



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

DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

CLASS **8**

SET-B

Total Questions : 50 | Time : 1 hr.

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 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), **AI, 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) (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 before attempting the paper.

Name:.....

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



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1. Find the missing number, if same rule is followed in all the three figures.

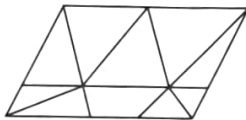


- A. 169
B. 196
C. 81
D. 144

2. How many such pairs of letters are there in the word PARALLEL each of which has as many letters between them in the word as in the English alphabets?

- A. None
B. One
C. Two
D. Three

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



- A. 13
B. 12
C. 15
D. None of these

4. If last day of July 20XX will be Wednesday, then on which date second Saturday of the same month fell?

- A. 12th July
B. 15th July
C. 13th July
D. 14th July

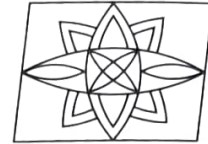
5. If 'M' means '÷', 'L' means '-', 'N' means '+' and 'K' means 'x', then what is the value of 96 N 48 L 24 M 12 K 2?

- A. 143
B. 140
C. 160
D. 150

6. A solid cube of each side 3 cm has been painted blue on all the faces. It is then cut into small cubical blocks of each side 1 cm. How many cubes have only two faces painted?

- A. 6
B. 8
C. 14
D. 12

7. Which of the following figures is exactly embedded in the given figure as one of its parts?



8. If 'NAIL' is coded as '756' and 'TREE' is coded as '4500', then how will 'NAIVE' be coded in the same code language?

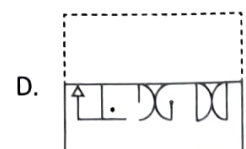
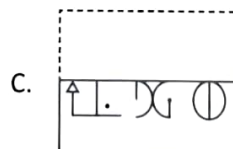
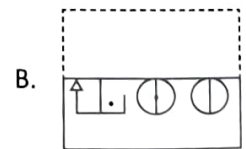
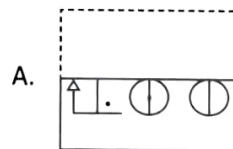
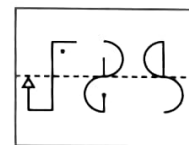
- A. 2681
B. 6184
C. 8143
D. 6930

9. There is a certain relationship between the pair of terms on the either side of :: Identify the relationship between the given pair and find the missing term.

KC : 130 :: JA : ?

- A. 101
B. 104
C. 105
D. 102

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



11. _____ is used extensively in the banking sector because magnetic-ink characters are difficult to forge, and are therefore ideal for marking and identifying cheques.

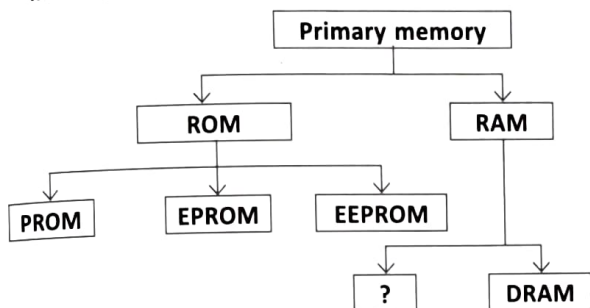
A. OCR
B. MICR
C. Flatbed scanner
D. Drum scanner

12. Which of the following options cannot be categorized as a text function in MS-Excel 2016?

(i) LEN
(ii) UPPER
(iii) AND
(iv) REPLACE

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

13. Which of the following options will replace the '?' in the given hierarchical diagram?



A. SRAM
B. SROM
C. EROM
D. ERAM

14. Which of the following is not a float property used in CSS?

A. Bottom
B. Right
C. Left
D. Initial

15. Which of the following statements hold(s) true with respect to MS-PowerPoint 2016?

Statement 1 : - It is used to hide the current slide so it will not appear at the time of slide show.

Statement 2 : - It is used to show how much time you spent on each slide.

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

16. Which of the following statements is/are correct about the given option with respect to MS-Word 2016?

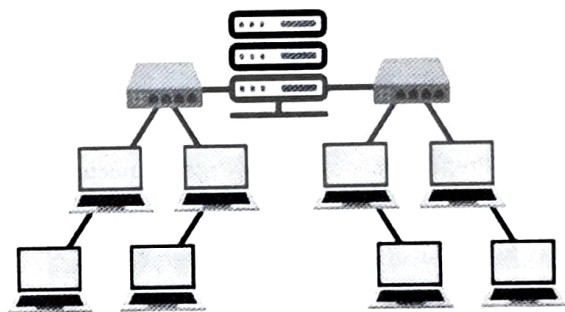


A. It is used to compare two versions of a document.
B. It can be used to prevent formatting changes by others to the document.
C. It is used to keep track of changes made to the current document.
D. Both A and B

17. CPRM technology is associated with SD card standards. What does CPRM stand for?

A. Copy Protection for Rewritable Media
B. Copyright Protection for Recordable Media
C. Content Protection for Recordable Media
D. Copy Protection for Recording Mechanism

18. Which of the following types of networks topology is displayed in the given diagram?



A. Tree
B. Mesh
C. Star
D. Ring

19. Select the correct match with respect to number system.

A. Binary - $(11110000)_{10}$
B. Octal - $(390)_8$
C. Decimal - $(245)_{10}$
D. Hexadecimal - $(G2)_{16}$

20. Identify the following key in MS-Access 2016.

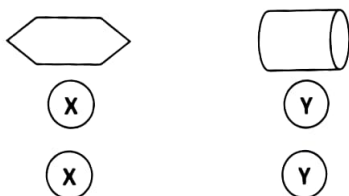
- It uniquely identifies each record in a table and can never be same for two records.
- Through this key, information retrieval becomes easy without any repetition as only one such key is allowed per table.

- A. Candidate key
B. Foreign key
C. Primary key
D. None of these

21. Which of the following functions will display "Good marks" if the average marks of a student in five subjects (in range B2:F2) is greater than equal to 60, and "Work hard" if average is less than 80 in MS-Excel 2016?

- A. =IF(AVERAGE(B2:F2)>=60, "Good marks", "Work hard")
B. =IF(AVERAGE(B2:F6)>=60, "Good marks", "Work hard")
C. =IF(AVERAGE(B2:E2)>60, "Good marks", "Work hard")
D. =IF(AVERAGE(B2:F2)<=60, "Good marks", "Work hard")

22. Name the flowchart symbols represented by (X) and (Y) in the given image.



- A. Document symbol Comments symbol
B. Preparation symbol Direct data symbol
C. Comments symbol Page connector symbol
D. Preprocessor symbol Page connector symbol

23. Which of the following options can be considered as functions of an operating system?

- (i) Security
(ii) File management
(iii) Device management
(iv) Processor management

- A. (i) and (ii) only
B. (iii) and (iv) only
C. (i), (ii) and (iii) only
D. (i), (ii), (iii) and (iv)

24. Which of the following options describes an illegal act that uses a computer and a network where a computer is utilized as a tool to commit an illegal act?

- A. Cyber ethics

- B. Cyber hacker
C. Cyber crime
D. Cyber bombing

25. What will be the output of the given HTML code?

```
<ul type = "circle">
<li> Apple </li>
<li> Mango </li>
<li> Pineapple </li>
</ul>
```

- A. ☐ Apple
 ☐ Mango
 ☐ Pineapple
B. ☐ Apple
 ☐ Mango
 ☐ Pineapple
C. Apple
 Mango
 Pineapple
D. ☐ Apple
 ☐ Mango
 ☐ Pineapple

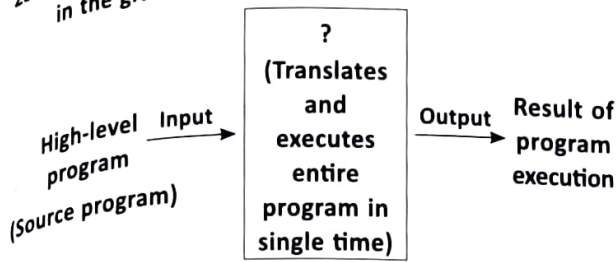
26. Which of the following options of Control Panel is used to change the date format from 24-07-2024 to Tuesday, 27 July, 2024, in Windows 10?

- A. 
B. 
C. 
D. 

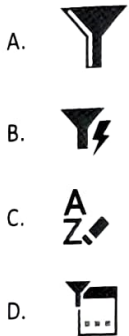
27. The _____ tool of Flash CS6 is used to move the stage in all directions without changing the magnification.

- A. 
B. 
C. 
D. 

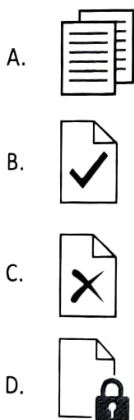
28. Which of the following options will replace the '?' in the given block diagram?



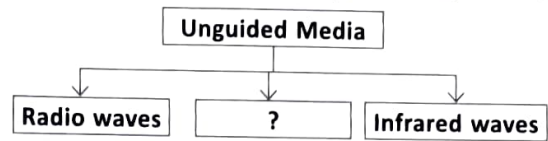
- A. Interpreter
B. Compiler
C. Assembler
D. Device driver
29. Select the correct match of HTML tags and their descriptions.
- A. <a> - It is termed as an anchor tag and it creates a hyperlink or a link.
B.
 - It is used to make a text bold.
C. <h6> - It is used to apply thematic break between paragraph-level elements.
D. <p> - It represents a picture in an HTML document.
30. Which of the following options will show only the records of those students whose names start with "As" in MS-Access 2016?



31. Which of the following options will allow you to accept all the changes made to document at once in MS-Word 2016?



32. Which of the following options will come in the given diagram in place of '?' with respect to unguided media?



- A. Twisted pair
B. Optical Fiber
C. Microwaves
D. Both A and B
33. Which of the following is incorrect about boot sector virus?
- A. It is a type of virus that infects the boot sector of floppy disks or the Master Boot Record (MBR) of hard disks.
B. Once a computer is infected, this virus usually attempts to infect every disk accessed on the infected system.
C. It is a complicated computer virus that affects data types and functions.
D. It usually infects the boot sector or the partition table of a disk.
34. Which of the following types of error will occur when a formula or function reference cells that contain data types that are incompatible with the operation in MS-Excel 2016?

- A. #VALUE
B. #N/A
C. #DIV/0!
D. #NAME

35. Which of the following statements hold(s) true with respect to Control Panel in Windows 10?

Statement 1 : is used to configure how speech recognition works on your computer.

Statement 2 : is used to view the information about your computer.

- 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 options will open 'Header and Footer' dialog box from Backstage view in MS-PowerPoint 2016?

- A. File tab → Print → Edit Header & Footer
B. File tab → Option → Header & Footer
C. File tab → Info → Edit → Header & Footer
D. File tab → Help → Header & Footer

37. Which of the following statements is correct about the given icon of MS-PowerPoint 2016?



- A. It is used to show the comments pane to view, add and delete comments.
- B. It is used to compare and combine another presentation with your current presentation.
- C. It is used to add freehand pen to the current slide.
- D. It is used to choose the language for proofing.

38. Select the incorrect match of MS-Access 2016 icons with their names.

- A.  – Form
- B.  – Form Design
- C.  – Blank Form
- D.  – Form Wizard

39. Which of the following statements hold(s) true with respect to MS-Word 2016?

Statement 1 :  is used to add the selected text to the index.

Statement 2 :  is used to add the selected text to the table of authorities.

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

40. Match the following terms with their descriptions.

Column-I	Column-II
(a) Bridge	(i) It is a network device that connects two different systems.
(b) Router	(ii) It is a computer or a device that links two similar LANs based on the same protocol.
(c) Gateway	(iii) It is a network device that connects different types of networks using different protocols.
A. (a) - (i), (b) - (ii), (c) - (iii)	
B. (a) - (ii), (b) - (iii), (c) - (i)	
C. (a) - (i), (b) - (iii), (c) - (ii)	
D. (a) - (ii), (b) - (i), (c) - (iii)	

AI, ROBOTICS AND INFORMATION TECHNOLOGY

41. What are the 4Ws included in the problem scoping in AI?

- A. Whose, What, Where, Why
- B. When, What, Who, Why
- C. Who, What, Where, Why
- D. Who, Whose, What, Why

42. Select the incorrect match.

- A. Mathematical – It is the ability to regulate, /Logical measure, and understand Intelligence numerical symbols, abstraction and logic.
- B. Linguistic – It is the language processing skill, Intelligence both in terms of understanding or implementation in writing or verbally.
- C. Spatial – It is defined as the ability to Intelligence perceive world and the relationship of one object to another.
- D. Existential – It is about a person's ability to Intelligence recognize and create sounds, rhythms, and sound patterns.

43. Which of the following generations of computers introduced robotics?

- A. Third generation
- B. Second generation
- C. Fifth generation
- D. First generation

44. Identify the following.

- It is used for uploading and watching videos, and it is completely free.
- It is used to earn money for your views by watching videos.
- It is used to share a good amount of information with a lot of people in a short time.

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

45. Select the odd one out.

A.



B.



C.



D.



ACHIEVERS SECTION

46. What will be the output of the given HTML code?

```
<HTML>
<h3> <i> <u> LIST OF insects </u> </i> </h3>
<ol>
<li> EARWIG </li>
<li> DRAGONFLY </li>
<li> STONEFLY </li>
<hr ALIGN = "LEFT" WIDTH = "5%">
</ol>
<ol TYPE = "i">
<li> TREE CRICKET </li>
<li> CAT FLEA </li>
<li> THRIPS </li>
</ol>
</HTML>
```

A. LIST OF insects

1. EARWIG
2. DRAGONFLY
3. STONEFLY

- i. TREE CRICKET
- ii. CAT FLEA
- iii. THRIPS

B. LIST OF insects

- EARWIG
- DRAGONFLY
- STONEFLY

- i. TREE CRICKET
- ii. CAT FLEA
- iii. THRIPS

C. LIST OF insects

1. EARWIG
2. DRAGONFLY
3. STONEFLY

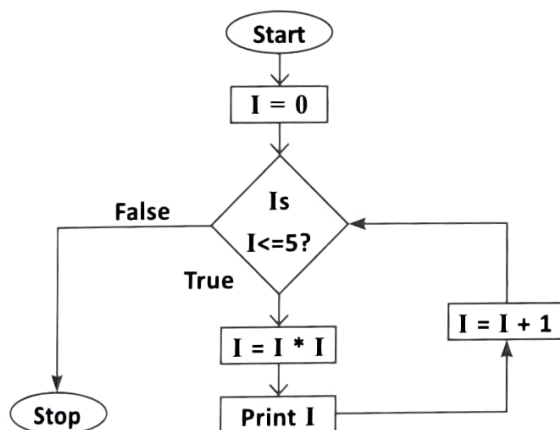
- I. TREE CRICKET
- II. CAT FLEA
- III. THRIPS

D. LIST OF insects

1. EARWIG
2. DRAGONFLY
3. STONEFLY

- (i) TREE CRICKET
- (ii) CAT FLEA
- (iii) THRIPS

47. What would be the output of the given flowchart?



- A. 1
2
3
4
5

- B. 0
1
2
3
4

C.

- 0
1
4
25

D.

- 1
4
25

48. Which of the following options does not fall under the type of cross-references in MS-Word 2016?

- (i) Heading
- (ii) Hyperlink
- (iii) Bookmark
- (iv) SmartArt
- (v) Endnote
- (vi) Equation

- A. (i) and (v) only
B. (ii) and (iv) only
C. (iii) and (vi) only
D. (iii) and (iv) only

49. Match the options given in Column-I with their descriptions given in Column-II

Column-I

Column-II

(a)



(i) It is a small electronic circuit printed on a chip (usually made of silicon) that contains many of its own circuit elements.

(b)



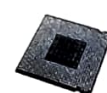
(ii) It is used as a switch, an amplifier, or a display screen in many older methods of radios, televisions, computers, etc.

(c)



(iii) It is an electronic component held on an integrated circuit that contains a computer CPU and other associated circuits.

(d)



(iv) It is used to control the flow of electricity in radios, televisions, computers, etc. and it works on the principle of solid state physics.

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

50. What would be the output of the MS-Excel 2016 formulas marked as (i) and (ii) respectively?

(i) = IF (ODD(A2) <=20, "TRUE", "FALSE")

(ii) = IF (EVEN(C3)>10, "TRUE", "FALSE")

Consider the value of cells A2 and C3 as 25 and 16 respectively.

	(i)	(ii)
A.	FALSE	TRUE
B.	TRUE	FALSE
C.	TRUE	TRUE
D.	FALSE	FALSE

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