CYBER
Grade 9

ORANGE GLOBAL OLYMPIAD

National Level Examination

NLE 2024

Subject Code: 5 0 1

Total Questions: 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 BALL PEN** 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. The next number in sequence V, 6, VII, 8, IX, 10, XI, 12,... is _____.
   - (A) XIII
   - (B) 13
   - (C) 14
   - (D) XIV

2. The missing numbers in box are _____ so that, the total in any order is the same.
   - (A) $a = 3, b = 6$
   - (B) $a = 6, b = 3$
   - (C) $a = 2, b = 7$
   - (D) $a = 7, b = 2$

8	1	b
a	5	7
4	9	2

3. Next set of letters in series MAN, NBD, DCP, FDQ, ... is _____.
   - (A) NAM
   - (B) OBN
   - (C) QDR
   - (D) QER

4. In a certain code language, '851' means 'good sweet fruit', '783' means 'good red rose' and '341' means 'rose and fruit'. Which of the following digits stands for 'sweet' in that language?
   - (A) 8
   - (B) 5
   - (C) 1
   - (D) 3

5. Optimist is to Cheerful as Pessimist is to _____.
   - (A) Gloomy
   - (B) Mean
   - (C) Petty
   - (D) Helpful

6. Explore: Discover :: _____
   - (A) Research : Learn
   - (B) Write : Print
   - (C) Think : Relate
   - (D) Sleep : Wake

7. The next figure in →→|↑↓|→→|↑↓| ...... is _____.
   - (A) ↑↑
   - (B) → →
   - (C) ↓↑
   - (D) ← ←

8. Respiration is well-connected with _____.
   - (A) Month
   - (B) Circulation
   - (C) Oxygen
   - (D) Carbon monoxide

9. If odometer : distance, then _____.
   - (A) Scale : Weight
   - (B) Length : Width
   - (C) Inch : Foot
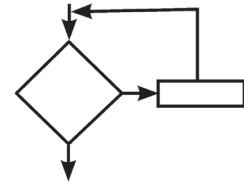   - (D) Area : Size

10. Which word does NOT belong with others?

    (A) Chapter   (B) Book

    (C) Index   (D) Glossary

Section B (Subject Specific)

11. Which of the following advances the slides in a slide show?

    (A) `Enter`   (B) `F5`

    (C) `Esc`   (D) `Tab`

12. In the context of computer hardware, what does GPU stand for?

    (A) General Processing Unit   (B) Graphics Processing Unit

    (C) General Purpose Unit   (D) Graphic Performance Unit

13. What type of structure is this?

    (A) sequence   (B) case

    (C) repetition   (D) process

14. In the context of networking, what does TCP/IP stand for?

    (A) Technical Control Protocol/Internet Protocol

    (B) Transmission Control Protocol/Internet Protocol

    (C) Telecommunication Control Protocol/Internet Protocol

    (D) Transfer Control Protocol/Internet Protocol

15. Which of the following is incorrect in terms of cleaning a computer from virus?

    (A) Removing the code in the infected file which corresponds to a virus.

    (B) Removing the infected file.

    (C) Quarantining the infected file, which involves moving it to a location where it cannot be run.

    (D) Uninstall antivirus software after scanning the computer.

16. What does the "Endnote" option in word processing allow you to do?

    (A) Include comments at the conclusion of each page

    (B) Include footnotes at the end of the text

    (C) Highlight key points at the end of a paragraph

    (D) Include references and citations at the end of a document

17. Which of the following is not a part of Google Apps?

    (A)   (B)

    (C)   (D)

18. What is the function of PowerPoint's "Speaker Notes"?

    (A) Changing the background colour of slides

    (B) Changing the volume of audio in a presentation

    (C) Adding comments to slides for collaboration

    (D) Creating hyperlinks between slides

19. Which HTTP status code indicates that the requested web page is not available?

    (A) 200 OK   (B) 201 Created

    (C) 400 Bad Request   (D) 404 Not Found

20. What is the purpose of the "IF" function in Excel?

    (A) Counting cells   (B) Concatenating text

    (C) Rounding numbers   (D) Carrying out conditional calculations

21. What does DNS (Domain Name System) serve in Internet technology?

    (A) Data transfer encryption   (B) Changing domain names to IP addresses

    (C) To supervise email communications   (D) To arrange the website's material

22. How can users safeguard their systems against malware?

    (A) Turn off antivirus software

    (B) Download software from unknown sources

    (C) Avoid regular software updates

    (D) Use recognised antivirus and anti-malware solutions

23. What is the purpose of the HTML <meta> tag?

    (A) To define a section of a document   (B) To create hyperlinks

    (C) To provide metadata about the document   (D) To insert images

24. Which programming paradigm emphasizes the use of objects and classes?

    (A) Procedural programming   (B) Functional programming

    (C) Object-Oriented Programming (OOP)   (D) Event-Driven programming

25. In Python, how do you check if a key exists in a dictionary?

    (A) if key in dictionary: (B) if key.exists(dictionary):

    (C) if key == dictionary: (D) if dictionary.hasKey(key):

26. What does the term "autonomous" mean in the context of robotics?

    (A) Operated remotely by a human operator

    (B) Capable of making judgements and carrying out activities without human participation

    (C) Limited to a preset set of actions

    (D) Only used in restricted environments

27. What role does "Robotic Process Automation" (RPA) play in business processes?

(A) Improving staff training programmes

(B) Using software robots to automate repetitive activities

(C) Customer relationship management

(D) Improving data storage approaches

28. What is the purpose of the range() function in a for loop in Python?

(A) It generates a sequence of numbers to iterate over

(B) It performs arithmetic operations

(C) It defines the range of a graph

(D) It calculates the remainder of a division

29. Which attribute is used to define the alternative text for an image in HTML?

(A) alt   (B) img-alt

(C) description   (D) image-alt

30. What is a common sign of a malware-infected computer?

(A) Increased accessible storage space

(B) Improved system performance

(C) Unusual pop-up notifications and poor performance

(D) Increased internet speed

31. Which Internet protocol is used for transferring files between computers?

(A) SMTP (Simple Mail Transfer Protocol)   (B) HTTP (Hypertext Transfer Protocol)

(C) FTP (File Transfer Protocol)   (D) UDP (User Datagram Protocol)

32. What is the purpose of the "PivotTable" feature in Excel?

(A) Sorting data in alphabetical order   (B) Creating visual representations of data

(C) Analyzing and summarizing large datasets   (D) Combining cells with similar content

33. Which PowerPoint feature allows you to create a continuous loop of slides during a presentation?

(A) Animation Loop   (B) Slide Loop

(C) Rehearse Timings   (D) Slide Show Loop

34. What is the purpose of the "Mail Merge" feature in Microsoft Word?

(A) Sending emails directly from Word

(B) Merging numerous documents into one

(C) Creating personalised papers by combining a core document with a data source

(D) Moving paragraphs around in a document

35. What is the function of a computer's motherboard?

(A) Supplying electricity to the computer   (B) Connecting external devices

(C) For the CPU and memory   (D) To manage the data flow between components

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. Identify the incorrect statements.

    (A) HTML allows the web page to be accessed from only Windows operating system.

    (B) HTML is a markup language that describes the structure of a web page.

    (C) HTML is not case sensitive.

    (D) Notepad or WordPad are used to view the HTML documents.

37. The two notations of exponentiation are _____.

    (A) ^   (B) **

    (C) ***   (D) &

38. What are the correct rules to write the variable names in Python?

    (A) A variable name must start with an alphabet or a number.

    (B) Space is allowed in a variable name.

    (C) A python keyword cannot be used as a variable name.

    (D) No special character is allowed in a variable name other than an underscore.

39. What are the reasons for big companies establishing their AI Labs in India?

    (A) Less AI Researchers   (B) Rising Expert Systems

    (C) Favourable Ecosystem Economy   (D) Vast Pool of Talent

40. The method of identifying similar groups of data in a dataset is called _____ or _____.

    (A) Subspace clustering   (B) Cluster Analysis

    (C) Clustering   (D) Clubbing

Section C (Competency Enhancement)

41. How many degrees of freedom would you think the robot must have to be considered a functional industrial robot?

    (A) three   (B) four

    (C) six   (D) eight

42. You can call the customer care section of a company at any time. Various companies provide 24x7 AI support. With which technology do you basically interact when you call?

    (A) NLP   (B) Robot

    (C) Chatbot   (D) Assistants

43. Divya is working on her father's computer. She realises that the performance of the computer is very low. She wants to improve the performance of the computer. Suggest her any one way to do so.

    (A) She can increase the RAM   (B) She can decrease the RAM

    (C) She can change the monitor   (D) She can uninstall anti-virus software

44. An international school is planning to connect all computers in four blocks, each spread over a distance of 50 metres. Recommend an economical cable type that has high-speed data transfer to connect these computers.

   (A) Fiber Optical Cable (B) Twisted Pair Cable

   (C) Coaxial Cable (D) RJ45 Cable

45. 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

46. Somya 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) ROWS (B) COLS

   (C) COLSPAN (D) ROWSPAN

47. Anaya works as a programmer in an organisation where she has written the Python code. In that code, she skipped the closing parenthesis with the print function. Which type of error will occur in her code?

   (A) Syntax error (B) Run-time error

   (C) Compile time (D) Logical error

48. Hari wants to become a dancer. He has recorded several videos of his dance. He wants to share his videos with others to become popular. Suggest him a platform to do so.

   (A) YouTube (B) Facebook

   (C) Instagram (D) All of these

49. Savita has written the following algorithm. But her teacher said it was incorrect. Help her find the incorrect step.

   1. Start

   2. Input a number A

   3. If a/2 ==0

   4. print A is even

   5. else print A is odd

   6. Stop

   (A) Step 2 is incorrect (B) Step 3 is incorrect

   (C) Step 4 is incorrect (D) Step 5 is incorrect

50. Simarjeet is creating a Python program for his school maths project. He wants to find the area of a circle whose radius is entered by the user in the variable r. Which of the following formula would be correct to use in the code for the same?

   (A) ar = 3.14 x r (B) ar = 3.14 x r*2

   (C) ar = 3.14 * r * 2 (D) ar = 3.14 * r * r