



SOF INTERNATIONAL **COMPUTER SCIENCE OLYMPIAD** 2024-25

DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

CLASS

SET-B

Total Questions: 50 | Time: 1 hr.

Guidelines for the Candidate

- You will get additional ten minutes to fill up information about yourself on the OMR Sheet, before the start of the exam.
- Write your Name, School Code, Class, Section, Roll No. and Mobile Number clearly on the OMR Sheet and do not forget to sign it. We will share your marks / result and other information related to SOF exams on your mobile number.
- 3. The Question Paper comprises four sections:
 - Logical Reasoning (10 Questions), Computer Science (30 Questions), Al, Robotics and Information Technology (5 Questions) and Achievers Section (5 Questions).
 - Each question in Achievers Section carries 3 marks, whereas all other questions carry one mark each.
- 4. All questions are compulsory. There is no negative marking. Use of calculator is not permitted.
- 5. There is only ONE correct answer. Choose only ONE option for an answer.
- 6. To mark your choice of answers by darkening the circles on the OMR Sheet, use HB Pencil or Blue / Black ball point pen only. E.g.

Q.16: Which of the following is a type of printer?

- A. Cathode Ray Tube B. Light Emitting Diode C. Thermal Flatbed D. Liquid Crystal Display
- As the correct answer is option C, you must darken the circle corresponding to option C on the OMR Sheet.
- 16. A B D

- 7. Rough work should be done in the blank space provided in this booklet.
- 8. Return the OMR Sheet to the invigilator at the end of the exam.
- 9. Please fill in your personal details in the space provided before attempting the paper.

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Olympiads

LOGICAL REASONING

- Pointing towards a lady, Vidyut said, "She is the mother of my wife's sister's brother." How is that lady related to Vidyut?
 - A. Mother
 - B. Mother-in-law
 - C. Sister
 - D. Daughter
- 2. If 'P' means '-', 'Q' means '÷', 'R' means '+' and 'S' means 'x', then the value of 25 R 75 Q 15 S 5 P 50
 - is ____
 - A. 125
 - B. 0
 - C. 50
 - D. 25
- Select a figure from the options which satisfies the same conditions of placement of dots as in the given figure.



Α.



В.



_



D.



4. A set of three figures X, Y and Z showing a sequence of folding of a piece of paper is given. Fig. Z shows the manner in which the folded paper has been cut. Select a figure from the options which shows the unfolded form of Fig. Z.







Α.



В.



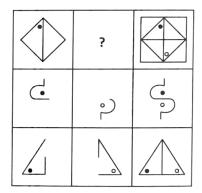
C.



D.



- 5. If a clock shows 2:40, then after 2 hours 20 minutes, the hour hand and minute hand will point towards which of the following numbers respectively?
 - A. 5, 12
 - B. 4, 12
 - C. 11, 5
 - D. 12, 5
- 6. Which of the following options will replace the question mark in the given figure matrix?



Α.



В.



C.



D.



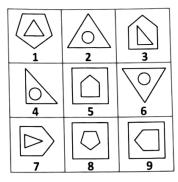
If the position of first and third digits of each of the following numbers are interchanged and then the second digit from the left end of each number is increased by one, then which of the following will be the middle digit of the greatest number thus formed?

751, 275, 321, 575, 823

- Δ 5
- B. 8
- c. 7
- D. 2
- There is a certain relationship between the pair of terms on the either side of ::. Identify the relationship in the left pair and find the missing term.

NL: MJ :: SN:?

- Δ RL
- R PM
- c. UP
- D. GL
- group the given figures into three classes on the basis of their identical properties using each figure only once.



- A. 1, 5, 7; 2, 4, 6; 3, 8, 9
- B. 1, 3, 7; 2, 4, 6; 5, 8, 9
- C. 1, 3, 7; 2, 8, 9; 4, 5, 6
- D. 1, 4, 7; 2, 3, 6; 5, 8, 9
- Find the missing number, if same rule is followed in all the three figures.

7	3	6
	N	





- A. 8
- B. 7
- C. 2
- D. 1

COMPUTER SCIENCE

- 11. Identify the terms 'X' and 'Y' with the help of the given information.
 - X: It is a volatile memory that temporarily stores the files you are working on.
 - Y: It is a non-volatile memory that permanently stores instructions for your computer.

X		Y	
Α.	RAM	ROM	
В.	ROM	RAM	
C.	EPROM	DRAM	
D.	PROM	SPAM	

- 12. Which of the following statements is/are correct?
 - A. Tablet computer is a kind of microcomputer.
 - B. Minicomputers are a class of multi-user computers.
 - C. Mainframe computers are primarily used by large organizations.
 - D. All of these
- 13. What is the function of the given tool in MS-Word 2016?



A. It allows you to see two sections of a document at the same time.

- B. It allows you to stack all open windows, so that you can see all of them at once.
- C. It allows you to open second window for your document, so that you can work at different places at the same time.
- D. It allows you to use arrow keys to adjust the size of different panes.
- 14. Using option in MS-Word 2016, you can
 - A. Insert the selected object on a page
 - B. See a list of all your objects in a document making it easier to select objects, change their order, or change their visibility
 - C. Wrap the text around the selected object
 - Bring the selected object forward one level, so that it's hidden behind fewer objects
- 15. Select the incorrect match with respect to generations of computers.
 - A. First generation Based on vacuum tubes
 - B. Third generation Based on integrated circuits
 - C. Fourth generation Based on transistors
 - D. Fifth generation Based on artificial Intelligence

- 16. Which of the following is not a type of an animation effect in MS-PowerPoint 2016?
 - A. Entrance
 - B. Emphasis
 - C. Exit
 - D. Running
- 17. Which of the following statements is/are correct with respect to QBasic?
 - CLS This is used to erase the previous results or outputs from the screen.
 - (ii) LET This is used to assign a value to a variable name.
 - (iii) END This is used to indicate the completion of a program.
 - A. (i) only
 - B. (ii) and (iii) only
 - C. (i) and (ii) only
 - D. (i), (ii) and (iii)
- 18. Which of the following statements hold(s) true about antivirus software?
 - Statement 1: It is a kind of software used to prevent, scan, detect and delete viruses from a computer.
 - Statement 2: It is a kind of malicious program which can harm your computer files.
 - A. Only Statement 1
 - B. Only Statement 2
 - C. Both Statement 1 and Statement 2
 - D. Neither Statement 1 nor Statement 2
- 19. The application programs that assist the computer by performing house-keeping functions are called utility programs. Which of the following does not belong to this category?
 - A. Inorton



- c. Avira
- D. McAfee
- 20. Which of the following options is not found in Windows Ease of Access folder of Windows 10?
 - A. Narrator
 - B. Character Map
 - C. Magnifier
 - D. On-Screen Keyboard

21. Which of the following options does not represent the correct difference between impact printer and

	Impact printer	Non-impact printer
Α.	It creates immediate contact with the ink ribbon and paper.	contact with the paper and ink ribbon
В.	It uses continuous sheets of paper.	It uses individual sheets of paper.
C.	It produces noise.	It does not produce noise.
D.	It produces higher print quality.	It produces lower print quality.

22. Which of the following features of the Control Panel allows you to change date, time, or number formats in Windows 10?









- 23. Select the correct match from the given options regarding Table Tools icons in MS-Word 2016.
 - .
- Change the color of new borders.
- B. .
- Change the color behind the selected text, paragraph or table cell.
- c. ____
- It can only add new borders to your selected area.
- D.
- Apply formatting to specific borders in your table.
- 24. Select the incorrect match regarding QBasic.
 - A. LET _
- Assignment statement
 - B. FOR-NEXT
- Loop statement
- C. IF-THEN-ELSE
- Conditional statement
- D. PRINT
- Input statement

Which of the following statements hold(s) true about the intranet? the intranet?

Statement 1: It is a private network contained within an enterprise that is used to securely share company's information and computing resources among employees.

Statement 2: It provides control to external users, allowing them to interact with specific resources or information.

- Only Statement 1 A.
- Only Statement 2 В.
- Both Statement 1 and Statement 2 C.
- Neither Statement 1 nor Statement 2
- Match the QBasic commands given in Column-I with 26. the outputs they produce given in Column-II.

Col	um	ın-	ı

Column-II

- PRINT 18 MOD 3 (a)
- (i) 16
- PRINT 2^4 (b)
- (ii) 625
- **PRINT 90/10** (c)
- (iii) 0

- **PRINT 25*25** (d)
- (iv) 9

- (a) (iii), (b) (i), (c) (iv), (d) (ii) A.
- (a) (i), (b) (iii), (c) (iv), (d) (ii) В.
- (a) (i), (b) (ii), (c) (iv), (d) (iii) C.
- (a) (ii), (b) (iii), (c) (iv), (d) (i)
- 27. Which of the following options would convert given Table-I into the format as shown in Table-II in MS-Word 2016?





Table - I

Table - II

Select the first column ightarrow click on



В. Select the first row \rightarrow click on



C. Select the first row ightarrow click on \Box





Select the first column \rightarrow click on \square

(i)

- 28. Match the following.

Column-I

Column-II

- (a) Super computers
- These computers are used for personal work such as making an assignment, watching a movie, or at the office for office work, etc.

- (b) Mainframe (ii) They can process a huge computers amount of data, like processing trillions of instructions or data within few seconds.
- (c) Personal computers
- These computers are used in big organizations like banking, telecom sectors, etc., which process a high volume of data in general.
- Α. (a) - (i), (b) - (ii), (c) - (iii)
- В. (a) - (ii), (b) - (i), (c) - (iii)
- C. (a) - (i), (b) - (iii), (c) - (ii)
- D. (a) - (ii), (b) - (iii), (c) - (i)
- 29. Which of the following options of Chart Tools in the Chart Design tab, when clicked, will change the type of chart in MS-PowerPoint 2016?









30. Select the incorrect match with respect to chart tools in MS-Word 2016.



This is the layout option that is used to show how objects interact with the text around them.

В.

This is the chart elements option that is used to add, remove or change chart elements such as the title, legend, gridlines, and data labels.

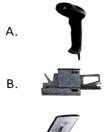


This is the chart styles option that is used to set a style and color scheme for the chart.



- This is the change chart type option that is used to change to a different type of chart.
- 31. Which of the following statements is incorrect regarding MS-PowerPoint 2016?
 - You can apply transition only to the first and the last slide.
 - В. You cannot hide any slide.
 - C. You can create custom animations using Animation Pane.
 - D. Both A and B

- 33. Which of the following devices can sense hand-drawn marks such as small circles or rectangles made on pre-printed forms?







- 34. Which of the following statements hold(s) true about the "utility software"?
 - Statement 1 : This type of software is used to analyse and maintain a computer.
 - Statement 2 : This software may come by default with Windows 10 OS like windows defender and disk cleanup tools.
 - A. Only Statement 1
 - B. Only Statement 2
 - C. Both Statement 1 and Statement 2
 - D. Neither Statement 1 nor Statement 2
- 35. Identify the following.
 - It is a unique identifier used to locate a resource on the internet.
 - It is an address of a specific webpage or file (such as video, image, GIF, etc.) on the internet.
 - It contains the name of the protocol needed to access a resource, as well as a resource name.
 - A. URL
 - B. FTP

- C. Plug-in
- D. HTTP
- 36. _____ is a software program that helps people find information they are looking for online, using keywords or phrases and return result quickly.
 - A. Internet protocol
 - B. Search engine
 - C. Domain name
 - D. Webpage
- 37. Which of the following involves the process of consolidating fragmented files on a computer's hard drive?
 - A. Disk Defragmentation
 - B. Disk Backup
 - C. Remote Desktop
 - D. Disk Sorting
- 38. Which of the following statements is correct about option of Window group of View tab in



- A. It allows you to change the text orientation to vertical.
- It allows you to move the splitters using arrow keys.
- C. It allows you to rotate the text by 180°.
- It allows you to change the text orientation to stacked.
- 39. Which of the following features allows you to break the current cell into multiple cells in a table in MS-Word 2016?









40. Which of the following options will replace the ? and translate high level language into low level language?

language?

High level language → ? → Low level language

- A. Assembler
- B. Compiler
- C. Coder
- D. Binary

AI, ROBOTICS AND INFORMATION TECHNOLOGY

- Select the incorrect match with respect to types of intelligence in Al.
 - A. Musical intelligence recognizes and creates sounds, rhythms, and sound patterns.
 - Naturalist intelligence processes information on the environment around us,
 - C. Interpersonal intelligence communicates with others by understanding people's feelings.
 - D. Intrapersonal intelligence perceives the visual world and relationship of one object to another.
- is an Al-based virtual assistant developed by Microsoft that operates via text and voice commands.
 - A. Skype
 - B. Cortana
 - C. OneDrive
 - D. Dropbox
- 43. Identify the following.
 - It is a cloud file storage or file hosting service.
 - It is used to save files online and sync them to your device.
 - It is an online service founded in 2007, by Drew Houston and Arash Ferdowsi.



В.



C.



D.



- 44. Which of the following is an incorrect difference between humans and robots?
 - A. Robots can work at a faster pace than humans.
 - Robots don't get tired, leading to more consistent and higher-volume production compared to humans.
 - Robots can perform movements and actions with greater precision and accuracy than humans.
 - Robots have more emotions in comparison to humans.
- 45. Which of the following services of Google renders a 3D representation of Earth based primarily on satellite imagery?
 - Α.



В.



C.

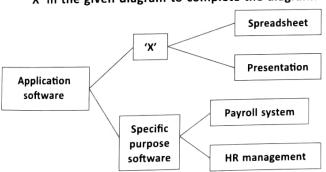


D.



ACHIEVERS SECTION

46. Which of the following options will replace the letter 'X' in the given diagram to complete the diagram?



- A. System software
- B. Language processor

- C. General purpose software
- D. Device driver
- 47. Identify the following with respect to computer network.
 - It is a unique value associated with a network adapter called a NIC.
 - It is a 12-digit hexadecimal physical address that is engraved on NIC at the time of manufacturing.
 - A. IP address
 - B. MAC address
 - C. HTTP address
 - D. NTP address

48. Select the correct difference between the icons marked as X and Y with respect to MS-PowerPoint 2016.

\mathbf{x}	$\widetilde{(\mathbf{Y})}$

	×	Y
Α.	It is used to specify animation delay.	It is used to specify the length of an animation.
В.	It is used to specify the length of an animation.	It is used to play the animation after a certain number of seconds.
C.	It is used to reorder the animations.	It is used to choose an animation effect.
D.	It is used to choose an animation effect.	It is used to reorder the animations.

49. What would be the output of the given code in QBasic?

CLS

LET n = 5

IF n > 0 THEN

PRINT "The number is Positive"

ELSEIF n < 0 THEN

PRINT "The number is Negative"

ELSE

PRINT "The number is Zero"

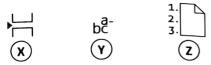
END IF

END

A. ThenumberisNegative

- B. The number is Zero
- C. The number is Negative
- D. The number is Positive

50. What are the functions of the icons of MS-Word 2016 marked as (x), (y) and (z)?



- A. (χ) It inserts a line numbers in the margin.
 - (γ) It inserts a break at your current selection.
 - It is used to move the text to the next line automatically when it does not fit in the current line.
- B. (X) It inserts a break at your current selection.
 - (Y) It inserts a line numbers in the margin.
 - It is used to move the text to the next line automatically when it does not fit in the current line.
- C. X It is used to move the text to the next line automatically when it does not fit in the current line.
 - (γ) It inserts a line numbers in the margin.
 - Z) It inserts a break at your current selection.
- D. (χ) It inserts a break at your current selection.
 - It is used to move the text to the next line automatically when it does not fit in the current line.
 - $\overline{(Z)}$ It inserts a line numbers in the margin.

SPACE FOR ROUGH WORK

















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