

Time: 09.00 a.m. to 11.00 a.m.

CENTRE
CODE:

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DATE:

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EXAM SEAT NO.:

3	6	2	0	0	0					
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EXAM SEAT NO. (in words)

three	six	two	zero	zero	zero					
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NATIONAL TALENT SEARCH EXAMINATION 2019-20 (STD. X)
Mental Ability Test (MAT)

Instructions to the Candidates:

- 1) PART I Mental Ability Test Time 120 Minutes Maximum Marks 100
- 2) Write your Seat No. both in figures and in words on this Question Booklet (above) as Well as on the Answer Sheet (OMR Sheet) supplied to you.
- 3) Each question carries one Mark.
- 4) All questions are compulsory.
- 5) You have to mark your answers on Answer sheet provided with the Question Booklet. Each question is provided with four alternatives. Answer to each question is to be indicated by **making a dark circle on** the number of the correct alternative in the Answer sheet from amongst those given against the corresponding question in the Question Booklet.
- 6) Rough work can be done any where in the question booklet.
- 7) Extra time of 30 minutes will be allotted to the Physically Handicapped candidate with Defects of vision only.

Please Note the Centre Codes:

- | | |
|-----------------|------|
| 1. Bicholim | 0001 |
| 2. Bardez | 0002 |
| 3. Pernem | 0003 |
| 4. Sattari | 0004 |
| 5. Tiswadi | 0005 |
| 6. Ponda | 0006 |
| 7. Salcete | 0007 |
| 8. Sanguem | 0008 |
| 9. Canacona | 0009 |
| 10. Quepem | 0010 |
| 11. Dharbandora | 0011 |
| 12. Mormugao | 0012 |



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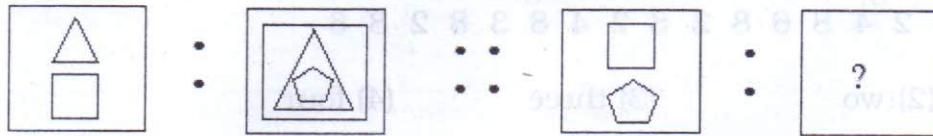
Mental Ability Test
Std X

1.	In the series given below, how many 8 are there which is exactly divisible by its immediate preceding as well as succeeding number? 2 8 3 8 2 4 8 2 4 8 6 8 2 8 2 4 8 3 8 2 8 6 (1) one (2) two (3) three (4) four
2.	If you count 21 letters in the English alphabet from the end and 20 letters from the beginning, which letter will exactly appear in the middle of the sequence thus formed? (1) N (2) K (3) M (4) L
3.	In a row of boys facing the North, A is sixteenth from the left end and C is sixteenth from the right end. B, who is fourth to the right of A, is fifth to the left of C in the row. How many boys are there in the row? (1) 39 (2) 40 (3) 41 (4) 42
4.	Standing on the platform, Amit told Sunita that Aligarh was more than 10 km but less than 15 km from there. Sunita knew that it was more than 12 km but less than 14 km from there. If both of them were correct, which of the following could be the distance of Aligarh from the platform? (1) 11km (2) 12km (3) 13km (4) 14km
	Directions: (Questions. 5 – 7) Five persons are sitting in a row. One of the persons at the extreme ends is intelligent and the other one is fair. A fat person is sitting to the right of a weak person. A tall person is to the left of the fair person and the weak person is sitting between the intelligent and the fat person.
5.	Tall person is at which place counting from right? (1) first (2) second (3) third (4) fourth
6.	Person to the left of weak person possesses which of the following characteristics? (1) intelligent (2) fat (3) fair (4) tall
7.	Which of the following persons is sitting at the centre? (1) intelligent (2) fat (3) fair (4) weak
8.	Pointing to a photograph, a woman said. "This man's sister is my mother-in-law." How is the woman's husband related to the man in the photograph? 1) grandson (2) nephew (3) son (4) son-in-law
9.	A is the uncle of B, who is the daughter of C and C is the daughter-in-law of P. How is A related to P? (1) brother (2) son (3) son-in-law (4) data inadequate



Directions: Q.No.10 – 11: there is a specific relations between first two figures A and B. Establish the same relationship between the set of figures C and D and select the correct figure amongst the four alternatives:

10.

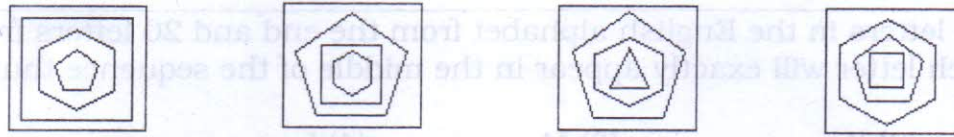


A

B

C

D



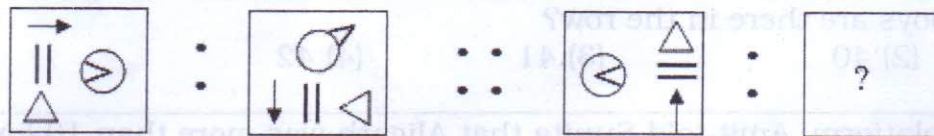
(1)

(2)

(3)

(4)

11.

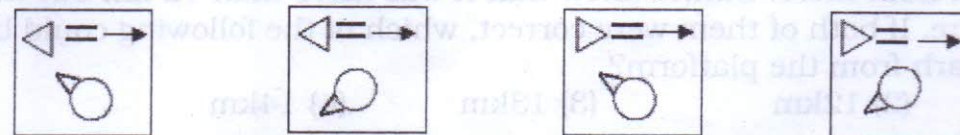


A

B

C

D



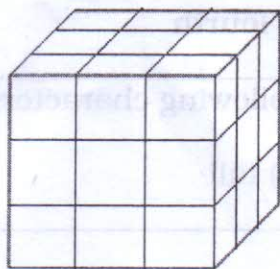
(1)

(2)

(3)

(4)

Directions: (Questions 12 – 14): A wooden cube is painted blue on all the four adjoining sides and green on the top and the bottom sides. It is then cut at equal distances at right angles as shown in the figure. Study the diagram carefully and answer the questions given below:



12.

How many cubes will have one face painted only in blue?

(1) 1

(2) 2

(3) 3

(4) 4

13.

How many cubes will have one face painted only in green?

(1) 1

(2) 2

(3) 3

(4) 4

14.

How many cubes will have no face painted?

(1) 1

(2) 2

(3) 3

(4) 0

	Directions: Q.No.15 – 17: Study the following coded relationship carefully and answer the questions that are given below them. C + D means C is the father of D; C – D means C is the wife of D; C D means C is the brother of D; C ÷ D means C is the daughter of D.																																																																									
15.	If J – L + K, which of the following statement is true? (1) J is the mother of K (2) K is the daughter of J (3) J is the aunt of K (4) J is the sister of K																																																																									
16.	If J L + M + K, which of the following statement is true? (1) J is the mother of K (2) K is the daughter of J (3) J is the aunt of K (4) J is the sister of K																																																																									
17.	If J L K, which of the following statement is true? (1) J is the uncle of K (2) J is the father of K (3) J is the brother of K (4) J is the son of K																																																																									
	Directions: (Questions. 18 – 22) Given below are two matrices containing two classes of letters. The rows and columns of matrix I are numbered from 0 to 4 and that of matrix II from 5 to 9. A letter from these matrices can be represented first by its row number and next by its column number. <table><tr><td></td><td>0</td><td>1</td><td>2</td><td>3</td><td>4</td></tr><tr><td>0</td><td>T</td><td>N</td><td>D</td><td>R</td><td>I</td></tr><tr><td>1</td><td>R</td><td>I</td><td>T</td><td>N</td><td>D</td></tr><tr><td>2</td><td>N</td><td>D</td><td>R</td><td>I</td><td>T</td></tr><tr><td>3</td><td>I</td><td>T</td><td>N</td><td>D</td><td>R</td></tr><tr><td>4</td><td>D</td><td>R</td><td>I</td><td>T</td><td>N</td></tr></table> <p style="text-align: center;">Matrix I</p> <table><tr><td></td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td>5</td><td>M</td><td>W</td><td>O</td><td>F</td><td>E</td></tr><tr><td>6</td><td>F</td><td>E</td><td>M</td><td>W</td><td>O</td></tr><tr><td>7</td><td>W</td><td>O</td><td>F</td><td>E</td><td>M</td></tr><tr><td>8</td><td>E</td><td>M</td><td>W</td><td>O</td><td>F</td></tr><tr><td>9</td><td>O</td><td>F</td><td>E</td><td>M</td><td>W</td></tr></table> <p style="text-align: center;">Matrix II</p>			0	1	2	3	4	0	T	N	D	R	I	1	R	I	T	N	D	2	N	D	R	I	T	3	I	T	N	D	R	4	D	R	I	T	N		5	6	7	8	9	5	M	W	O	F	E	6	F	E	M	W	O	7	W	O	F	E	M	8	E	M	W	O	F	9	O	F	E	M	W
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6	F	E	M	W	O																																																																					
7	W	O	F	E	M																																																																					
8	E	M	W	O	F																																																																					
9	O	F	E	M	W																																																																					
18.	Which set of numbers will represent the word TIME? (1) 23, 66, 01, 02 (2) 42, 11, 55, 66 (3) 44, 32, 61, 72 (4) 51, 63, 70, 90																																																																									
19.	Which set of numbers will represent the word ERODE? (1) 66, 10, 76, 02, 66 (2) 22, 55, 41, 62, 21 (3) 23, 01, 65, 10, 03 (4) 65, 11, 01, 76, 44																																																																									
20.	Which set of numbers will represent the word NEW? (1) 20, 66, 56 (2) 22, 68, 57 (3) 75, 32, 88 (4) 23, 55, 97																																																																									
21.	Which set of numbers will represent the word METER? (1) 62, 33, 44, 03, 57 (2) 55, 97, 12, 59, 03 (3) 76, 65, 87, 98, 00 (4) 65, 11, 01, 76, 44																																																																									
22.	Which set of numbers will represent the word DIRT? (1) 86, 85, 21, 12 (2) 55, 97, 12, 03 (3) 20, 66, 56, 39 (4) 21, 23, 34, 31																																																																									
	Direction: Q.No.23 – 32: In each of the following questions, four groups of words or letters or numbers are given. Three of them are alike in a certain way while one is different. Find the odd one out from the group.																																																																									
23.	(1) TSR (2) LKJ (3) PQO (4) HGF																																																																									
24.	(1) FG (2) DF (3) PR (4)MQ																																																																									
25.	(1) DfH (2) MoQ (3)UwY (4) pnO																																																																									

26.	(1) 129	(2) 130	(3) 131	(4) 132
27.	(1) 60	(2) 1	(3) 28	(4) 9
28.	(1) 1996	(2) 2006	(3) 1988	(4) 1980
29.	(1) 33116	(2) 34343	(3) 35512	(4) 36729
30.	(1) metre	(2) furlong	(3) acre	(4) mile
31.	(1) club	(2) hostel	(3) hotel	(4) motel
32.	(1) Nose	(2) Eyes	(3) Skin	(4) Teeth

Directions: Q. No. 33 – 37: In each of the following figures, the numbers are arranged according to certain rule. Find the missing number in place of ? from the alternatives given.

33.

3 C	24 D	8 E
7 I	21 K	3 M
4 D	?	7 J

(1) 11 E

(2) 28 G

(3) 35 I

(4) 48 F

34.

7	4	9	2
3	14	18	6
12	16	?	5
2	4	9	4

(1) 45

(2) 30

(3) 52

(4) 18

35.

10	11
13	5
13	

(1) 21

17	5
9	17
16	

(2) 13

19	6
7	10
14	

(3) 12

9	15
6	6
?	

(4) 15

36.

36		64
49	26	
	25	

(1) 19

81	9	25
	21	
	16	

(2) 23

64	25	144
	?	
	36	

(3) 25

(4) 31

37.

23	529	1024
21	441	144
19	361	?

(1) 1441

(2) 3529

(3) 8281

(4) 9361

Directions: Q.No.38 – 39: From the four figures given below, three are alike in a certain way and one is different. Find the odd figure

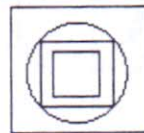
38.



(1)



(2)

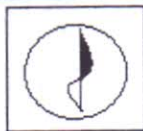


(3)



(4)

39.



(1)



(2)



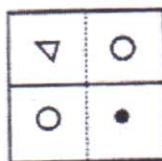
(3)



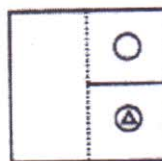
(4)

Directions: Q.No.40 – 41, In each question a square transparent sheet with a pattern is given. Find out from amongst the four alternatives as to how the pattern would appear when the transparent sheet is folded at the dotted line?

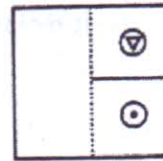
40.



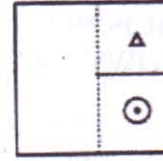
X



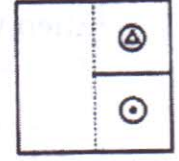
(1)



(2)

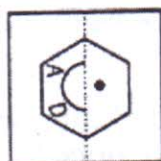


(3)



(4)

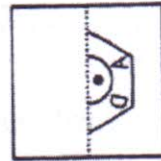
41.



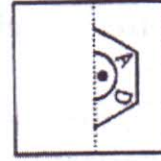
X



(1)



(2)



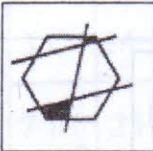



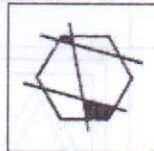
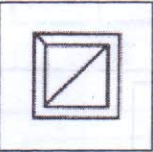

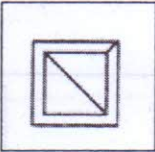
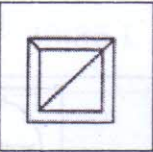
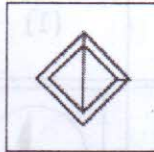
(3)


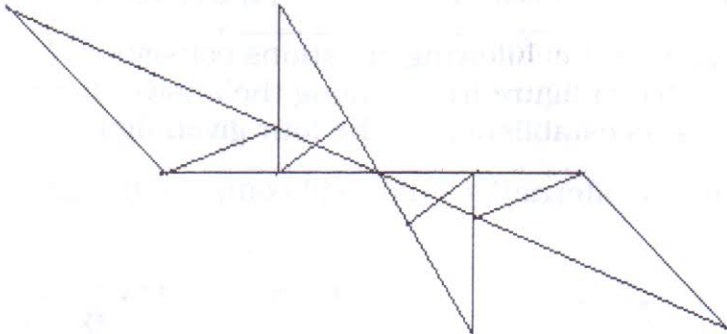


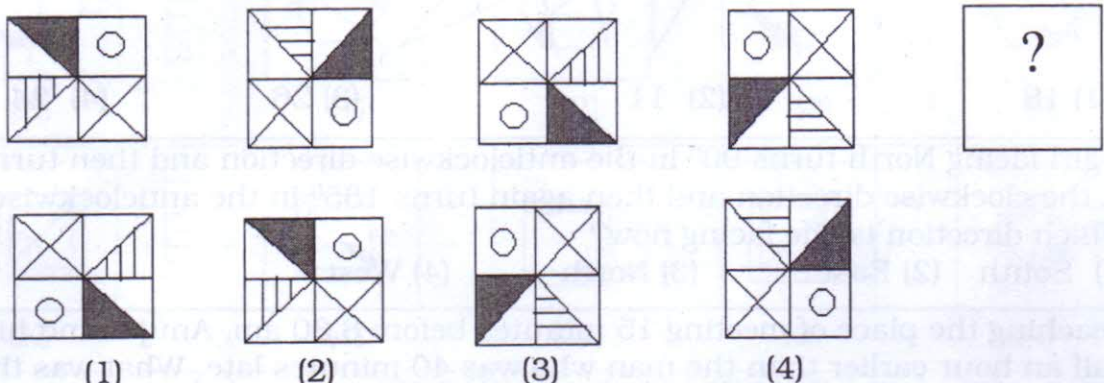
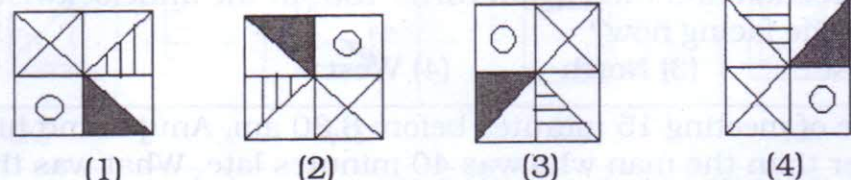
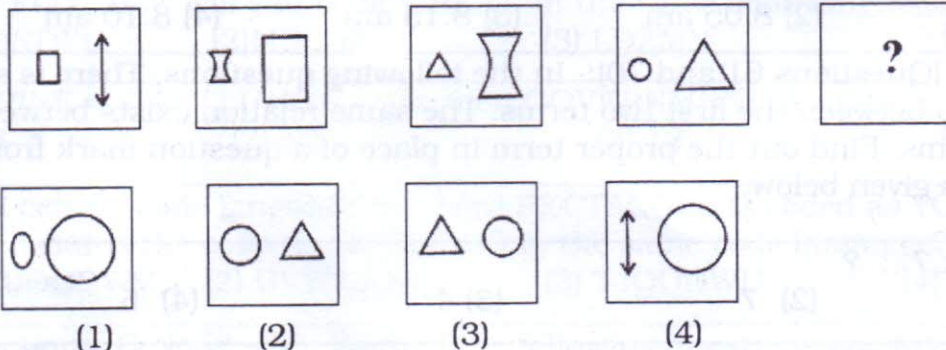
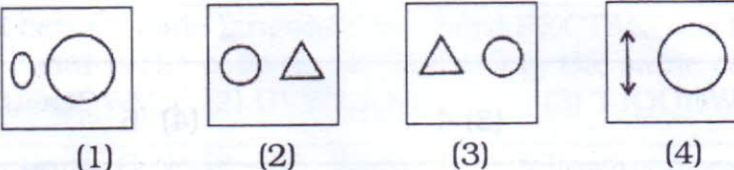
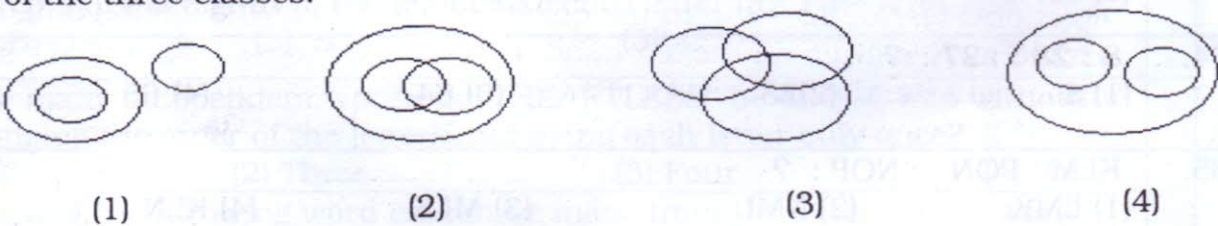
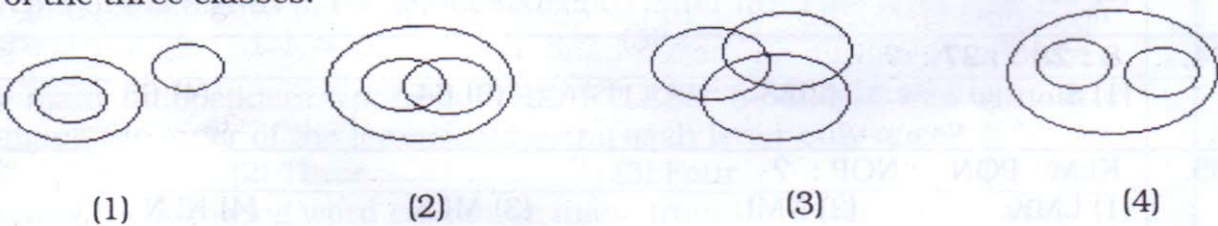
(4)

Directions: Q. No. 42 – 45: The numbers are obtained by using one of the rules given below. Identify and write the correct rule number against the question number.

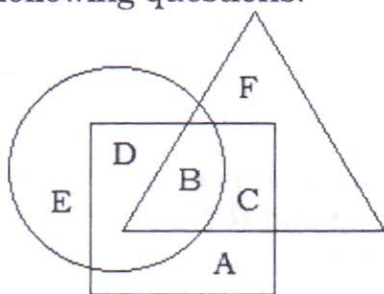
1. Square a number and add two.
2. Multiply a number by three and add three.
3. Divide a number by three and add the square of the quotient.
4. Square a number and subtract double the number.

42.	4, 10, 18, 28, 40.
43.	11, 38, 83, 146, 227.
44.	12, 21, 30, 39, 48.
45.	3, 24, 63, 120, 195
46.	There are 150 students in a group. 80% students speak English, and the rest of the students speak Hindi. 25% of English speaking students speak Hindi too. What is the total number of Hindi-speaking students? (1) 45 (2) 60 (3) 75 (4) 100
Directions: Q.No.47 – 48 , In each question choose the correct mirror image of Fig.(x)from amongst the four alternatives given along with it :	
47.	     <p>(X) (1) (2) (3) (4)</p>
48.	     <p>(X) (1) (2) (3) (4)</p>
49.	In a certain code language 'SUGAR' is coded as 'ZNMDB'. And 'TEA' is coded as 'FLD'. How will you code 'GREAT' in the same code language? (1) BNDFL (2) MBLDF (3) LDZMN (4) FLDZB
50.	If DRINK = 6, POLLUTION = 10, then GOVERNMENT is equal to ? (1) 8 (2) 10 (3) 12 (4) 11
51.	In a certain code language the word RECTANGLE is coded as TGEVCPING, then what is the code for RHOMBUS in the same code language? (1) TJOQDWV (2) UVWTJQN (3) TJQODWU (4) JTQOEWN
Directions: Q.No52 – 55: Each of the following questions are based on the alphabet series A to Z.	
52.	Which letter is exactly midway between H and S in the given alphabet? (1) L (2) M (3) O (4) No such letter
53.	Which letter is eighth to the left of sixteenth letter from the right end (1) B (2) S (3) C (4) H
54.	How many independent words can "HEARTLESS" be divided into without changing the order of the letters and using each letter only once? (1) Two (2) Three (3) Four (4) Five
55.	Which of the following word cannot be made from the letters of the word UNCONSCIOUS? (1) SON (2) COIN (3) SUN (4) NOSE
56.	which of the following is the correct dictionary sequence of the words: 1. Page, 2. Pagan, 3. Palisade, 4. Pageant, 5. Palate (1) 1,4,2,3,5 (2) 2,4,1,3,5 (3) 2,1,4,5,3 (4) 1,4,2,5,3

57.	How many rectangles are there in the given figure? 	(1) 24	(2) 28	(3) 32	(4) 36
58.	How many triangles are there in the given figure? 	(1) 18	(2) 11	(3) 26	(4) 24
59.	A girl facing North turns 90° in the anticlockwise direction and then turns 45° in the clockwise direction and then again turns 135° in the anticlockwise. Which direction is she facing now? (1) South (2) East (3) North (4) West				
60.	Reaching the place of meeting 15 minutes before 8.30 am, Anuj found himself half an hour earlier than the man who was 40 minutes late. What was the scheduled time of meeting? (1) 8.00 am (2) 8.05 am (3) 8.15 am (4) 8.10 am				
	Directions: (Questions 61 and 70): In the following questions, There is some relationship between the first two terms. The same relation exists between the last two terms. Find out the proper term in place of a question mark from the alternatives given below.				
61.	25 : 15 :: 7 : ? (1) 6 (2) 7 (3) 4 (4) 5				
62.	96 : 24 :: 120 : ? (1) 36 (2) 30 (3) 24 (4) 40				
63.	6 : 38 :: 8 : ? (1) 76 (2) 62 (3) 66 (4) 72				
64.	8 : 28 :: 27 : ? (1) 8 (2) 28 (3) 64 (4) 65				
65.	KLM : PON :: NOP : ? (1) LMK (2) NML (3) MLK (4) KLN				
66.	CEG : EGC :: LNP : ? (1) LPN (2) UWY (3) MOP (4) NPL				
67.	ACE : FHJ :: OQS : ? (1) PRT (2) RTU (3) TVX (4) UWY				

68.	Pigeon : Peace :: White flag : ? (1) Enmity (2) Victory (3) Surrender (4) War
69.	Apparent : Evident :: Hidden : ? (1) Dark (2) Concealed (3) Internal (4) Interior
70.	Detach : Affix :: Accumulate : ? (1) Vanish (2) Disappear (3) Exhaust (4) Dissipate
Directions Q. No.71 – 72 Each of the following questions consists of four figures that form a series. Select a figure from among the answer figures which will continue the same series as established by the four given figures.	
71.	Find the correct figure from the alternatives that will complete the given series of figures.  
72.	 
Direction: Q.No.73 – 75. Each question consists of three different classes. Identify the figure which best represent the relationship between the three classes in each question. The size of the circle do not indicate the relative size of the three classes.	
 	
73.	citizens, educated, men
74.	Mercury, mars, planets
75.	Water, atmosphere, hydrogen

Directions: Q.No.76 – 78: In the following figure, the circle represents the persons living in joint families, the triangle represents school teachers and the square represents married persons. Study the figure carefully and answer the following questions.



76. Which of the following represents married persons living in joint families but not working as teachers?

- (1) C (2) F (3) D (4) A

77. School teachers who are married but do not live in joint families are represented by

- (1) C (2) F (3) A (4) D

78. Persons who live in joint families, are unmarried and who do not work as teachers are represented by

- (1) C (2) B (3) E (4) D

79. If your birthday 30th June, 2003 was on Monday, on what day of the week does your birth day was in the year 2005?

- (1) Sunday (2) Tuesday (3) Wednesday (4) Thursday

80. A clock is set to show the correct time at 11 a.m. The clock gains 12 minutes in 12 hours. What will be the time when the watch indicates 1 p.m. on the 6th day?

- (1) 10 a.m (2) 11 a.m (3) 12 noon (4) none of these

81. A watch reads 4.30. If the minute hand points East, to what direction will the hour hand point?

- (1) North (2) North-East (3) North-West (4) South-East

Directions: Q. No. 82 – 83: In the questions given below, a question figure marked as X is given on the left hand side and four answer figures are given on the right hand side. Select the answer figure which can be formed from the cut-out pieces given in the figure X and write in the answer sheet.

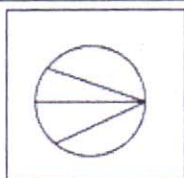
82.



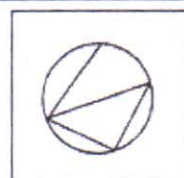
X



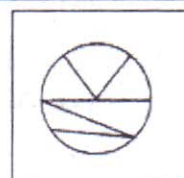
(1)



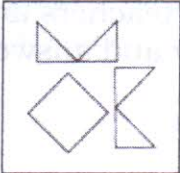
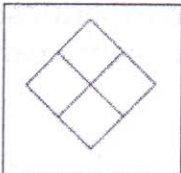
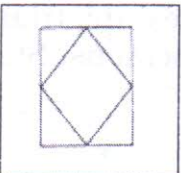
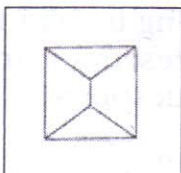
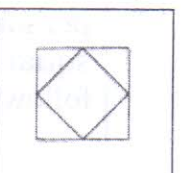
(2)



(3)

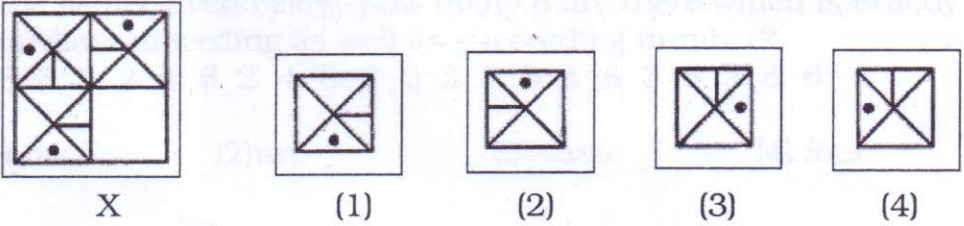
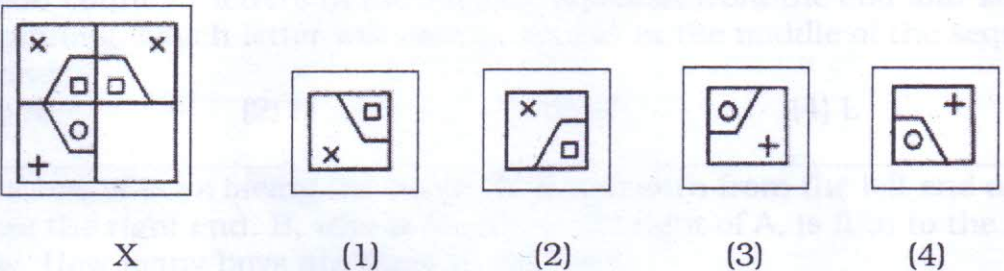


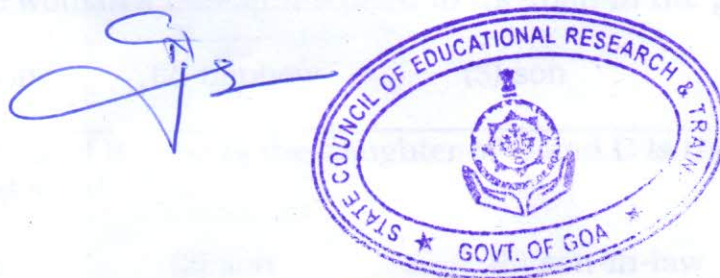
(4)

83.	     <p>X (1) (2) (3) (4)</p>
84.	<p>P is 300km Eastward of B and D is 400km south of B. R is exactly in the middle of P and D. What is the distance between D and R ?</p> <p>(1) 500km (2) 250km (3) 300km (4) 700km</p>
85.	<p>A boy was asked to multiply a certain number by 25. He multiplied it by 52 and got his answer more than the correct answer by 324. Find the number to be multiplied?</p> <p>(1) 12 (2) 15 (3) 25 (4) 52</p>
	<p>Directions: Q.No. 86 – 90: In each of the following questions, the numbers are arranged according to some rule. Identify the rule and select the alternative that will complete the series and write :</p>
86.	<p>4, 9, 13, 22, 35, ?</p> <p>(1) 57 (2) 70 (3) 63 (4) 75</p>
87.	<p>1, 1, 3, 9, 6, 36, 10, 100, ?, 225</p> <p>(1) 25 (2) 15 (3) 20 (4) 16</p>
88.	<p>6, 7, 15, 46, 185, ?</p> <p>(1) 226 (2) 230 (3) 271 (4) 926</p>
89.	<p>4, 9, 24, 69, ?</p> <p>(1) 165 (2) 193 (3) 204 (4) 218</p>
90.	<p>2, 12, 36, 80, 150, ?</p> <p>(1) 194 (2) 210 (3) 252 (4) 258</p>
	<p>Directions: Q. No. 91 – 94: In each of the following questions, the alphabets are arranged according to some rule. Identify the rule and select and write the alternative that will complete the series :</p>
91.	<p>AZ, GT, MN, ?, YB</p> <p>(1) KF (2) RX (3) SH (4) TS</p>
92.	<p>2A 11, 4 D 13, 12 G 17, ?</p> <p>(1) 36 I 19 (2) 36 J 21 (3) 48 J 21 (4) 48 J 23</p>
93.	<p>A – B B C – A A B – C C A – B B C C</p> <p>(1) ACBA (2) ABBA (3) CABA (4) BACB</p>
94.	<p>a – b c c b – c a – c c a – b a a b – c</p> <p>(1) a b c a a (2) a b a b c (3) a c c a b (4) b a c a a</p>



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	Direction: Q.No.95 – 96: A part of the figure marked X is missing. The missing part is given among the four alternatives. Select and write the correct answer.
95.	 <div style="display: flex; justify-content: space-around; margin-top: 10px;"> X (1) (2) (3) (4) </div>
96.	 <div style="display: flex; justify-content: space-around; margin-top: 10px;"> X (1) (2) (3) (4) </div>
97.	<p>If - means + , + means - , × means ÷ and ÷ means × , Then the value of $7 - 8 \times 4 \div 6 + 4$ is ____</p> <p>(1) 3 (2) 12 (3) 15 (4) 23</p>
	<p>Directions: Q.No.98 – 100: Study the information given below and answer the questions that follows:</p> <p>Six lectures A, B, C, D, E and F are to be organized in a span of seven days, Sunday to Saturday, only one lecture on each day accordance with the following:</p> <ul style="list-style-type: none"> i) A should not be organized on Thursday. ii) C should be organized immediately after F. iii) There should be a gap of two days. iv) One day there will be no lecture (Friday is not that day), just before that day D will be organized v) B should be organized on Tuesday and should not be followed by D.
98.	<p>On which day there is no lecture?</p> <p>(1) Monday (2) Friday (3) Sunday (4) None of these</p>
99.	<p>How many lectures are organized between C and D?</p> <p>(1) Two (2) Three (3) Four (4) None</p>
100.	<p>On which day the lecture F will be organized?</p> <p>(1) Thursday (2) Friday (3) Sunday (4) Saturday</p>



NATIONAL TALENT SEARCH EXAM (NTSE) 2019-20

MENTAL ABILITY TEST (MAT)

ANSWER KEY

D.O.E. 03/11/2019

Q	A	Q	A	Q	A	Q	A	Q	A
1	2	21	2	41	2	61	1	81	2
2	3	22	4	42	3	62	2	82	3
3	2	23	3	43	1	63	3	83	2
4	3	24	1	44	2	64	4	84	2
5	2	25	4	45	4	65	3	85	1
6	1	26	3	46	2	66	4	86	1
7	2	27	1	47	4	67	3	87	2
8	1	28	2	48	2	68	3	88	4
9	2	29	1	49	2	69	2	89	3
10	2	30	3	50	4	70	4	90	3
11	1	31	1	51	3	71	2	91	3
12	4	32	4	52	4	72	1	92	4
13	2	33	2	53	3	73	2	93	1
14	1	34	2	54	2	74	4	94	2
15	1	35	3	55	2	75	3	95	4
16	3	36	4	56	3	76	3	96	3
17	4	37	3	57	2	77	1	97	3
18	2	38	4	58	4	78	3	98	1
19	1	39	2	59	1	79	4	99	2
20	1	40	2	60	2	80	2	100	1



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