CLASS 5

MTP 2

IMO

SOF INTERNATIONAL MATHEMATICS OLYMPIAD

GUIDELINES FOR THE CANDIDATE

Total Questions : 50 | Time: 1 hr.

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 (15 Questions), **Mathematical Reasoning** (20 Questions), **Everyday Mathematics** (10 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: Rahul bought 4 kg 90 g of apples, 2 kg 60 g of grapes and 5 kg 300 g of mangoes. The total weight of all the fruits he bought is_____.

    A. 11.450 kg   B. 11.000 kg   C. 11.350 kg   D. 11.250 kg

    As the correct answer is option A, you must darken the circle corresponding to option A on the OMR Sheet.

    16. ● Ⓑ Ⓒ Ⓓ

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.

Name:..

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

1. Find the missing number, if a certain rule is followed either row-wise or column-wise.

   A. 50
   B. 30
   C. 36
   D. 25

3	14	4
7	?	8
8	26	5

2. Chetna is older than Swati. Payal is younger than Swati and Rachna. Rachna is not as old as Chetna. Who among the following is the youngest?
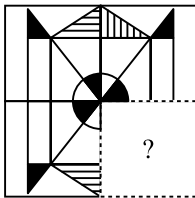
   A. Chetna
   B. Swati
   C. Payal
   D. Rachna

3. Which will come next in the given series?

   CH, EJ, HL, LN, QP, ?

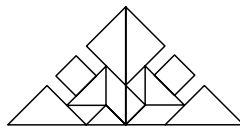   A. VS
   B. WS
   C. VR
   D. WR

4. Select a figure from the options, which when placed in the blank space of the given figure would complete the pattern.
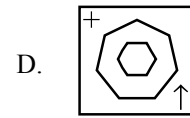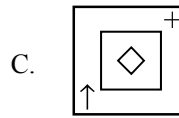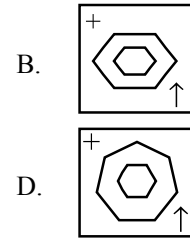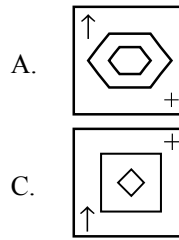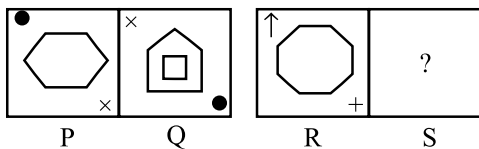
   A.
   B.
   C.
   D.

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

   A. 12
   B. 8
   C. 10
   D. None of these

6. There is a certain relationship between figures P and Q. Identify the similar relationship between figures R and S by selecting a suitable figure from the given options that would replace the (?) in figure S.

   P   Q   R   S

   A.
   B.
   C.
   D.

7. Ankita is facing towards South-West. She made a $\frac{3}{4}$ anti-clockwise turn first followed by a $\frac{1}{2}$ clockwise turn. In which direction is she facing now?

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

8. If Kartik starts his singing practice from second Thursday and he practices on only even dates, then how many days does he spent on practice during August 20XX? (Assume every sunday is a holiday.)

August 20XX						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

   A. 12
   B. 9
   C. 13
   D. 11

9. In a certain code language, if GRAVITY is written as HSBWJUZ, then how will EXCUSE be written in the same code language?
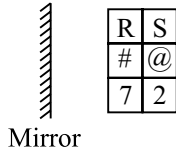
   A. FYDVTF
   B. FYEWTF
   C. GYDWTF
   D. FVDVUG

10. Which one of the following Venn diagrams correctly represents the relationship amongst "Week, Month and Year"?

    A.
    B.
    C.
    D.
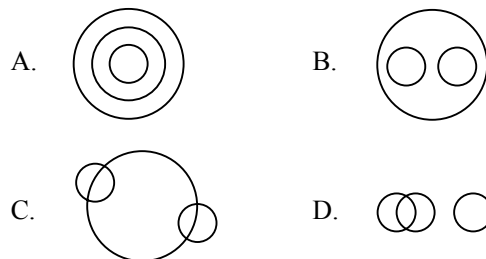
11. If the English alphabetical series is written in reverse order, then which letter will be 10th to the right of Q?

A. M   B. G
C. Z   D. K

12. Find the mirror image of the given figure.

Mirror

A.   B.

C.   D.

13. Arrange the following in a meaningful order, from particular to general.

1.	Family	2.	State
3.	Member	4.	Locality
5.	Country		

A. 3, 1, 2, 4, 5   B. 3, 1, 2, 5, 4
C. 3, 1, 4, 2, 5   D. 3, 1, 4, 5, 2

14. Find odd one out.

A.

B.

C.

D.
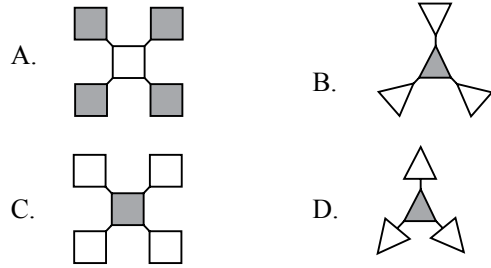
15. In which of the following options, the given figure is exactly figure embedded as one of its parts?

A.   B.

C.   D.
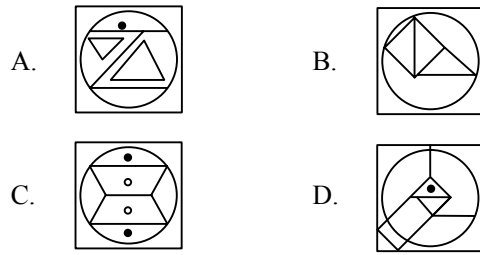
MATHEMATICAL REASONING

16. An angle which measures more than 180° but less than 360° is called _____ .
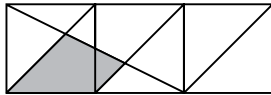
A. Acute angle   B. Obtuse angle
C. Reflex angle   D. Straight angle

17. Find the missing number.

$45 \times 120 = 0.01 \times$ ___?___

A. 545   B. 5400
C. 54000   D. 540000

18. The figure is made up of three squares. What fraction of the given figure is shaded?

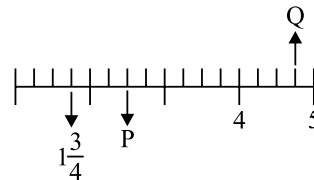A. $\dfrac{1}{5}$ B. $\dfrac{1}{6}$

C. $\dfrac{1}{7}$ D. $\dfrac{1}{3}$

19. Which of the following has greatest number of factors?

A. 25   B. 30
C. 10   D. 20

20. What is the sum of P and Q?

A. $5\dfrac{3}{4}$ B. $5\dfrac{1}{4}$

C. $7\dfrac{3}{4}$ D. $7\dfrac{1}{4}$

21. The length of a rectangle is thrice its breadth. If the length of the rectangle is 24 cm, then find its area.
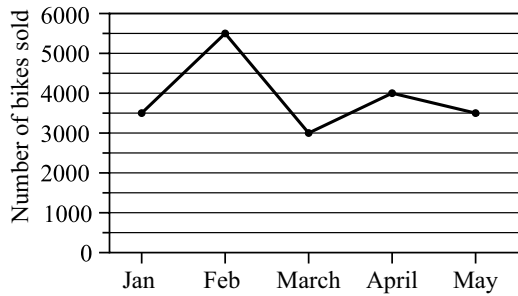
A. 198 sq. cm   B. 144 sq. cm
C. 192 sq. cm   D. 164 sq. cm

22. Arrange the following numbers in ascending order.

0.021, 0.201, 0.012, 0.102

A. 0.201, 0.102, 0.021, 0.012
B. 0.021, 0.012, 0.102, 0.201
C. 0.012, 0.102, 0.021, 0.201
D. 0.012, 0.021, 0.102, 0.201

23. The given line graph shows the number of bikes sold by a showroom in the first 5 months of the year.

What fraction of the total bikes were sold in March?

A. $\dfrac{1}{14}$ B. $\dfrac{2}{13}$

C. $\dfrac{3}{14}$ D. $\dfrac{4}{13}$

24. If $\dfrac{2}{3}$ of a number is 6, then what is 5 times of the same number?

A. 15   B. 30
C. 45   D. 90

25. When 156 is subtracted from 3 times of a number, the result is 192. Find the number.

A. 106   B. 116
C. 126   D. 136

26. 0.0024 + 0.024 + 0.0204 = _____ .

A. 0.048   B. 0.0048
C. 0.4068   D. 0.0468

27. HCF of 104 and 128 is _____ .

A. 4   B. 6
C. 8   D. None of these

28. 238850 is written in words as _____ .

A. Two lakh thirty eight thousand eight hundred and fifty.
B. Two lakh thirty eight thousand eight hundred and five.
C. Two lakh three thousand eight hundred and five.
D. Two lakh three hundred and eighty-eight and fifty.

29. Which square must be unshaded so that the figure has a line of symmetry?

A. P
B. Q
C. R
D. S
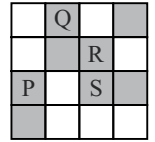
30. What type of angle formed between the two hands of the given clock?

A. Obtuse
B. Right
C. Acute
D. None of these

31. A paper clip is placed next to a scale.

What will be the length of another paper clip which is 1 cm 8 mm shorter than the shown clip?

A. 2 cm 3 mm   B. 2 cm 5 mm
C. 2 cm 6 mm   D. None of these

32. 1456.547 rounding off to the nearest hundredths gives _____.
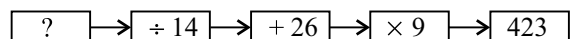
A. 1456.5   B. 1460
C. 1460.55   D. 1456.55

33. Which of the following Roman numeral represents the given sum?

1140 + 869

A. MMIX   B. MCXL
C. MCLX   D. DXVI

34. What is the missing number in the box?

? → ÷ 14 → + 26 → × 9 → 423

A. 294   B. 310
C. 414   D. 208

35. How many thousands are there in 9200 × 5?

A. 460   B. 406
C. 4600   D. 46

EVERYDAY MATHEMATICS

36. The total weight of 3 girls, Kavita, Vinti and Pooja is 256.5 kg. Kavita is 5.5 kg lighter than Vinti. Vinti is 10.4 kg heavier than Pooja. How heavy is Kavita?

A. 75 kg   B. 70.4 kg
C. 85.3 kg   D. 66.66 kg

37. Naina's height is 1 m 35 cm. She is 6 cm shorter than Ajit. What is the total height of Ajit and Naina?

A. 2 m 24 cm
B. 2 m 60 cm
C. 2 m 88 cm
D. 2 m 76 cm

38. The number of people who visited a Museum on Saturday was 14638. On Sunday, it was 23894 and on Monday, it was 6139. How many people in all visited Museum on these three days?

   A. 44617   B. 44167
   C. 44176   D. 44671

39. Aman buys 15 L 125 mL of cold drink. He drinks 10 L 875 mL of cold drink. How much drink is left with him?

   A. 3 L   B. 3 L 550 mL
   C. 2 L 450 mL   D. 4 L 250 mL

40. Gautam ran around a square track 4 times. The total distance that he ran was 4 km 480 m. Find the length of the side of the square track.

   A. 320 m   B. 280 m
   C. 120 m   D. 200 m

41. Namit spent 1 hour 37 minutes in singing and 1 hour 25 minutes in art and craft. How much time did he spent in both the activities?

   A. 3 hrs 2 mins   B. 2 hrs 3 mins
   C. 3 hrs 3 mins   D. 2 hrs 2 mins

42. 619 CD's were sold by a store. If each CD costs ₹ 1500, then how much money was earned by the sale of these CD's?

   A. ₹ 953505   B. ₹ 928500
   C. ₹ 953550   D. ₹ 920502

43. If Preeti typed 24576 words for presentation consisting of 128 pages. How many words each page contains, if each page has same number of words?

   A. 228   B. 208
   C. 192   D. 180

44. Each floor of a high rise building is fitted with 15 doors. There are 18 floors in each building. There are 20 such buildings in a complex. Calculate the total number of doors fitted in the buildings of the complex.

   A. 2400   B. 3000
   C. 6400   D. 5400

45. 18.75 kg of sugar is distributed equally among 25 people. How much sugar will each person get?

   A. 0.27 kg   B. 7 kg
   C. 1.25 kg   D. 0.75 kg

ACHIEVERS SECTION

46. Select the correct match.

   A. 3560 – MMMDXL
   B. 2625 – MMCDXXV
   C. 2894 – MMDCCCXCIV
   D. 3665 – MMMDCXLV

47. If $\star + \star + \star + \star + \star + \star = 252$

   and $\star \div \diamond = 7$, then find the value of

   $\diamond + \star$.

   A. 64   B. 48
   C. 60   D. 54

48. Raman is thinking of a 5-digit odd number. The number is a multiple of 5. Its tens digit is the highest common factor of 32 and 40. Its hundreds digit is the greatest odd number. Its thousands digit is an even prime number. It ten thousands digit is half of its tens digit. What number is he thinking of ?

   A. 42980   B. 22985
   C. 42982   D. 42985

49. Match the mixed fractions in Column I with their improper fractions in Column II.

Column I		Column II	
(i)	$5\dfrac{5}{11}$	p.	$\dfrac{23}{3}$
(ii)	$7\dfrac{8}{12}$	q.	$\dfrac{60}{11}$
(iii)	$4\dfrac{6}{12}$	r.	$\dfrac{98}{11}$
(iv)	$8\dfrac{10}{11}$	s.	$\dfrac{9}{2}$

   A. (i) → r, (ii) → q, (iii) → s, (iv) → p
   B. (i) → s, (ii) → r, (iii) → p, (iv) → q
   C. (i) → q, (ii) → p, (iii) → s, (iv) → r
   D. (i) → p, (ii) → r, (iii) → q, (iv) → s

50. A rectangular strip of paper with perimeter 64 cm is folded on both sides such that EABC and JIHG are squares. Find the area of the paper strip.

A. 120 sq. cm
B. 112 sq. cm
C. 116 sq. cm
D. 98 sq. cm

- -