 11 books less than U. P has even number of books but 6 more than R. Q has 5 books. V has 5 books more than S. P has just half number of books than V who sits second to the right of P. U has number of books which is square of an even number. T has only one book more than R and he is not an immediate neighbour of V.

39. Who among the following sits second to the right of the one who is third to the left of S?

- A. W
- B. Q
- C. T
- D. R

40. What is the position of V with respect to U?

- A. Immediate left
- B. Second to the right
- C. Second to the left
- D. Third to the right

Space for Rough Work

Section-C (Scholar's Zone)

41. What does “≥” represent in HTML code?
- Italicized text
 - The end of a line
 - Greater than
 - Greater than or equal to
42. Which of the following elements is used for creating a separate table footer?
- <footer>
 - <sepfooter>
 - <tfoot>
 - All of these
43. A program is given below. What is the output of the given program?
- ```
<html>
<head>
<title>The title is not displayed</title>
</head>
<body>
<p>This text is displayed</p>
</body>
</html>
```
- The title is not displayed
  - This text is displayed
  - Both A and B
  - Neither A nor B
44. Which of these tags are all <table> tags?
- <table><head><tfoot>
  - <table><tr><td>
  - <table><tr><tt>
  - <thead><body><tr>
45. In MS-Access which of the following keys will you press to open a combo box?
- F4 or ALT+Down Arrow
  - Down Arrow
  - Page Down
  - F9
46. To display sales grouped by country, region, and salesperson, all at the same time, what will you do?
- Use the sort descending command
  - Use the pivot table view command
  - Use the find command on specified groups
  - All of these
47. A \_\_\_\_\_ is used to define a special state of an element.
- pseudo-tag
  - pseudo-element
  - pseudo-id
  - pseudo-class
48. Find the specificity of “ulolli.red”.
- specificity = 0,0,3,1
  - specificity = 0,0,1,3
  - specificity = 1,1,1,1
  - specificity = 1,2,2,1
49. How many AND gates are required to realize  $Y = CD + EF + G$ ?
- 4
  - 5
  - 3
  - 2
50. A device used to display one or more digital signals, so that they can be compared to expected timing diagrams for the signals, is a:
- DMM
  - Spectrum analyzer
  - Logic analyzer
  - Frequency counter

Space for Rough Work