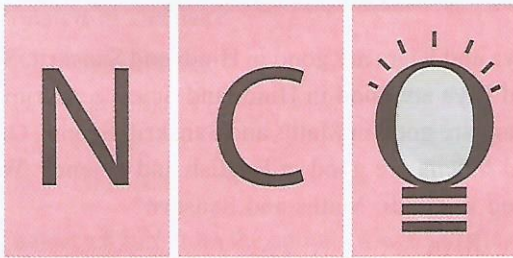
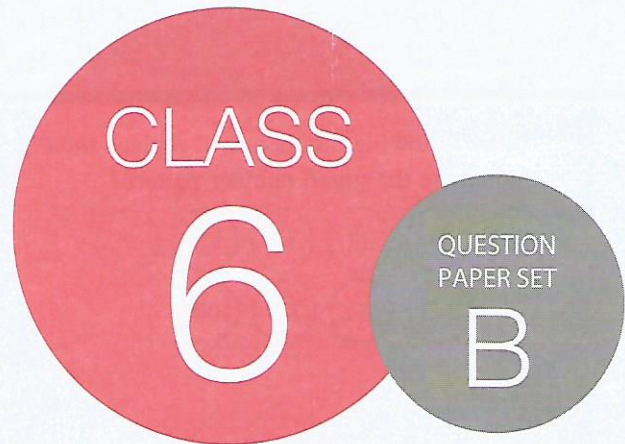


TCS iON  
PRESENTS



SOF NATIONAL CYBER  
OLYMPIAD 2018-19



DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

Total Questions: 50 | Time: 1 hr.

Name:.....

Section:..... SOF Olympiad Roll No.:..... Contact No.:.....

### Guidelines for the Candidate

1. You will get additional ten minutes to fill up information about yourself on the OMR Sheet, before the start of the exam.
2. 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 with you your marks/result/updates on your mobile number.
3. The Question Paper comprises three sections:  
**Logical Reasoning** (10 Questions), **Computers and Information Technology** (35 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) (C) (D)

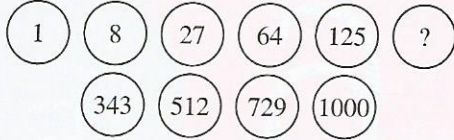
7. Rough work should be done in the blank space provided in this booklet.
8. Return the OMR Sheet to the invigilator at the end of the exam.
9. Please fill in your personal details in the space provided on this page before attempting the paper.



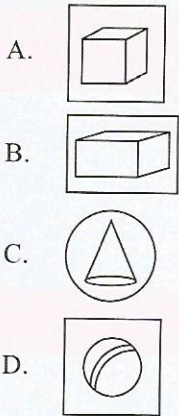
SCIENCE OLYMPIAD FOUNDATION  
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## LOGICAL REASONING

1. Which of the following numbers will replace the (?) so as to complete the given number pattern?



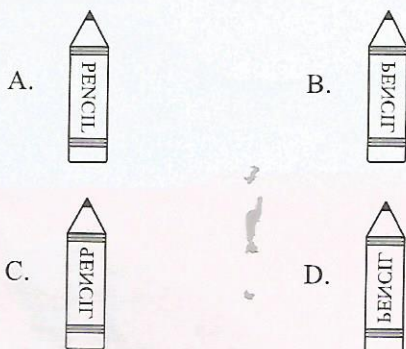
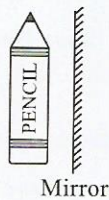
- A. 216  
B. 225  
C. 144  
D. 196
2. Select the odd one out.



3. If in a certain code language, 'AEIOU' is written as 'CGKQW', then in the same language 'KMTSR' is the code for \_\_\_\_\_.

- A. MOVUT  
B. LNUTS  
C. IKRQP  
D. STUNL

4. Select the mirror image of the given figure.



5. Riya and Kiara are good in Hindi and Sanskrit. Seema and Riya are good in Hindi and Science. Garima and Kiara are good in Maths and Sanskrit. Seema, Garima and Meena are good in English and Science. Who is good in Hindi, Maths and Sanskrit?

- A. Riya  
B. Kiara  
C. Seema  
D. Garima

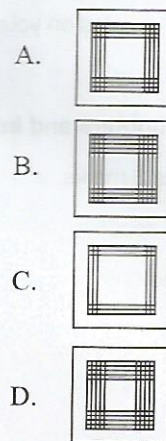
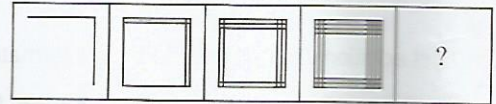
6. If the given alphabets are written in the reverse order, then what will be the sixth letter to the right of the fourteenth letter from the left end?

BADCFE H G J I L K N M P O R Q T S V U X W Z Y

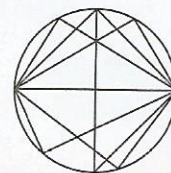
- A. H  
B. G  
C. O  
D. P

7. Select a figure from the options which will continue the same series as established by the Problem Figures.

Problem Figures

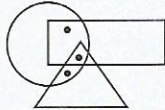


8. Count the number of triangles in the given figure.



- A. 30  
B. 28  
C. 25  
D. None of these

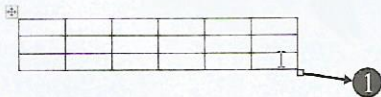
9. Pointing to a man, Deepak said, "His only brother is the father of my daughter's father". How is the man related to Deepak?
- A. Grandfather  
B. Father  
C. Uncle  
D. Grandson
10. Select a figure from the options which satisfies the same condition of placement of the dots as in the given figure.



- A.
- B.
- C.
- D.

## COMPUTERS AND INFORMATION TECHNOLOGY

11. Which program prevents your computer from the following?
- Ransomware
  - Browser hijackers
  - Computer worms
  - Trojan horses
- A. Antivirus software  
B. MS-DOS  
C. Unix  
D. Linux
12. Sometimes you get to see online advertisements in the form of pop-ups while downloading any file from the internet. The aim behind those online advertisements is to generate the revenue. This type of programs is known as \_\_\_\_\_.
- A. Add-ins  
B. Adware  
C. Adsome  
D. Ad-bar
13. The icon marked as ① in the given table of MS-Word 2010 is used \_\_\_\_\_.



- A. To resize the entire table manually  
B. To resize only the first row of the table  
C. To resize only the first column of the table  
D. None of these.
14. Identify the following.
- It is a type of secondary storage device that is connected to the computer system via SATA and PATA cables.

- Data is accessed in random manner.
- A. RAM  
B. ROM  
C. Hard disk  
D. Pen drive

15. What does the given symbol represent?



- A. A cable that connects a computer to peripheral devices.  
B. An internet protocol that is responsible for data communication.  
C. A GUI operating system  
D. A CUI operating system
16. Which of the following is a volatile storage media?
- |              |              |
|--------------|--------------|
| 1. RAM       | 2. Pen drive |
| 3. Hard disk | 4. CD        |
| 5. DVD       |              |
- A. 1 and 3 only  
B. 2, 4 and 5  
C. 2 and 3 only  
D. 1 only

17. Which of the following statements hold(s) true?

Statement 1 : RAM is used for storing a special piece of software known as BIOS.

Statement 2 : The amount of RAM installed in a computer decides the number and size of programs that the system can run simultaneously.

- A. Only Statement 1  
B. Only Statement 2  
C. Both Statement 1 and Statement 2  
D. Neither Statement 1 nor Statement 2

18. Select the odd one out.

- A. BIOS
- B. USB
- C. Serial port
- D. Parallel port

19. Match the computing machines with their descriptions.

**Column I**

**Column II**

- |                      |   |
|----------------------|---|
| (a) ENIAC            | (i) Vacuum tube based electronic general purpose computer   |
| (b) Stepped Reckoner | (ii) Calculating machine invented by Gottfried Wilhelm Leibniz  |
| (c) Trinity          | (iii) A super computer built as the first Advanced Technology System for the National Nuclear Security Administration |

- A. (a)-(i), (b)-(ii), (c)-(iii)
- B. (a)-(ii), (b)-(i), (c)-(iii)
- C. (a)-(iii), (b)-(ii), (c)-(i)
- D. (a)-(i), (b)-(iii), (c)-(ii)

20. Aman and Amit were discussing about a technology that includes following features:

- It is a secondary storage device.
- It uses laser beam technology to read and write data.
- It retains data even when power is OFF.

- A. Mechanical disk
- B. Optical disc
- C. Magnetic disk
- D. Electro-static disk





21. Which of the following is a feature of the Control Panel of Windows 7, that reduces the size of the icons on the taskbar?

- A. Taskbar interface buttons
- B. Taskbar and Start Menu
- C. Taskbar reduce size
- D. Taskbar small icons

22. Which of the following steps is CORRECT if you want to set screen saver in your computer, running Windows 7?

- A. Personalize → Screen saver
- B. Control Panel → Ease of Access Center → Screen saver
- C. Control Panel → Display → Settings → Screen saver
- D. All of these

23. Which of the following features of Control Panel of Windows 7 lets you know when your system was last updated?

- A. 
- B. 
- C. 
- D. 

24. VLSI technology is associated with \_\_\_\_\_ generation of computers.

- A. First
- B. Second
- C. Third
- D. Fourth

25. Which of the following is not a system software?

- A. Android
- B. Windows 10
- C. Microsoft Edge
- D. MS-Dos





26. Which of the following statements is/are CORRECT about video conferencing?

Statement 1 : Video conferencing connects people in real time through audio and video communication over internet.





Statement 2 : It enables virtual meeting and collaboration on digital documents and shared presentation.

- A. Only Statement 1
- B. Only Statement 2
- C. Both Statement 1 and Statement 2
- D. Neither Statement 1 nor Statement 2

27. Select the odd one out.

- A. 
- B. 
- C. 
- D. 




28. Which of the following devices can forecast an image/video onto a surface?

- A. 
- B. 
- C. 
- D. 

29. Which of the following supercomputers is/are developed by Bhabha Atomic Research Center (BARC)?

- A. Anupam-Adhya
- B. Param
- C. PDP-11
- D. Pratyush

30. Match the following applications with their suitable interpretations.

Column I	Column II
(a) 	(i) Creates and view ZIP file formats
(b) 	(ii) Online file storage service
(c) 	(iii) Create, view and manage files in PDF format

- A. (a)-(iii), (b)-(i), (c)-(ii)
- B. (a)-(i), (b)-(ii), (c)-(iii)
- C. (a)-(iii), (b)-(ii), (c)-(i)
- D. (a)-(i), (b)-(iii), (c)-(ii)





31. Identify the following.



- It is a free web browser developed by co-founder and former CEO Jon Stephenson Von Tetzchner of Opera software and Tatsuki Tomita.
- The browser runs on Windows, Mac and Linux operating system.

- A. Vivaldi browser
- B. Opera browser
- C. Maxthon browser
- D. Vikatan web browser

32. Vijay Shekhar Sharma is the founder of \_\_\_\_\_.

- A. 
- B. 
- C. 
- D. 

33. Which of the following is/are CORRECT about Domain in networking?

Statement 1 : In a domain, changes made in one computer automatically gets reflected to all other computers in a network.


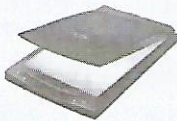
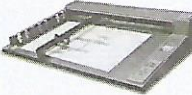

Statement 2 : In a domain, thousands of computers can be connected with the common rules and procedures.

- A. Only Statement 1
- B. Only Statement 2
- C. Both Statement 1 and Statement 2
- D. Neither Statement 1 nor Statement 2

34. \_\_\_\_\_ is a commonly used protocol for transferring or exchanging files over the internet. It uses the TCP/IP protocol for the file transfer and uses a client-server architecture.

- A. SMTP
- B. HTTP
- C. FTP
- D. DDL

35. Which of the following machines can easily convert hard-copy to a soft-copy?

- A. 
- B. 
- C. 
- D. 

36. Which of the following is an international community where full-time staff, public and member organizations together work to develop the standard for world wide web?
- P2P
  - B2C
  - W3S
  - W3C

37. It converts a high-level language program into machine language line by line as well as executes it. If there is any error in the program, translation and execution stops and the error is reported for debugging. Identify it.
- Assembler
  - Interpreter
  - Compiler
  - Editor

38.  $(2^{10} \times 2^{10} \times 2^{10})$  kilobytes = \_\_\_\_\_.
- 1 Kilobyte
  - 1 Megabyte
  - 1 Gigabyte
  - 1 Terabyte

39. Which of the following statements hold(s) true regarding UNIVAC-I?

Statement 1 : It was the first commercial electronic computer developed by J. Presper Eckert and John Mauchly.

Statement 2 : It was also the first computer to handle both numeric and text data.

- Only Statement 1
  - Only Statement 2
  - Both Statement 1 and Statement 2
  - Neither Statement 1 nor Statement 2
40. Which of the following steps is CORRECT if you want to hear a tone when you press CAPSLOCK, NUMLOCK keys?
- Control Panel → Ease of Access Center → Make the keyboard easier to use
  - Control Panel → Display → Toggle keyboard
  - Accessories → Control Panel → Display
  - Accessories → Keyboard → Display
41. What would be the output of the given QBASIC code, if the user enters 12 for variable a?
- ```
INPUT a
PRINT a, b
```
- 12      0
  - 0      12
  - 12      12
  - 0      0

42. What would be the output of the given QBASIC code?
- ```
LET name$ = "LALIT"
IF name$ = "lalit" THEN
PRINT "Hi"
ELSE
PRINT "Hello"
END IF
```
- Hi
  - Hello
  - LALIT
  - lalit

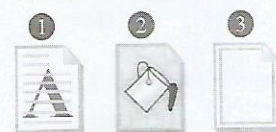
43. Match the following regarding QBASIC and select the correct option.

Column I	Column II
(a) Valid numeric constant	(i) 0.75
(b) Valid string constant	(ii) -99.09
	(iii) "3805"
	(iv) "2/7/2018"
A. (a)-(i), (ii); (b)-(iii), (iv)	B. (a)-(iii), (iv); (b)-(i), (ii)
C. (a)-(ii), (iv); (b)-(i), (iii)	D. (a)-(i), (iii); (b)-(ii), (iv)

44. Select the CORRECT match regarding QBASIC.

- Assignment statement – LET
- OUTPUT statement – INPUT
- Conditional statement – PRINT
- Loop statement – READ

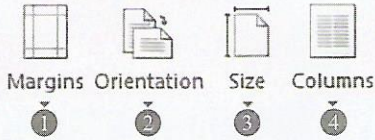
45. What is the function of the icons of MS-Word 2010 (marked as ①, ② and ③)?



- ① – It inserts a light text behind the content of the page.  
② – It changes the color of the page.  
③ – It applies border around the page.
- ① – It applies border around the page.  
② – It insert a light text behind the content of the page.  
③ – It changes the color of the page.
- ① – It changes the color of the page.  
② – It applies border around the page.  
③ – It insert a light text behind the content of the page.
- ① – It applies border around the page.  
② – It changes the color of the page.  
③ – It insert a light text behind the content of the page.

## ACHIEVERS SECTION

46. Select the CORRECT match regarding the terms associated with the features marked as ①, ②, ③ and ④ of MS-word 2010.



- A. ① – Narrow, Moderate, wide  
 B. ② – Mirrored, Custom  
 C. ③ – Left, Right  
 D. ④ – A1, A2
47. The given image depicts that an animation effect has been applied to it in MS-PowerPoint 2010. What will happen when you click on the button ①?



- A. Animation will be played.

- B. A sound will be produced.  
 C. It will prompt a dialog box stating that “you cannot click on this button.”  
 D. None of these

48. By default, in Handout Master view, how many slides and which placeholders are contained in MS-PowerPoint 2010?  
 A. 6 slides, Header, Date, Footer and Page Number  
 B. 1 slide, Header and Date only  
 C. 2 slides, Header and Footer only  
 D. No slides, Header only

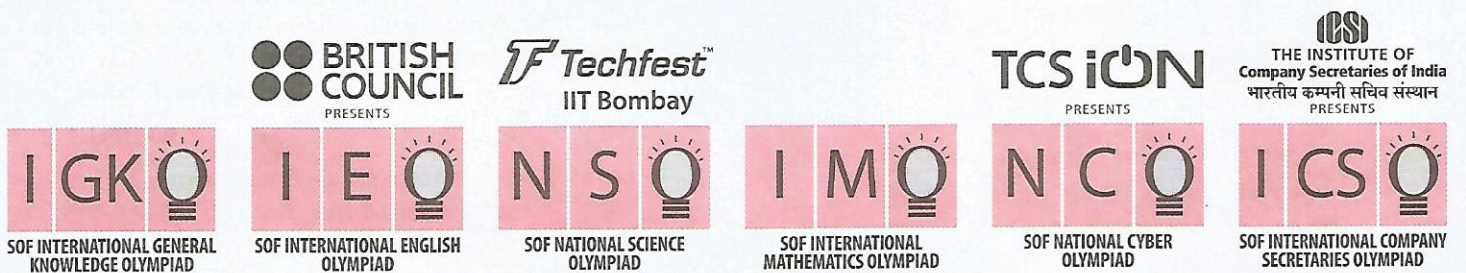
49. In google chrome web browser, pressing \_\_\_\_\_, will open a new Tab.

- A. +   
 B. +   
 C. +   
 D. Both A and B

50. With the help of which feature, you can use WhatsApp on your computer?  
 A. WhatsApp Web  
 B. WhatsApp Desktop  
 C. WhatsApp Computer  
 D. WhatsApp Game

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