CYBER
Grade 9

ORANGE GLOBAL OLYMPIAD

Subject Code: 5 0 1

Total Questions: 50   **Total Marks:** 50   **Time:** 1 hour

DO NOT OPEN THIS BOOKLET UNTIL INSTRUCTED TO DO SO

➢ All questions are compulsory.

➢ Read the instructions on the **ANSWER SHEET** and fill in your **NAME**, **CLASS** and **OTHER INFORMATION**.

➢ To mark your choice of answer by darkening the circles in the **ANSWER SHEET**, use a **BLUE/BLACK BALLPEN** only.

➢ You **MUST** record your answers on the **ANSWER SHEET** only.

➢ There are **50 MULTIPLE CHOICE QUESTIONS**. Use the information provided to choose the **BEST** possible answer among the four options. On your **ANSWER SHEET** fill in the circle that matches your answer.

➢ $\frac{1}{2}$ **MARK** will be deducted for every **WRONG ANSWER**.

➢ Return the **ANSWER SHEET** to the invigilator at the end of the examination.

➢ You are **NOT** allowed to use a calculator. You may use a ruler and spare paper for rough work.

This question paper contains a total of 50 questions divided into three sections - A, B and C.
Read the instructions carefully before attempting these questions.

Section A (Logical Reasoning)

1. A person walks 10 km East, then 7 km South, and finally 10 km West. What is the shortest distance from the starting point?
   - (A) 5 km
   - (B) 7 km
   - (C) 10 km
   - (D) 12 km

2. What comes next in the sequence?

   5, 25, 125, 625, _____
   - (A) 1025
   - (B) 1125
   - (C) 3125
   - (D) 5125

3. What time is shown by the mirror if the real time is 9:27?
   - (A) 3 : 33
   - (B) 2 : 33
   - (C) 3 : 27
   - (D) 2 : 23

4. In a row of students, Aryan is 8th from the start and 15th from the end. In another row of students, Ayaan is 10th from the start and 18th from the end. How many students are there in both the rows together?
   - (A) 49
   - (B) 50
   - (C) 51
   - (D) 52

5. Which word does NOT belong with the others?
   - (A) Mercury
   - (B) Earth
   - (C) Mars
   - (D) Moon

6. Paw: Cat :: Hoof : ?
   - (A) Lamb
   - (B) Tiger
   - (C) Elephant
   - (D) Horse

7. Which of the following codes will come in place of question mark?

   AX   DX   AZ   ?
   - (A) DZ
   - (B) AD
   - (C) XD
   - (D) XA

8. Select the pair of words that has an unusual or distinct relationship compared to the others.
   - (A) Hard : Soft
   - (B) Long : High
   - (C) Sweet : Sour
   - (D) Pointed : Blunt

9. If "nitco sco tingo" translates to "softer than flower," and "tingo rho mst" means "sweet flower fragrance," with "mst sco tmp" standing for "sweet than smile," what would "fragrance" represent?

(A) rho
(B) mst
(C) tmp
(D) sco

10. If "A + B" denotes "A is the daughter of B," "A − B" means "A is the husband of B," and "A x B" implies "A is the brother of B," which of the following holds true for "P + Q − R"?

(A) R is P's sister-in-law
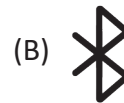(B) R is P's mother
(C) R is P's aunt
(D) R is P's mother-in-law

Section B (Subject Specific)

11. What is the primary function of the ALU (Arithmetic Logic Unit) in a CPU?

(A) Perform data storage operations
(B) Execute mathematical and logical calculations
(C) Control input and output devices
(D) Manage system memory

12. In a network, which topology connects all devices in a single loop, making it efficient but highly vulnerable to failure at any single point?

(A) Star
(B) Ring
(C) Mesh
(D) Bus

13. Which layer of the OSI model is responsible for error detection and correction?

(A) Data Link Layer
(B) Transport Layer
(C) Network Layer
(D) Physical Layer

14. In Microsoft Word, which shortcut key is used to insert a hyperlink?

(A) Ctrl + H
(B) Ctrl + I
(C) Ctrl + L
(D) Ctrl + K

15. Which of the following transitions in PowerPoint creates a visual effect where one slide pushes another off the screen during presentation mode?

(A) Fade
(B) Push
(C) Split
(D) Wipe

16. Which view in PowerPoint displays all slides as thumbnails?

(A) Slide Sorter View
(B) Reading View
(C) Slide Show View
(D) Outline View

17. Which feature in PowerPoint allows you to add animations to individual text boxes or images?

(A) Slide Transition
(B) Animation Pane
(C) Slide Master
(D) SmartArt

18. What is the name of the feature that allows you to combine multiple cells into one in Excel?

(A) Data Validation
(B) Freeze Panes
(C) Merge and Center
(D) Conditional Formatting

19. Which type of malware disguises itself as legitimate software but harms the system once executed?
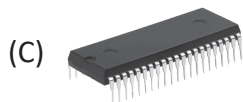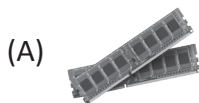
(A) Trojan Horse
(B) Worm
(C) Ransomware
(D) Spyware

20. In binary notation, a number is represented by only the digits 0 and 1. What is the decimal value of the binary number $(10110)_2$?
    (A) 21 (B) 26
    (C) 28 (D) 22

21. Which of the following is NOT a sign of malware infection on a computer?
    (A) Sudden system crashes (B) Faster system performance
    (C) Unauthorised access to data (D) Frequent pop-up ads

22. Which HTML5 element is used to embed a video in a web page?
    (A) <embed> (B) <video>
    (C) <iframe> (D) <source>

23. In HTML5, which attribute is used to specify text that appears when the image fails to load?
    (A) title (B) src
    (C) alt (D) href

24. What will be the output of the following pseudocode?

    x = 5

    y = 3

    if x > y then

        print "A"

    else

        print "B"

    (A) A (B) B
    (C) No output (D) Error

25. What is the output of the following code snippet?

    x = 5

    y = 10

    print "x + y * 2"

    (A) 30 (B) 20
    (C) 25 (D) 15

26. In robotics, what does the term "degrees of freedom" refer to?
    (A) The energy efficiency of the robot
    (B) The number of independent movements the robot can perform
    (C) The power supply of the robot
    (D) The communication protocol used by the robot

27. Which of the following is an application of Artificial Intelligence?
    (A) Chatbots (B) Autonomous vehicles
    (C) Facial recognition (D) All of these

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28. What does the term "Quantum computing" primarily deal with?
    (A) Binary arithmetic
    (B) Virtual reality simulations
    (C) Superposition and entanglement of quantum states
    (D) Cloud storage of large data

29. Which technology is most commonly used for creating decentralised applications?
    (A) Blockchain
    (B) Machine Learning
    (C) Cloud Computing
    (D) Quantum Computing

30. What does Wi-Fi refer to in the context of the Internet?
    (A) A type of website
    (B) A software program for web browsing
    (C) A wireless method of connecting to the Internet
    (D) A server used for storing data

31. Devices such as computers or printers connected to a network that can send or receive data are referred to as _____.
    (A) Parts
    (B) Hardware
    (C) Connections
    (D) Nodes

32. Which of the following is NOT a guideline for creating an effective flowchart?
    (A) The flowchart should be clear, neat, and easy to understand.
    (B) Maintain a consistent flow direction from left to right or top to bottom.
    (C) Each flow line should originate only from a process symbol.
    (D) Each step's outcome should be uniquely identifiable and derived solely from the previous step's result.

33. Which of the following is a short-range wireless communication technology?

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

34. Identify the ROM.

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

35. Observe the images given below and identify the fastest transmission media among the following:

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

Instruction: Q. 36 to 40 are two-key based questions having four options A, B, C and D out of which TWO are correct.

36. Which of the following statements are TRUE about networking and components of a computer?
    (A) IP Address uniquely identifies a device on a network, while MAC Address is used for device identification at the hardware level.
    (B) The Control Unit (CU) of the CPU is responsible for performing arithmetic and logical operations.
    (C) Router is used to connect different networks and direct data packets between them, whereas Hub connects devices within the same network.
    (D) Secondary memory is directly accessible by the CPU for executing instructions.

37. Which of the following statements are true about Machine Learning (ML)?
    (A) ML is a subset of Artificial Intelligence.
    (B) Supervised and unsupervised learning are two main types of ML.
    (C) ML models can only be trained using structured data.
    (D) Blockchain learning involves agents learning through trial and error.

38. How can we insert a new slide in PowerPoint?
    (A) Press Ctrl + N
    (B) Click on the "New Slide" button in the Home tab
    (C) Right-click on the slide pane and selecting "New Slide"
    (D) Click to add text

39. Which two options can be used to change the background colour of a cell?
    (A) Home → Fill Color
    (B) Right-click → Format Cells → Fill tab
    (C) Ctrl + N
    (D) Style → color

40. Which of the following operators are used to update values in programming?
    (A) = =
    (B) - =
    (C) ! =
    (D) +=

Section C (Competency Enhancement)

41. You are managing a team and need to prepare a report in Word. You want the title of the report to appear at the top of every page, with the date at the bottom right. Which option would help you achieve this?
    (A) Top Margin, Bottom Margin
    (B) Header, Footer
    (C) Landscape, Portrait
    (D) Hyphenation, Columns

42. When you enter a website URL in a web browser, the browser searches for the server's IP address on your computer. If it finds the IP address, it connects to the server and opens the website. What is this process called?
    (A) Digital literacy
    (B) Remote login
    (C) Domain Name Resolution
    (D) None of these

43. Sakshi is creating a program to calculate the area of a circle, and she wants to reuse this calculation in different parts of her program. Which programming concept should she use to make this calculation reusable?
    (A) Variable
    (B) Function
    (C) Conditional Statement
    (D) Loop

44. Which of the following is the primary purpose of Virtual Reality?
    (A) To create an alternative reality that replaces the real world
    (B) To enhance the physical world with digital elements
    (C) To simulate a realistic environment for training or entertainment
    (D) To provide a platform for online gaming

45. Monisha is preparing a table for her web page. The data in one of the cells extends over more than one column. Which attribute can she use to solve this problem?
    (A) COLSPAN
    (B) COLS
    (C) ROWS
    (D) ROWSPAN

46. Kunal is preparing a research paper in MS Word with multiple sections and headings. He wants to create a table of contents automatically based on the headings in his document. Which feature should he use to accomplish this?
    (A) Page Layout
    (B) References Tab
    (C) Mail Merge
    (D) Review Tab

47. Anu's bank account was changed by Aadarsh so that her direct deposit would go into his account. This is an example of _____.
    (A) Cloning
    (B) Phishing
    (C) Data diddling
    (D) Data Theft

48. Ravi connected his laptop to a public Wi-Fi network and noticed his laptop slowed down, with strange files appearing. His friends also experienced similar issues after connecting to the same network. What type of malware is most likely responsible?
    (A) Spyware
    (B) Ransomware
    (C) Worm
    (D) Trojan

49. Which of these features in PowerPoint allows you to play a slideshow from the beginning?
    (A) Click "Review" tab and select "Play Slideshow"
    (B) Click on "New Slide" to start the slideshow
    (C) Go to the "Animations" tab and choose "Start Show"
    (D) Use the "From Beginning" option in the Slide Show tab

50. Amit has a list of email addresses in an Excel spreadsheet. Some of the email addresses have extra spaces before or after them, and he wants to remove these spaces to clean up the data. Which function should Amit use to remove the extra spaces?
    (A) CONCATENATE
    (B) SUBSTITUTE
    (C) MID
    (D) TRIM