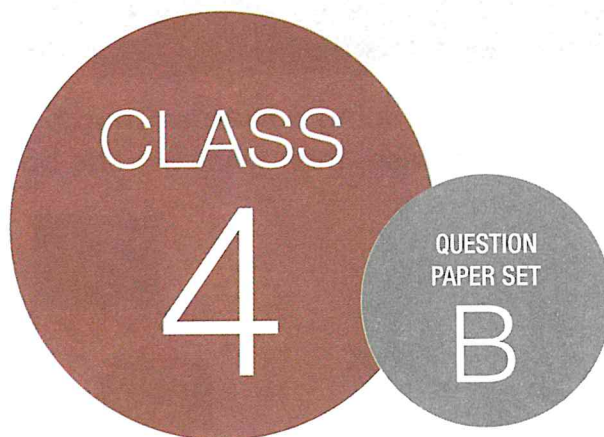


**SOF INTERNATIONAL
MATHEMATICS OLYMPIAD
2019-20**



DO NOT OPEN THIS BOOKLET UNTIL ASKED TO DO SO

Total Questions: 35 | Time: 1 hr.

Name:.....

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

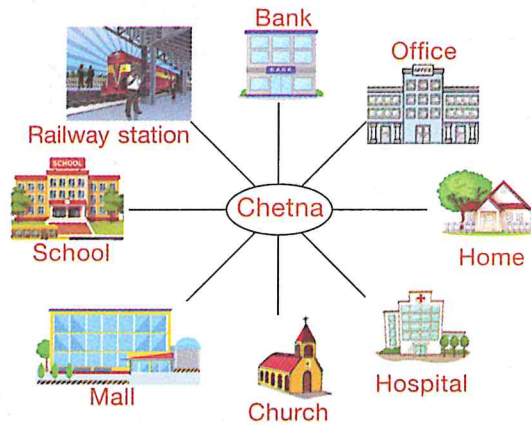
Guidelines for the Candidate

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 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), **Mathematical Reasoning** (10 Questions), **Everyday Mathematics** (10 Questions) and **Achievers Section** (5 Questions)
Each question in Achievers Section carries 2 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: Sonia had 80 sweets. She gave 15 sweets to Danish and 15 sweets to Megha. How many sweets are left with her?
A. 50 B. 30 C. 60 D. 40
As the correct answer is option A, you must darken the circle corresponding to option A on the OMR Sheet.
7. Rough work should be done in the blank space provided in the 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.

16. A B C D

LOGICAL REASONING

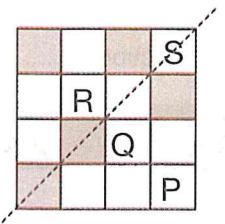
1. Chetna is facing towards Church. If she turns 90° clockwise and then turns 135° anti-clockwise, then what will she be facing?



- A. Mall B. School C. Hospital D. Home

2. Which of the following squares must be shaded so that the given figure is symmetric along the dotted line?

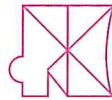
- A. P
B. Q
C. R
D. S



3. Rashmi is standing in a row of girls. If she is 19th from the right end and 11th from the left end, then how many girls are standing in the row?

- A. 31 B. 29 C. 28 D. 27

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



- A.  B.  C.  D. 

5. In a certain code language, 42378 is written as CREAM and 83571 is written as METAL. How will 831532 be written in that language?

- A. CALMER B. CEREAL C. CAMERA D. MELTER

SPACE FOR ROUGH WORK

6. How many meaningful English words can be formed from the second, fourth, fifth and seventh letters from the left end of the given arrangement?

B C V N E X O Z

- A. None
B. One
C. Two
D. More than two

7. Select the correct mirror image of the given figure.



- A. B. C. D.

8. Which of the following numbers will complete the given number series?

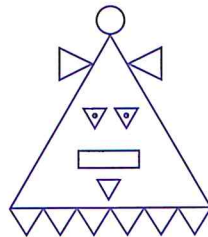


- A. 2575 B. 2645 C. 2605 D. 2595

9. Select the odd one out.









10. How many triangles are there in the given figure?



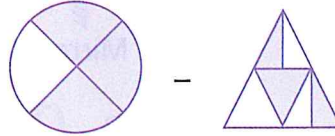
- A. 10 B. 11 C. 12 D. 13

SPACE FOR ROUGH WORK

MATHEMATICAL REASONING

11. If  ×  = 49 and  -  = 12, then what is the value of  +  ?
- A. 36 B. 20 C. 26 D. 19

12. Which of the following fractions represents the shaded part of the given figures?



- A. $\frac{3}{8}$ B. $\frac{3}{4}$ C. $\frac{5}{4}$ D. $\frac{1}{4}$

13. Select the CORRECT match.

- A. XIV + XXXVI = 66 B. XX - XVIII = 3
 C. XXXV + XXIX = 64 D. LX - XXXIX = 23

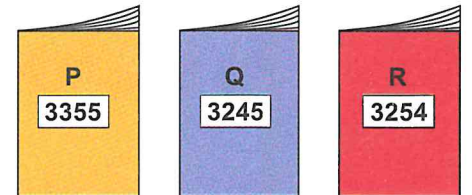
14. The given table shows the number of people from 4 different cities who participated in Dandiya competition in 2018 and 2019. How many more people participated in 2019 than in 2018 from the four cities?

Number of people		
	2018	2019
City P	3205	1804
City Q	4901	6308
City R	1600	3000
City S	1405	1807

- A. 2587
 B. 1808
 C. 4608
 D. 4205

15. Which of the following books will shows the number greater than 3280 but less than 3390, if the numbers are rounded off to the nearest hundreds?

- A. P
 B. R
 C. Q
 D. None of these



SPACE FOR ROUGH WORK

16. The given clock shows the time at which Sonika starts playing the guitar in the evening. She played guitar for 2 hrs 15 mins. Then after taking 20 minutes break, she did her homework for 1 hr 15 mins. At what time did she finish her homework?

- A. 8 : 05 p.m.
 B. 7 : 50 p.m.
 C. 8 : 00 p.m.
 D. 8 : 10 p.m.



17. Which of the following figures is a closed figure?

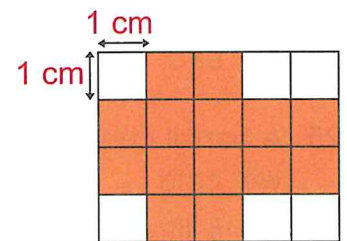
- A.  B.  C.  D. 

18. How many multiples of 10 lie between 125 and 225?

- A. 13 B. 14 C. 11 D. 10

19. Find the perimeter of the shaded part of the given figure.

- A. 12 cm
 B. 14 cm
 C. 16 cm
 D. 18 cm



20. The given table shows the rates of some items in a shopping mall. Study it carefully and answer the following question.

Item	Cost (in ₹)	Item	Cost (in ₹)
T-shirt	430.00	Shawl	1100.00
Saree	2100.00	Dupatta	130.00
Shirt	970.00	Pair of shoes	720.00
Watch	1200.00	Belt	120.00

Vishal wants to buy 2 shirts, 1 watch, 2 belts and 3 T-shirts. How much amount does he need to pay?

- A. ₹ 4670 B. ₹ 6100
 C. ₹ 5000 D. ₹ 5120

SPACE FOR ROUGH WORK

EVERYDAY MATHEMATICS

21. Mr Gupta travelled 75 km 800 m by car and 1800 km 40 m by air. How much distance did he travel in all?
A. 1875 km 840 m B. 1675 km C. 175800 km D. 255840 km
-
22. Manish buys a bag of rice weighing 4 kg 50 g from a shop every month. How much quantity of rice will he buy in 6 months?
A. 24 kg 300 g B. 22 kg 500 g
C. 18 kg 600 g D. 20 kg 500 g
-
23. 4250 pens were to be packed in 50 packets. How many pens could 1 packet contain, if each packet contains equal number of pens?
A. 60 B. 46 C. 500 D. 85
-
24. For a concert, the management has to arrange 1875 chairs in the hall. If they have already arranged 986 chairs, then how many more chairs do they need to arrange?
A. 970 B. 765 C. 889 D. 858
-
25. A barrel contains 30 litres of milk. A milk dealer empties it equally into 6 cans. Each can will hold _____ of milk.
A. 5 litres B. 24 litres C. 36 litres D. 180 litres
-
26. In a parking lot, there are 27 bikes and some cars. If there are 194 wheels altogether, then how many cars are there?
A. 36 B. 18 C. 16 D. 35
-
27. A cricket match started at 7:50 p.m. and it lasted for 3 hours 45 minutes. At what time did the match finish?
A. 10:35 p.m. B. 11:25 p.m. C. 11:35 p.m. D. 10:55 p.m.
-
28. Ruhanika bought 12 headphones for ₹ 3972. If each headphone has same price, then how much did she pay for one headphone?
A. ₹ 331 B. ₹ 530 C. ₹ 281 D. ₹ 361
-
29. Sahil has a field in the shape of a rectangle. The length of the field is twice its breadth. The breadth is 80 m. Find the perimeter of the field.
A. 360 m B. 480 m C. 460 m D. 520 m

SPACE FOR ROUGH WORK

30. There were 320 gems in a jar. If 150 of the gems were red and the rest of the gems were white, then what fraction of the gems was white?

- A. $\frac{17}{32}$ B. $\frac{15}{32}$ C. $\frac{13}{32}$ D. $\frac{19}{32}$

ACHIEVERS SECTION

31. Who among the following students has written the CORRECT statement?

Kavya : Fraction of vowels in the word EXPRESSION is $\frac{4}{5}$.

Shruti : Sum of 2 times of $\frac{15}{12}$ and 3 times of $\frac{18}{12}$ is 7.

- A. Only Shruti B. Only Kavya
C. Both Shruti and Kavya D. Neither Shruti nor Kavya

32. Read the following statements carefully and state 'T' for true and 'F' for false.

- (i) There are 24 thousands in 24058.
(ii) Every number is a factor of itself.
(iii) $78402 = 78 \text{ thousands} + 4 \text{ tens} + 2 \text{ ones}$.

- | | (i) | (ii) | (iii) |
|----|-----|------|-------|
| A. | T | T | F |
| B. | T | F | F |
| C. | F | T | T |
| D. | F | F | T |

33. Find the value of $\frac{P+Q+R}{5}$.

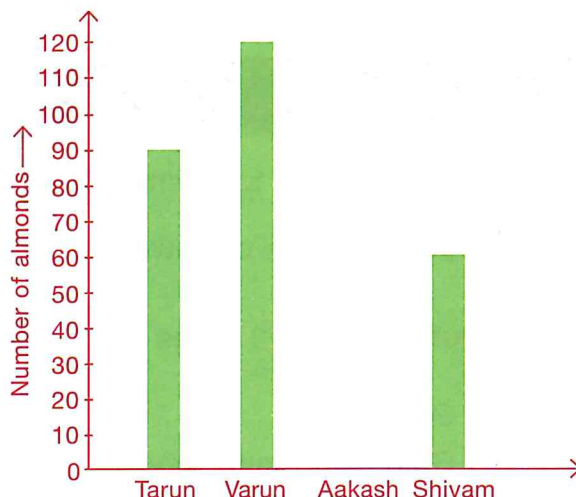
- A. 2
B. $\frac{11}{5}$
C. $\frac{12}{5}$
D. None of these

$$\begin{array}{r}
 1 \ 3 \ \boxed{Q} \ 5 \ 2 \\
 25 \overline{) 3 \ 2 \ 8 \ 8 \ 1 \ 9} \\
 \underline{- 2 \ 5} \\
 7 \ \boxed{P} \\
 \underline{- 7 \ 5} \\
 3 \ 8 \\
 \underline{- 2 \ 5} \\
 1 \ 3 \ 1 \\
 \underline{- 1 \ \boxed{R} \ 5} \\
 6 \ 9 \\
 \underline{- 5 \ 0} \\
 1 \ 9
 \end{array}$$

SPACE FOR ROUGH WORK

34. The given bar graph shows the number of almonds eaten by four friends. Study the graph carefully and answer the following questions.

- (i) If total 300 almonds were eaten by four friends, then find the number of almonds eaten by Aakash.
- (ii) What fraction of the total almonds was eaten by Varun?

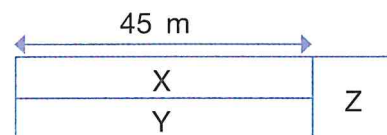


- | | |
|-------|---------------|
| (i) | (ii) |
| A. 30 | $\frac{3}{5}$ |
| B. 25 | $\frac{2}{5}$ |
| C. 25 | $\frac{1}{5}$ |
| D. 30 | $\frac{2}{5}$ |

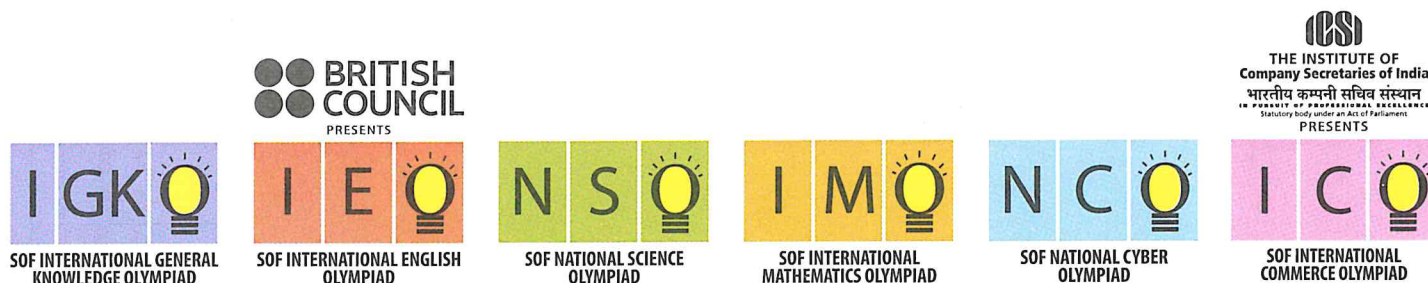
35. The given figure is made up of two rectangles and a square. The length of rectangle X is thrice that of square Z. Find the perimeter of

- (i) square Z
- (ii) the whole figure.

- | | |
|---------|-------|
| (i) | (ii) |
| A. 60 m | 150 m |
| B. 75 m | 450 m |
| C. 15 m | 90 m |
| D. 60 m | 125 m |



SPACE FOR ROUGH WORK



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