TCS iON
PRESENTS

SOF NATIONAL CYBER OLYMPIAD 2018-19

CLASS 10

QUESTION PAPER SET B

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. Ⓐ Ⓑ ● Ⓓ
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.

SOF
SCIENCE OLYMPIAD FOUNDATION
Inspiring Young Minds Through Knowledge Olympiads

1. Anu walks 5 km Southward and then turns right and walks 2 km. She again turns right and walks 5 km and turns towards her right and starts walking straight. In which direction is she walking now?

   A. East
   B. North
   C. South
   D. West

2. Two rows of numbers are given. The resultant number in each row is to be worked out separately based on the following rules and the question below the rows of numbers is to be answered. The operations on numbers progress from left to right.

   Rules:

   (i) If a two-digit even number is followed by another even number, the first one is to be divided by the second one.
   (ii) If an even number is followed by a prime number, then the two are to be multiplied.
   (iii) If an odd number is followed by another odd number, then the two are to be added.
   (iv) If a three-digit number is followed by a two-digit number which is a perfect square, then the second number is to be subtracted from the first number.
   (v) If a three-digit number is followed by a two-digit number which is not a perfect square, then the first number is to be divided by the second one.

   24 7 81
   x 27 19

   If 'x' and 'y' are the resultants of the first and second row respectively, then $y \times y =$ _____.

   A. 87
   B. 114
   C. 6
   D. 36

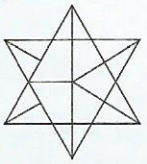
3. There is a certain relationship on the either side of : :. Identify the relationship on the left side and find the missing word.

   Radio : Listener : : Film : ?

   A. Producer
   B. Actor
   C. Viewer
   D. Director

4. Find the number of triangles formed in the given figure.

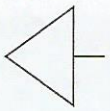
   A. 26
   B. 17
   C. 28
   D. None of these

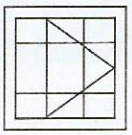
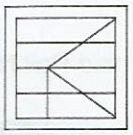


5. If in a certain code language, 'GOOD' is coded as '20121223', 'ONE' is coded as '121322', then how will 'FRUIT' be coded in that language?

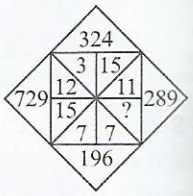
   A. 2196187
   B. 2196178
   C. 2198167
   D. 2169187

6. Select a figure from the options in which the given figure is exactly embedded as one of its parts.



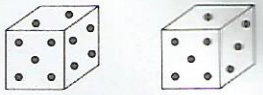
   A. 
   B.
   C. 
   D.

7. Find the missing number.



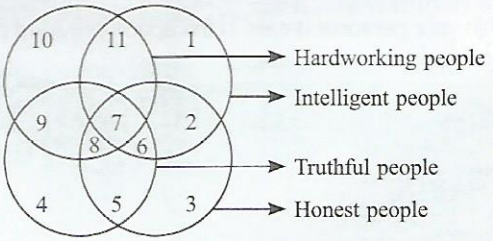
   A. 5
   B. 12
   C. 13
   D. 6

8. Two different positions of a dice are given below. Find the number of dots on the face opposite to the face having 5 dots.



   A. 1
   B. 2
   C. 3
   D. 6

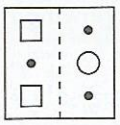
9. Study the given Venn diagram carefully and answer the following question.

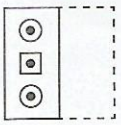
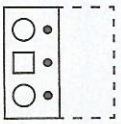
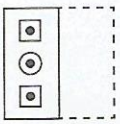
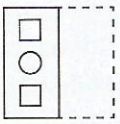


Which region represents the people who are intelligent, honest and truthful but not hardworking?

A. 6
B. 7
C. 8
D. 11

10. A square transparent sheet with a pattern and a dotted line on it is given. Find the figure from the options as to how the pattern would appear when the transparent sheet is folded along the dotted line.



A. 
B. 
C. 
D. 

COMPUTERS AND INFORMATION TECHNOLOGY

11. Which of the following is the CORRECT HTML tag to left align the content inside a table?

A. <td left align>
B. <td align="left">
C. <td_valign ="left">
D. <td ="left">

12. Which of the following statements hold(s)true about the given icon of MS-Excel 2010?

Statement 1 : Conditional formatting automatically formats cells only if a specified condition is true.

Statement 2 : The Clear Rules command helps to remove conditional formatting rules from the worksheet.

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

13. The _____ feature automatically resizes columns or rows to best fit cell contents in MS-Excel 2010.

A. AutoFit
B. AutoSize
C. AutoAdjust
D. FitRight

14. Which of the following is NOT a 'Lookup & Reference' function of MS-Excel 2010?

A. AREAS
B. VLOOKUP
C. FACT
D. MATCH

15. What is the output of the given MS-Excel 2010 formula?

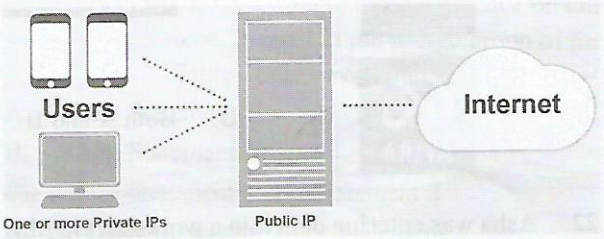
=PROPER("ayushi sharma")

A. ayushi sharma
B. Ayushi Sharma
C. ayushi Sharma
D. Ayushi sharma

16. Which type of security attack gets information from the system but it does not affect the system resources?

A. Active attack
B. Passive attack
C. Worm attack
D. None of these

17. Identify the following:



– It creates a virtual connection between the source and the destination hosts.
– It supports various protocols, and checks each service like Telnet or E- mail, when they are passed through it.
– It is easy to implement on a local network.

A. Collaboration server
B. Web server
C. Peer server
D. Proxy server

18. Select the INCORRECT match regarding HTML.

A. <hr> – Used to Separate Content
B. <tt> – Defines tele type text
C. <th> – Defines a header cell in an HTML table
D. <td> – Defines a row in an HTML table

19. Which of the following type of cable is displayed in the given image?

A. Cat 6 cable
B. Ethernet cable
C. Coaxial cable
D. Multi-fiber cable

20. Which of the following statements hold(s) true regarding Internet Engineering Task Force (IETF)?

(i) It is the community of network designers, operators, vendors, and researchers.
(ii) It is responsible for evolution of Internet.
(iii) It allots IP address to organizations and individuals.

A. Only (i)
B. Only (i) and (ii)
C. Only (i) and (iii)
D. All of these

21. Which of the following is a web service that provides free analysis of internet access performance, such as connection data rate and latency?

A.

B.

C.

D. Both A and B

22. Asha was entering data into a worksheet in MS-Excel 2010 and in the cell A3 she entered the formula – =A1+A2+A3. What would be the result after pressing the Enter key?

A. Sum of cells A1, A2 and A3
B. Name error
C. ####
D. Circular Reference Warning

23. What is the advantage of high level programming over low-level programming?

A. They are machine independent.
B. They do not require programmers to know anything about the internal structure of the computer.
C. They enable the programmers to write instructions using English words and familiar mathematical symbols and expressions.
D. All of these

24. Which of the following MS-Access 2010 query type tools will help you to make the query that adds record from the database table?

A.
B.
C.
D.

25. Identify the following icon of MS-Access 2010.

– It creates a layout similar to a paper form, with labels to the left of each field.
– It is always contained within a single section.
– It is displayed when you insert report in the database.

A. Control padding
B. Tabular
C. Stacked
D. Split vertically

26. Which of the following is a DBMS database function?

(i) Concurrency – Concurrent access to the same database by multiple users
(ii) Security – Security rules to determine access rights of users
(iii) Integrity – Database structure and rules improve the integrity of the data
(iv) Memory Unit – It consists of cache memory and primary memory

A. Only (i) and (ii)
B. Only (i) and (iii)
C. Only (i), (ii) and (iii)
D. All of these

27. _____ is the main memory of computer. It is used to store data and instructions during the processing of data.

A. Secondary memory
B. Auxiliary memory
C. Primary memory
D. None of these

28. Creating a new Theme Font in MS-PowerPoint 2010 means you are changing the _____.

A. Font face of heading text
B. Font face of body text
C. Alignment of heading
D. Both A and B

29. Which of the following is a feature of MS-Word 2010, that lets you add the text from the another file into the currently working document?

A. Embedded
B. Object
C. Paste Text from file
D. Reference

30. Identify the following:

- It is the data that binds a sender's identity to the information being sent.
- It may be bundled with any message, files, or other digitally encoded information, or transmitted separately.
- It is used in public key environments and provides authentication and integrity services.

A. End Note
B. Digital Signature
C. Barcode Signature
D. None of these

31. Match the icons of MS-PowerPoint 2010 (Column-I) with their functions (Column-II) and select the correct option.

Column-I		Column-II
(a)		(i) Change color variation in smart graphic
(b)		(ii) Add a slide to the presentation
(c)		(iii) Choose a visual style for the shape/line
(d)		(iv) Add an action to the selected object
(e)		(v) Insert an embedded object

A. (a)→(i), (b)→(ii), (c)→(iii), (d)→(iv), (e)→(v)
B. (a)→(v), (b)→(iv), (c)→(iii), (d)→(ii), (e)→(i)
C. (a)→(iv), (b)→(i), (c)→(v), (d)→(ii), (e)→(iii)
D. (a)→(iv), (b)→(ii), (c)→(iii), (d)→(i), (e)→(v)

32. Which of the following statements hold(s) true about Dual Core Processor?

Statement 1 : A dual core processor executes all the tasks much faster and it is perfect to run multiple processors at one time.
Statement 2 : It is a single chip that contains two distinct processors that work simultaneously.

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

33. Which of the following mobile application developed by Google allows you to send instant message?

A. Google Allo
B. Google Daydream
C. Google Alexa
D. Google Cortana

34. Which of the following is NOT a general purpose Application software?

A.

B.
C.

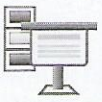
D.

35. Which of the following statements hold(s) true about the given icon of MS-Power Point 2010?

Statement 1 : It combines or merge several smaller cells into a single large cell in a table.
Statement 2 : To make this icon active, select the cells that you want to merge and click on this icon, present in the Merge group of the Table Tools Layout tab.

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

36. Which of the following icons of Review tab will hide and show a comment in MS-PowerPoint 2010?

A.
B.
C. 
D.

37. Which of the following statements is CORRECT regarding multipoint connection in networking?

(i) It provides a dedicated link between two devices.
(ii) It is the one, in which more than two devices share a single link.

A. Only (i)
B. Only (ii)
C. Both (i) and (ii)
D. None of these

38. Which of the following creates a secure connection between a web browser and server?

A. Secure Socket Layer
B. Data Link Layer
C. Secure Tele Layer
D. Internet Socket Layer

39. Identify the following virus:

- It is coded to make it hard for antivirus researchers to unravel and understand.
- It can also be compressed to avoid detection and disinfection.
- It frequently hides file attributes or un-viewable files names.

A. Armored
B. Tunneling
C. Stealth
D. Polymorphic

40. Identify the following device:

- It eliminates the need of manually entry of data.
- It improves data accuracy and timeliness of data processed.
- It demands high quality of source documents.

A. Biometric Device
B. Touchscreen
C. OCR
D. Light Pen

41. Select the CORRECT statements about Punched card.

Statement 1 : Punched cards may be stored and reared if the need arises.

Statement 2 : Errors found in cards cannot be corrected, but the card containing the error can be replaced without affecting the rest of the deck.

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

42. What would be the output of the following HTML code?

```
<h2>Computer Code</h2>
<code>
x = 5;<br>
y = 6;<br>
z = x + y;
</code>
```

Computer Code

A.
```
x = 5;
y = 6;
z = x + y;
```

Computer Code

B.
```
x = 5;
y = 6;
z = x+y;
```

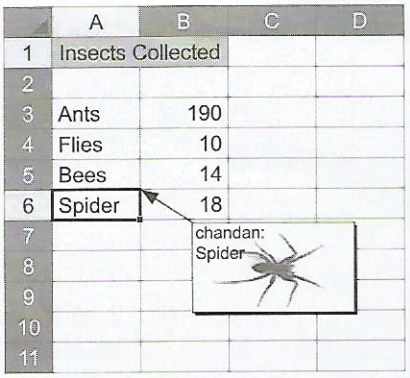
Computer Code

C.
```
x = 5;
y = 6;
z = x + y;
```

Computer Code

D.
```
x = 5;
y = 6;
z = x + y;
```

43. Which MS-Excel 2010 feature is being used in the given snapshot to display image inside a comment box?



A. Edit comment
B. Add picture comment
C. New Comment
D. Format comment

44. Identify the following:

- It is the first domestic debit and credit card payment network of India.
- It is highly secure network that protects against phishing.

A. PayPal
B. RuPay
C. paytm
D. Maestro

45. A collection of 8 bits is called_____.

A. Megabyte
B. Kilobyte
C. Byte
D. Megabit

46. Which of the following statements hold(s) true about Database Administrator (DBA)?

Statement 1 : It is a person or group of person who have centralized control of the database.

Statement 2 : Its responsibility is to create, modify and maintain the three level of DBMS architecture.

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

47. Which of the following is/are the major activities of an operating system with respect to process management system?

(i) Scheduling processes and threads on the CPUs
(ii) Creating and deleting both user and system processes
(iii) Suspending and resuming processes
(iv) Providing mechanisms for process synchronization
(v) Providing mechanisms for process communication

A. (i) and (ii) only
B. (ii),(iii) and (iv) only
C. (i),(ii),(iii) and (iv) only
D. All of these

48. What would be the output of the following HTML code?

```
<body>
  <table border = "1">
    <tr>
      <th>Column 1</th>
      <th>Column 2</th>
      <th>Column 3</th>
    </tr>
    <tr>
      <td rowspan = "2">Row 1 Cell 1</td>
      <td>Row 1 Cell 2</td>
      <td>Row 1 Cell 3</td>
    </tr>
    <tr>
      <td>Row 2 Cell 2</td>
      <td>Row 2 Cell 3</td>
    </tr>
    <tr>
      <td colspan = "3">Row 3 Cell 1</td>
    </tr>
  </table>
</body>
```

A.

Column 1	Column 2	Column 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1		

B.

Column 1	Column 2	Column 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
Row 2 Cell 2	Row 2 Cell 3	
Row 3 Cell 1		

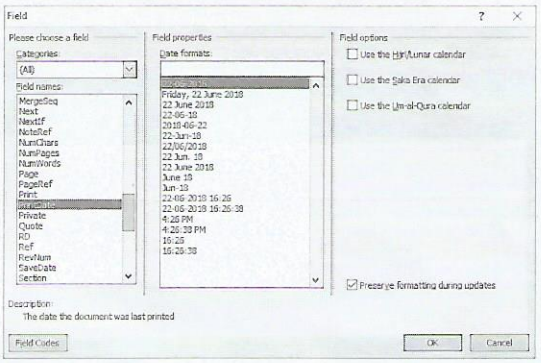
C.

Column 1	Column 2	Column 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
	Row 2 Cell 2	Row 2 Cell 3
Row 3 Cell 1		

D.

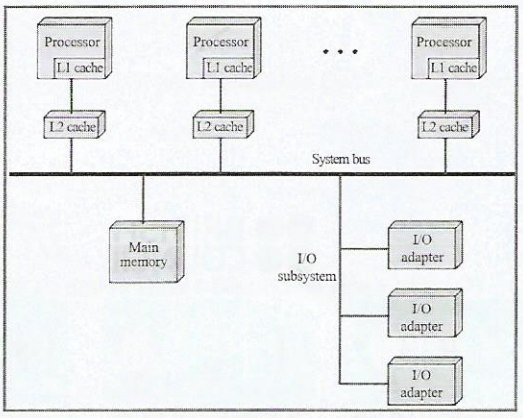
Column 1	Column 2	Column 3
Row 1 Cell 1	Row 1 Cell 2	Row 1 Cell 3
Row 2 Cell 2	Row 2 Cell 3	
Row 3 Cell 1		

49. What steps should be followed to get the given snapshot of dialog box in MS-Word 2010?



A. Review tab → Comments group → Show mark-up → [▭] Field
B. Insert tab → Text group → Quick Parts → [▭] Field
C. Mailing tab → Select recipient group → [▭] Field
D. Page Layout tab → Page Setup group → [▭] Field

50. Identify the given snapshot of multiprocessor.



- There are two or more similar processors of comparable capability.
- These processors share the same main memory and I/O facilities.
- All processors share access to I/O devices either on same channels or on different channels.
- The system is controlled by an integrated operating system that provides interaction between processors and their programs.

A. Asymmetric multiprocessor
B. Symmetric multiprocessor
C. Auxiliary multiprocessor
D. Mapping multiprocessor

SPACE FOR ROUGH WORK

BRITISH COUNCIL PRESENTS
Techfest IIT Bombay
TCS iON PRESENTS
THE INSTITUTE OF Company Secretaries of India भारतीय कम्पनी सचिव संस्थान PRESENTS

IGKO SOF INTERNATIONAL GENERAL KNOWLEDGE OLYMPIAD
IEO SOF INTERNATIONAL ENGLISH OLYMPIAD
NSO SOF NATIONAL SCIENCE OLYMPIAD
IMO SOF INTERNATIONAL MATHEMATICS OLYMPIAD
NCO SOF NATIONAL CYBER OLYMPIAD
ICSO SOF INTERNATIONAL COMPANY SECRETARIES OLYMPIAD

For latest updates & information, please like our Facebook page (www.facebook.com/sofworld) or register on http://www.sofworld.org/subscribe-updates.html
For Level 1 and Level 2 preparation material / free sample papers, please log on to www.mtg.in

SOF SCIENCE OLYMPIAD FOUNDATION

National Office: Plot 99, First Floor, Sector 44 Institutional area, Gurgaon -122 003 (HR) India
Email: info@sofworld.org | Website: www.sofworld.org
Regd. Office: 406, Taj Apt., Ring Road, New Delhi-110 029
Note: Please address all communication to the National Office only.