	Āryabhaṭa Ganit Challenge 2019 First Stage	

Name					
Class		**Section**		**Roll No.**	

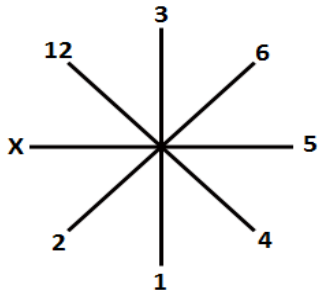
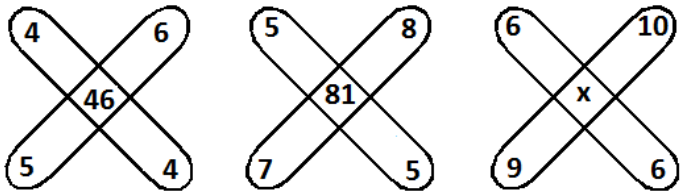
Maximum marks: 60 **Duration: 1 hour**

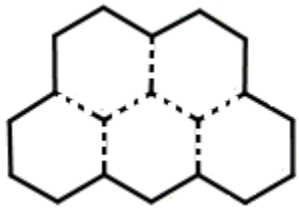
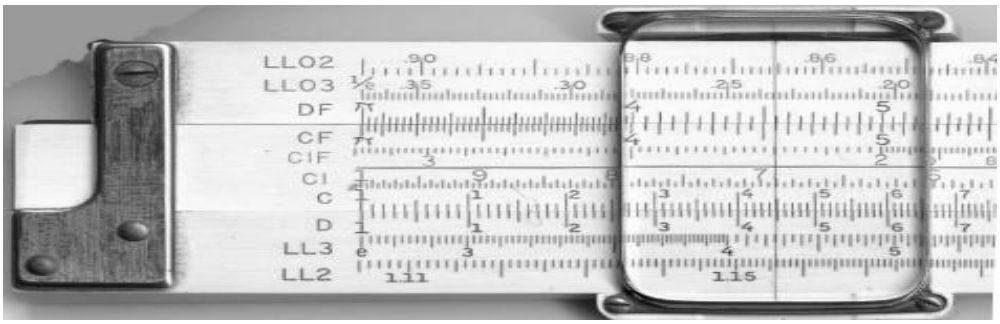
Instructions to the candidates:

1) No marks will be deducted for wrong answers.
2) Different questions may have different marks allocated.
3) Read the questions carefully and tick (✓) the most appropriate option or fill in the blank.
4) Do your rough work in the space provided.
5) **[**There is no separate answer sheet given.**]** Answer questions in this paper only.
6) After finishing the work, return your question paper with the answers to the invigilator.

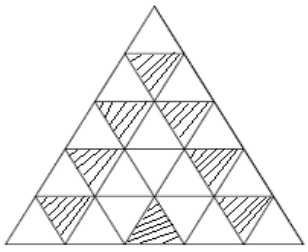
(Office Purpose only)					
Score		Evaluator's initial		Co-ordinator's initials	

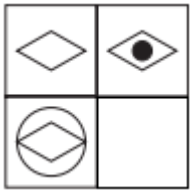
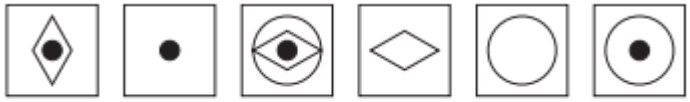
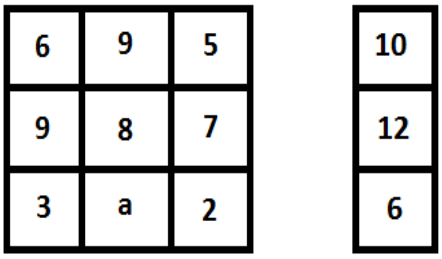
SPACE FOR ROUGH WORK

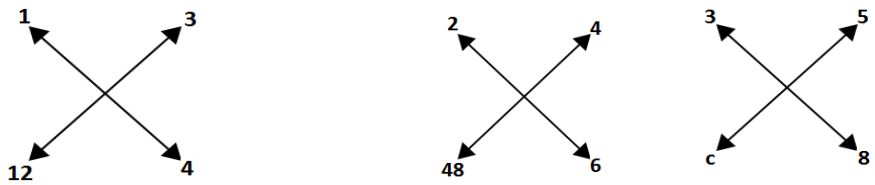
Q. No.	Question	Marks
1	In the given pattern, the value of x is  A) 10 B) 15 C) 20 D) 21	1
2	The value of x in the given figure is  A) 116 B) 60 C) 126 D) 101	1
3	A book has 250 pages. How many digits have been used to print the page numbers of the book? A) 637 B) 642 C) 750 D) 641	1
4	A monkey climbs 30 m at the beginning of each hour. It rests for a while and slips 20 m before it again starts climbing in the beginning of the next hour. If it starts climbing at 8 am, at what time will it first touch a flag at a height of 120 m from the ground ? A) 5pm B) 5:30 pm C) 6 pm D) 6:30 pm	1

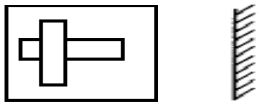
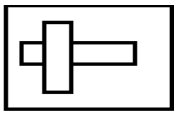
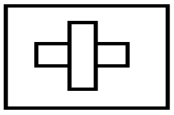
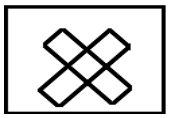
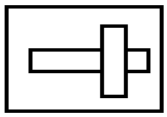
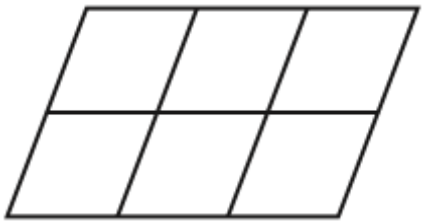
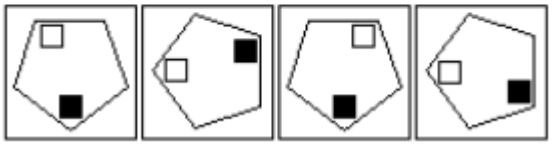
5	Each hexagon has a perimeter of 30cm. Five such hexagons are used to make the shape given below.  The perimeter of the shape is ……..cm	1
6	Identify the picture given below :  A) Log table B) Slide rule C) Mechanical ruler D) Vernier Callipers	1
7	Identify the photograph of this famous Indian Mathematician. A) Jayant Naralikar B) Narendra Karmarkar C) Dattathreya Ramchandra Kaprekar D) D.R. Kelkar	1

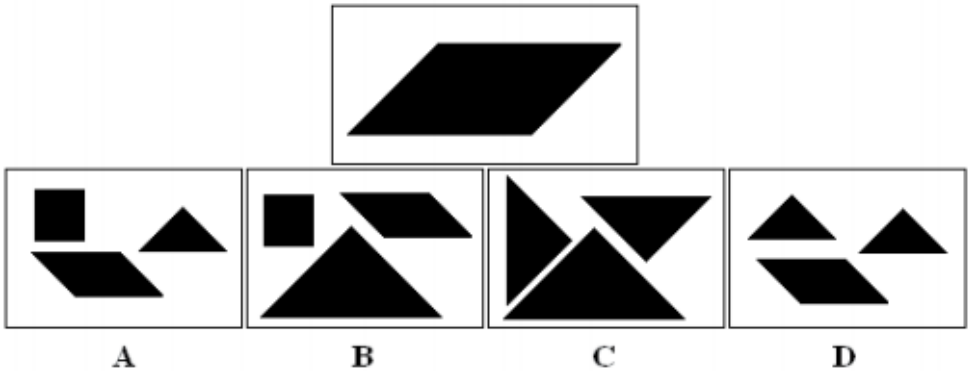
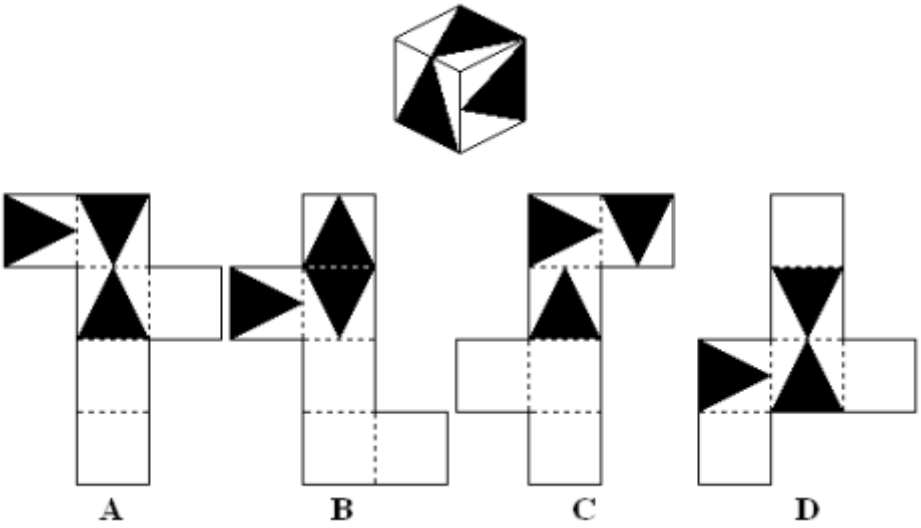
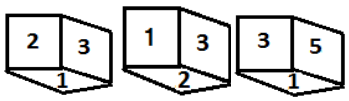
8	'Angul' was ancient Indian unit of a physical quantity. Identify this quantity. A) Temperature B) time C) length D) mass	1
9	Head Quarters of Indian Mathematical Society is at A) Pune B) Mumbai C) New Delhi D) Kolkata	1
10	With Caucher Birkar, Alessio Figalliand and Peter Scholze, an Indian origin Mathematician was awarded the Field medal, in 2018 . Name the Mathematician. A) Manjul Bhargava B) Ramachandran C) Akshay Venkatesh D) Amertya Sen	1
11	A clock is showing 4 O'clock. If hour needle moves an angle of 90°, then it will show :_____	1
12	Amit's birthday is on 5th June, Monday. His sister's birthday is on 15th August, which is A) Monday B) Tuesday C) Wednesday D) Thursday E) Friday F) Saturday	1
13	A hotel charges Rs. 500 for a room for a single person per night and then Rs. 100 for each additional person per night. A large family takes two rooms for a night and is charged Rs. 1500 in total. Number of members in the family are : A) 5 B) 7 C) 2 D) 6	1
14	By reducing the price of an article by 30%, its sale increases by 20%. What is the net effect on the revenue receipts? A) 15% increase B) 15% decrease C) 16% increase D) 16% decrease	1
15	Sheena is 5 years older than Sophia. If Sophia is m years old, write an expression for Sheena's age. A) m-5 B) m+5 C) m/5 D) 5/m	1
16	An algebra class normally has y students, but today just 2/3 students are present. The number of students present in class today are A) (2/3)y B) y/(2/3) C) y-(2/3) D) (2/3)-y	1

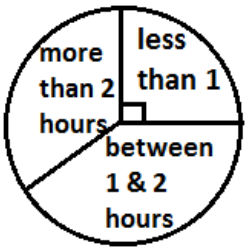
17	Asif deposited Rs.7000 in his account and he had Rs.8050 after 4 years. What was the yearly interest rate (simple interest)? A) 1.25 % B) 3.75% C) 2.25% D) 3.25%	1
18	Anisha's present age (in years) is a multiple of 9. Last year her age (in years) was a multiple of 11. If her age is between 30 years and 60 years, how old is she ? A) 44 years B) 45 years C) 54 years D) 55 years	1
19	There is exactly one hand shake exchanged between every two persons. How many handshakes are exchanged among 8 people ? A) 16 B) 28 C) 36 D) 56	1
20	Jay, Babita, Keshav and Deepa are standing on 4 (different) corners of square. Jay moves towards Keshav and reaches at his position in $20\sqrt{2}$ steps. Now Keshav will reach on Deepa's position in A) 4 steps B) 20 steps C) $10\sqrt{2}$ steps D) data is inadequate	1
21	There is one perfect number between 25 and 30. It is A) 26 B) 27 C) 28 D) 29	1
22	The factors of 187 are 17 and x. then x is A) 170 B) 204 C) 11 D) 19	1
23	556, 484 and 333 are examples of number with repeated digits. How many of the whole numbers from 10 to 101 have repeated digits? A) 9 B) 10 C) 11 D) 14	1
24	In a group of 40 singers and 80 dancers, 20% of the singers are less than 25 years of age and 40% of the entire group are less than 25 years of age. What per cent of the dancers are less than 25 years of age? A) 25% B) 30% C) 50% D) 60%	1
25	What percent of the entire figure is shaded?  A) 64% B) 32% C) 24% D) 16%	1

26	Value of $\sqrt{27-10\sqrt{2}}$ is A) 5 - $\sqrt{2}$ $B)$ $\sqrt{2}$ – 5 C) 2 - $\sqrt{5}$ $D)$ 2 + $\sqrt{5}$	1
27	½ + (¼)(3/4) = A) 3/8 B) 13/8 C) 11/16 D) 3/4	1
28	 Which is the missing tile ?  A B C D E F	1
29	Given that each of the following statements is true : (A) All young students dance. (B) Some students don't dance. (C) Some dancers are students. Then, which of the following statements is true? I. Some young dancers don't dance. II. Some dancers are young. III. Some dancers do not dance. A) I only B) II and III only C) I and II only D) III only	1
30	If 2-3-1999 was a Thursday, then number of Mondays in March 1999 will be _____.	1
31	The value of 'a' in the given table is  A) 5 B) 4 C) 2 D) 7	1

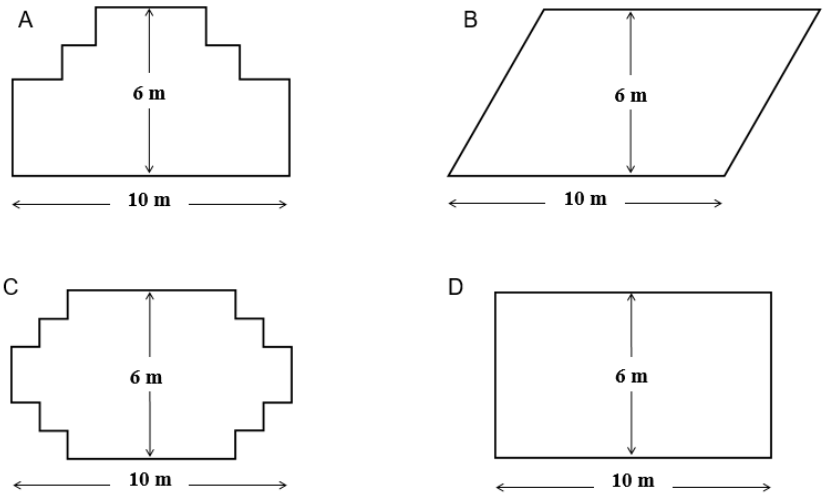
32	The value of c in the given pattern is  A) 96 B) 120 C) 72 D) 80	1
33	 Which figure should replace the * ? 	1
34	Assume that: • All JUNS are TIFS. • Some UMIS are HUNS. • All DAES are HYNS. • All TIFS are DAES. Which of the following is correct ? A) All DAES are HUNS B) Some JUNS are DAES C) All HUNS are HYNS D) All JUNS are HYNS	1
35	The circle A touches circle B and passes through the centre of circle B. If the area of the circle A is $100cm^2$, then the area of circle B is A) $200\ cm^2$ B) $300\ cm^2$ C) $400\ cm^2$ D) $500\ cm^2$	1

36	Mirror image of following figure will be  A)  B)  C)  D) 	1
37	How many parallelograms are there in the figure ?  A) 12 B) 15 C) 16 D) 18	1
38	Which figure is identical to the first? **First Figure**  **A** **B** **C** **D**	1

39	Which group of shape can be assembled to make the shape shown below?  	1
40	Which pattern can be folded to make the cube shown?  	1
41	Three bells ring at intervals of 12, 15 and 21 minutes. If they ring simultaneously at 9am, then next they will ring together at : A) 3 pm B) 6 pm C) 4 pm D) 12 pm	1
42	Three different views of a dice are given. Which number will be on opposite face of 3 ?  A) 1 B) 6 C) 5 D) 4	1

43	The cost of two toffees is Rs. 1.10 in total. The cost of first toffee is Re. 1.00 more than second toffee. How much does the second toffee cost ? Answer : Rs._____	1
44	The following pie chart shows the hours spent for study at home per day by class VIII students. What percent of students study at least for one hour ?  A) 25% B) $33\frac{1}{3}\%$ C) $66\frac{2}{3}\%$ D) 75%	1

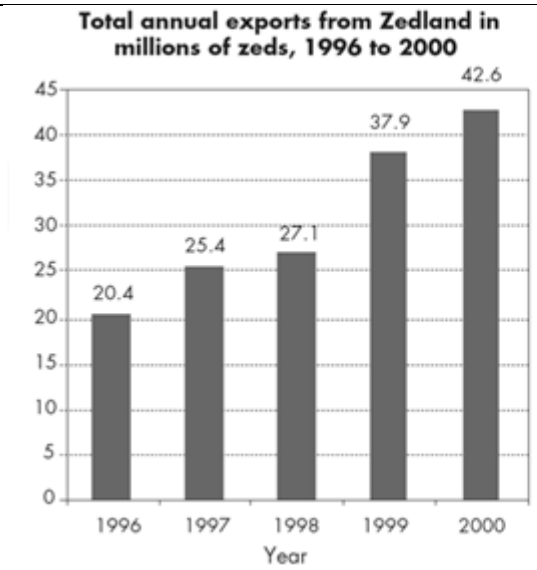
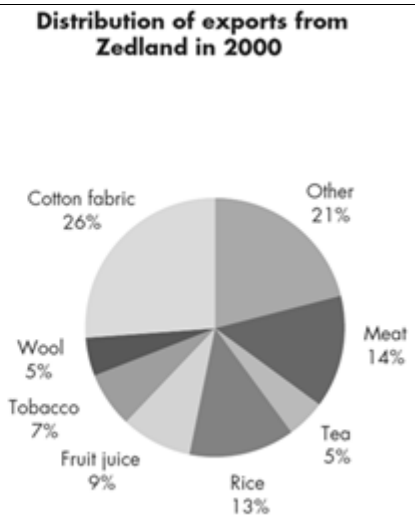
45	A carpenter has 32 metres of timber and wants to make a border around a garden. She is considering the following designs for the garden.	4



Tick(✓)either "Yes" or "No" for each design to indicate whether the border to garden can be made with 32 metres of timber.

Garden design	**Using this design, can the border to garden be made with 32 metres of timber?**	
Design A	Yes	No
Design B	Yes	No
Design C	Yes	No
Design D	Yes	No

46	Suresh (from Sydney, Australia) and John (from Berlin, Germany) often "chat" with each other on the Internet. They have to log on to the Internet at the same time to be able to chat. To find a suitable time to chat, Suresh looked up a chart of world times and found the following ; At 7:00 pm in Sydney, what time is it in Berlin? (2 marks) Answer:	4
	Suresh and John are not able to chat between 9:00 am and 4:30 pm their local time, since they have to go to school. Also, from 11:00 pm till 7:00 am their local time, they won't be able to chat because they will be sleeping. When would be a good time for Suresh and John to chat? Write the local times in the table. . (2 marks) **Place** | **Time** Sydney | Berlin |	

47	  The graphics above show information about exports from Zedland, a country that uses zeds as its currency. What was the total value (in millions of zeds) of exports from Zedland in 1998? (2 marks) Answer:	4
	What was the value of fruit juice exported from Zedland in 2000? (2 marks) A) 1.8 million zeds. B) 2.3 million zeds. C) 2.4 million zeds. D) 3.4 million zeds. E) 3.8 million zeds.	
48	There are 25 girls in a class. The average height of the girls is 130 cm. Write true or false in the space provided. Tick (✓) the appropriate option.	4

Statement	True or False
If there is a girl of height 132 cm in the class, there must be a girl of height 128cm	True False
The majority of the girls must have height 130 cm.	True False
If you rank all of the girls from the shortest to the tallest, then the middle one must have a height equal to 130cm	True False
Half of the girls in the class must be below 130 cm, and half of the girls must be above 130 cm.	True False

Source (45 to 48) : OECD PISA Items in public domain

Thank You!