Time : 09.00a.m. to 10.30 a.m.

CENTRE:								

DATE:	1	3	1	2	2	0	2	0

EXAM SEAT NO. (in words)	one	three	six	two	one	zero	zero				

NATIONAL MEANS-CUM MERIT SCHOLARSHIP SCHEME EXAMINATION 2020-21 (STD. VIII)

Mental Ability Test (MAT)

Instructions to the Candidates:

1) PART I Mental Ability Test Time 90 Minutes Maximum Marks 90

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.

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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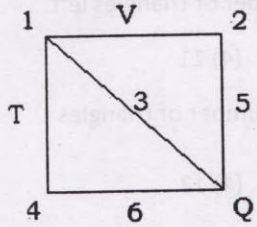
MENTAL ABILITY TEST – NMMSE 2020-21
Std VIII

Directions: Q.No.1 – 2. In a certain code language,
TEMPER is written as 123425 and TICKET is written as 167821. With this information, solve the following questions:

Q.1. Which digits will be used to write the word ICE?
(1) 762 (2) 627 (3) 672 (4) 267

Q.2. Which word will be formed by using the digits 461?
(1) TIC (2) PIT (3) KIT (4) MET

Directions: Q.No.3 – 4. In the following figure letters P to X are arranged in a specific order. Numbers have been used in place of certain letters. Critically observe the pattern and answer the given questions.



Q.3. Which letter will come in place of 4 ?
(1) X (2) R (3) S (4) U

Q.4. Which letter will come in place of 1 ?
(1) P (2) R (3) W (4) U

Directions: Q.No.5 - 12, Study the given pattern and choose the correct answer out of the given four alternatives that will complete the series.

Q.5. 1, 2, 12, 27, 58, 121, ____
(1) 246 (2) 247 (3) 248 (4) 249

Q.6. 3, 18, 13, 24, 41, _____
(1) 70 (2) 75 (3) 80 (4) 85

Q.7. 97, 86, 73, 58, 45, _____
(1) 34 (2) 54 (3) 55 (4) 56

Q.8. 5, 16, 49, 104, _____
(1) 115 (2) 148 (3) 170 (4) 181

Q.9. 13, 27, 58, 125, _____
(1) 251 (2) 266 (3) 255 (4) 256

Q.10. N5V, K7T, ____, E14P, B19N
(1) I10R (2) H10Q (3) H9R (4) H10R

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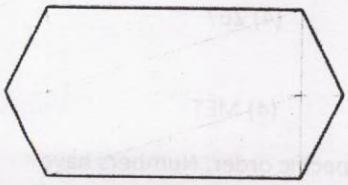
Q.11. DMU, EOT, FQS, ____

(1) GRT (2) GSR (3) GSQ (4) HSR

Q.12. 3F, 7G, 12I, 18L, ____

(1) 25P (2) 27Q (3) 21O (4) 25N

Directions (Questions 13 and 14). Observe the given figure and answer the questions given below



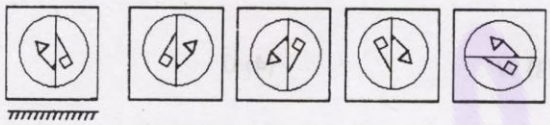
Q.13. If the horizontal line in the centre of the figure is taken away, then find the number of triangles left.

(1) 4 (2) 3 (3) 2 (4) 11

Q.14. What is the difference of the number of triangles in the original figure and the number of triangles formed after the horizontal line in the centre is taken away ?

(1) 4 (2) 6 (3) 8 (4) 12

Q.15. In the given question choose the correct water image of Fig.(X)from amongst the four alternatives given along with it :



(X) (1) (2) (3) (4)

Q.16. Which of the following options will perfectly fit to the given Venn diagram?



(1) school, benches, blackboard (2) India, Karnataka, Delhi

(3) days, month, year (4) storybook, textbook, magazine

Q.17. If B is the product of two different composite numbers, then B is.

(1) 32 (2) 39 (3) 10 (4) 6

Q.18. In a certain language OT is coded as NPSU and RUN is coded as QSTVMO. Then how is DOG coded in that language?

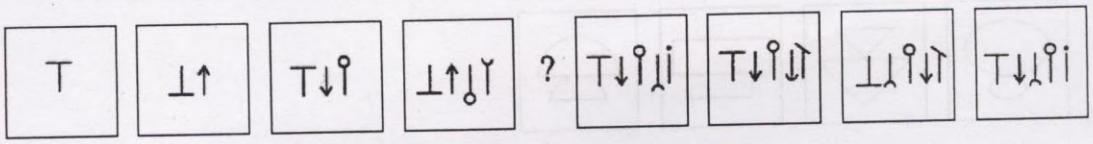
(1) CENPFI (2) CEFJNP (3) CENPFJ (4) CENJFP

Q.19. In the alphabetical series the number of letters that occurs between B and F is one fourth times the number of letters between K and the other letter. Which is that other letter?

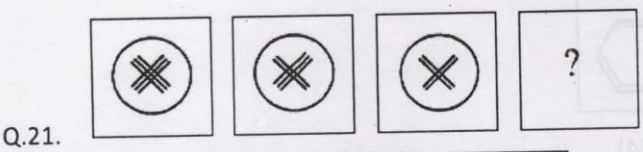
(1) A (2) W (3) X (4) Y

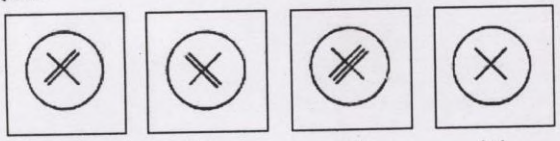
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Directions: Q.No.20 - 21, In each question there is a Series of figures with some specific relations between them. Establish the same relationship and select the correct option that completes the given series .

Q.20. 

(1) (2) (3) (4)

Q.21. 



(1) (2) (3) (4)

Q.22. Neeta is older than Jaya by 15 years. After 8 years, the sum of their ages will be 35 years. Then what is Neeta's present age?

(1) 21 years (2) 25 years (3) 18 years (4) 17 years

Q.23. Rahul's mother is the only daughter of Monika's father. How is Monika's father related to Rahul ?

(1) uncle (2) grandfather (3) father (4) brother

Q.24. Deepak is the brother of Ravi. Rekha is sister of Atu. Ravi is son of Rekha. How is Deepak related to Rekha?

(1) son (2) brother (3) father (4) nephew

Q.25. In the given question, an equation becomes incorrect due to the interchange of two signs. One of the four alternatives, specifies the interchange of sign in the equation, which will make the equation correct. Find the correct signs.

$16 - 8 \div 4 + 5 \times 2 = 8$

(1) + and × (2) ÷ and + (3) – and ÷ (4) – and +

Q.26. Geeta is sitting to the left of Raju. Raju is sitting to the left of Vinay. Vivek and Akash are sitting to the right of Vinay. Who is sitting to the extreme left ?

(1) Geeta (2) Raju (3) Vinay (4) Vivek

Q.27. If DRAMA = 37, and STAGE = 52 then ACTOR = ?

(1) 56 (2) 50 (3)57 (4) 67

Q.28. If the position of the first and sixth digits of the sequence of numbers 8903 2145 75 are inter-changed the second and the seventh and so on, which number would be seventh from the right end ?

(1) 2 (2) 8 (3) 6 (4) 7

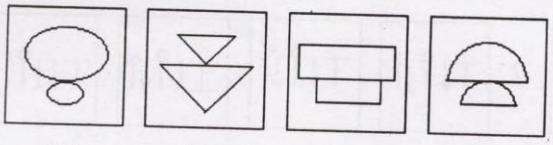
Q.29. Which of the following product is not an odd number ?

(1) K × L (2) Q × S (4) C × G (3) M × U

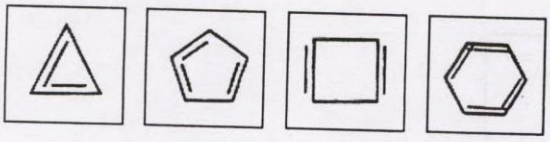
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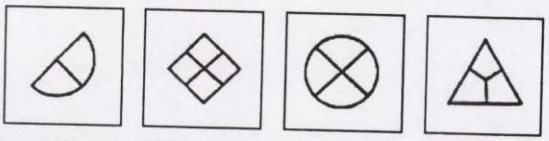
Directions: In Qn. 30 – 32, From the four figures given below, three are alike in a certain way and one is different. Find the odd figure.

Q.30. 

(1) (2) (3) (4)

Q.31. 

(1) (2) (3) (4)

Q.32. 

(1) (2) (3) (4)

Directions: Q.No.33 – 37. In the letter/number series given below some letters/numbers are missing. The missing letters/numbers are given in proper order in one of the alternatives. Find the correct answer that completes the rhythmic series.

Q.33. a b _ a b b a _ b a_ b a

(1) abbb (2) aabb (3) bbbb (4) aaaa

Q.34. _ b c c _ b b a a_ c c b b b – a b

(1)cbca (2) ccba (3) ccca (4) abba

Q.35. 1_ 0 1 1 _ 0 0 1 1 _ 1 0 _ 0 1 1

(1) 1110 (2) 1011 (3) 1111 (4) 0110

Q.36. _ b c c b _ a b c _b a a _ c

(1) acbc (2) aacb (3) bcac (4) abcc

Q.37. 3 4 _ 4 5 1 5 1 _ 1 _ 3 2 3 4 _ 4

(1) 5123 (2) 4225 (3) 5223 (4) 3124

Directions: Q.No.38 – 44. In each of the following questions a set of numbers/ alphabets or words are given which is analogous to each other in some way. A third number is given after the mark :: which bears a similar relationship to one of the numbers given in the options. Find the correct number.

Q.38. 11 : 120 :: 14: ?

(1) 192 (2) 169 (3) 135 (4) 195

Q.39. 7 : 98 :: 9 : ?

(1) 166 (2)162 (3) 172 (4) 169

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Q.40. D : H:: N : ?
(1) S (2) Q (3) R (4) T

Q.41. CAT : DDY :: BIG : ?
(1) CEP (2)CLL (3) CLM (4) CML

Q.42. Compass : Direction : : Clock : ?
(1) Minute (2) Time (3) Hour (4) Seconds

Q.43. Wrist : Elbow : : Knee : ?
(1) Foot (2) Fingers (3) Ankle (4) Heels

Q.44. 5 : 155 :: 4 : ?
(1) 82 (2) 266 (3) 132 (4) 84

Directions: Q.No.45 - 49, A five digit number is formed by using numbers 4, 5, 6, 7 and 8. Letters P, Q, R, S and T are used at random to represent these digits. P indicates an even number, Q is not used for 4 or 5. R is used for 8, S is used for 5 or 7. T is not used for 5, 6 or 7. Analyze the given information and answer the following.

Q.45. For which number is the letter P used?
(1) 4 (2) 6 (3) 8 (4) 7

Q.46. For which number is the letter S used?
(1) 5 (2) 6 (3) 8 (4) 7

Q.47. For which number is the letter T used?
(1) 8 (2) 7 (3) 5 (4) 4

Q.48. For which number is the letter Q used?
(1) 7 (2) 6 (3) 8 (4) 5

Q.49. Which number is represented by STR?
(1) 458 (2) 854 (3)548 (4) 748

Q.50. There are four towns P, Q, R and T. Q is to the South-West of P, R is to the East of Q and South-West of P and T is to the North of R in line with OP. In which direction of P is T located?
(1) South-East (2) North (3) North-East (4) East

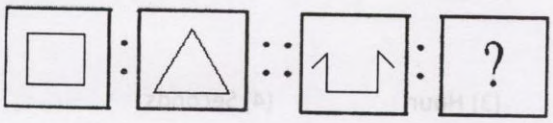
Q.51. In a certain code language, *'pit na som* means, 'bring me water' , *'na jo tod'* , means 'water is life', *'tub od pit'* means 'give me toy' and *'jo lin kot'* means 'life and death'. What is the code used for 'is' in that language?
(1) jo (2) na (3) tod (4) lin

Q.52. If water is called black, black is called tree, tree is called blue, blue is called rain rain is called pink, pink called fish in a certain language, what will the colour of sky be called in that language?
(1) Blue (2) Fish (3) Rain (4) Pink

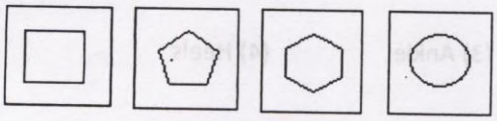
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Directions: In Qn. 53 – 54. In each of the following figures. There is some relationship between the figures A and B. the same relationship exists between the figure C and one of the four alternatives. Choose the correct alternative figure.

Q.53.

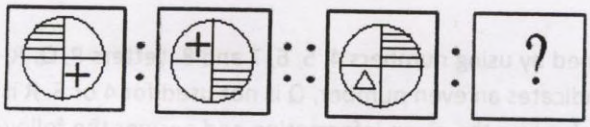


A B C D

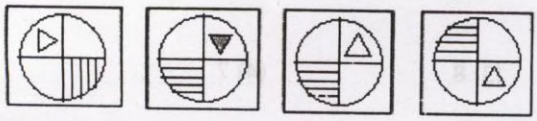


(1) (2) (3) (4)

Q.54.



A B C D



(1) (2) (3) (4)

Q.55. A clock reads 4:30. If the minute hand points East, in which direction will the hour hand point?

(1) north (2) north west (3) south east (4) north east

Q.56. If x means – , + means ÷ , – means x and ÷ means +, then 15 - 2 ÷ 900 + 90 x 20 = ?

(1) 60 (2) 20 (3) 180 (4) 0

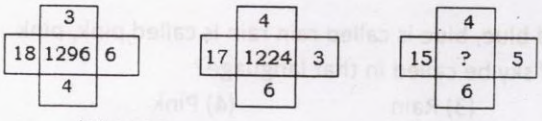
Direction: Q.No.57 – 60.find the missing number in each of the following by referring the given pattern.

Q.57.

9	(289)	8
10	(225)	5
7	(?)	6

(1) 119 (2) 169 (3) 266 (4) 81

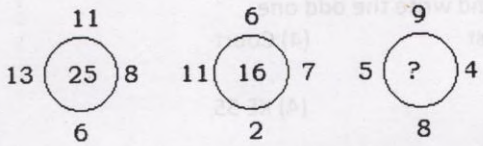
Q.58.



(1) 1800 (2) 1950 (3) 2450 (4) 1460

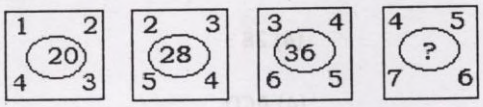
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Q.59.



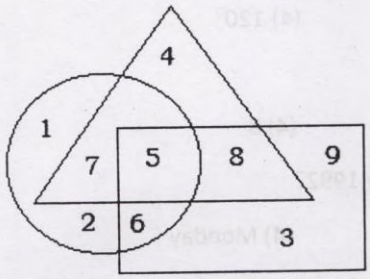
(1) 4 (2)0 (3) 9 (4) 1

Q.60.



(1) 40 (2) 44 (3) 10 (4) 48

Directions (Questions 61 to 63) : In the following figure, triangle represents female graduates, circle represents self employed females and the rectangle represents self-employed females with bank loan facilities. Numbers are shown in the different sections of the figure. Answer the following:



Q.61. How many female graduates are self-employed?

(1) 12 (2) 15 (3) 22 (4) 20

Q.62. How many female graduates are not self-employed?

(1) 4 (2) 10 (3) 12 (4) 15

Q.63. How many female self employed graduates are with bank loan facility?

(1) 4 (2) 8 (3) 5 (4) 12

Directions (Questions 64 and 65). A solid cube is painted red on two adjacent sides and black on the sides opposite to the red sides. The remaining sides are painted green. The cube is then cut into 64 smaller cubes of equal size. Each side of the smaller cube measures 2 cms. Answer the following questions.

Q.64. How many cubes are there with no side painted?

(1) 0 (2) 8 (3) 16 (4) 4

Q.65. How many cubes have only one side painted?

(1) 48 (2)32 (3) 24 (4) 8

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Questions 66 to 71 : Directions : In each of the following questions, there are four sets of numbers/letters or words. Each set has one group is different from others. Identify and write the odd one.

Q.66. (1) Engineer (2) Doctor (3) Journalist (4) Court

Q.67. (1) CD 12 (2) WB 48 (3)RD 72 (4) KE 55

Q.68. (1) Wheat (2) Jawar (3) Mustard (4) Maize

Q.69. (1) 397 (2) 586 (3) 597 (4) 478

Q.70. (1) 343 (2)126 (3) 65 (4) 28

Q.71. (1) PRS (2) FHI (3) UWY (4) ACD

Q.72. An accurate clock shows 8 O'clock in the morning. Through how many degrees will the hour hand rotate when the clock shows 2 O'clock in the afternoon?

(1)144^0 (2) 150^0 (3) 168^0 (4) 180^0

Q.73. What is the angle formed between minute hand and hour hand at 5 o'clock ?

(1)72^0 (2) 150^0 (3) 75^0 (4) 120^0

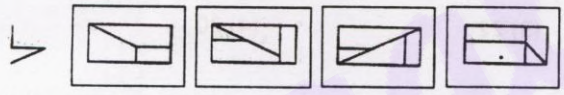
Q.74. Find the last digit of the number24^{273}

(1) 2 (2) 6 (3) 4 (4) 8

Q.75. If 25th December 1992 was Friday, then what was the day on 10th May 1992?

(1) Sunday (2) Saturday (3) Tuesday (4) Monday

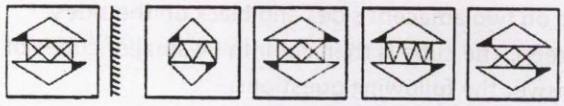
Q.76. In the given question, figure (X) is given. It is embedded in one of the four alternative figures. Find the correct one.



(X) (1) (2) (3) (4)

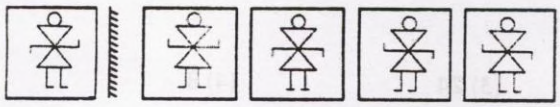
Directions (Questions 77 and 78). In the given question choose the correct mirror image of Fig.(X)from amongst the four alternatives given along with it :

Q.77.



(X) (1) (2) (3) (4)

Q.78.



(X) (1) (2) (3) (4)

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Q.79. Facing towards South Pramod walked 50 metres. He then turned to his right and walked 30 metres. He again turned right and walked 50 metres. How far was he from his original position and towards which direction ?

(1) 20 metres East (2) 30 metres South (3) 20 metres North (4) 30 metres West

Q.80. If 5 × 9 = 144, 7 × 8 = 151 and 4 × 6 = 102, then 2 × 5 = ?

(1) 37 (2) 97 (3) 73 (4) 77

Direction: Q.No.81 – 82. Find the missing number in each of the following by referring the given pattern

Q.81.

2	8	16
3	27	81
4	?	256

(1)16 (2) 64 (3) 32 (4) 128

Q.82.

3C	27D	9E
7I	21K	3M
4D	(?)	7J

(1)11E (2) 35I (3) 28G (4) 48F

Direction: In questions 83 and 84 ,the numbers are obtained by using one of the rules given below. Identify and write the correct rule number.

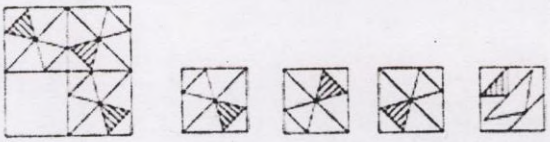
1. Add three to the square of the number.
2. Subtract the number from its cube.
3. Square a number and add the same number.
4. Divide the number by seven and add two to the square of the quotient.

Q.83. 6, 18, 27, 51, 66

Q.84. 67, 52, 19, 7

Directions (Questions 85 and 86).

Q.85. Given below an incomplete figure X. Select the correct part from the alternative that will complete the figure.

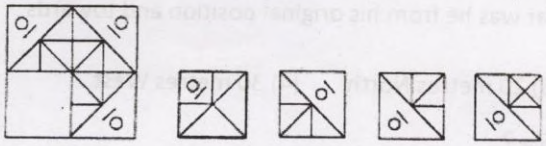


(X) (1) (2) (3) (4)

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Q.86.



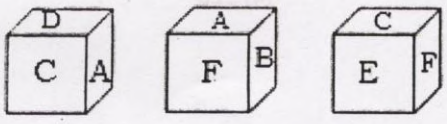
(X) (1) (2) (3) (4)

Q.87. If – means ÷ , + means ×, ÷ means – and × means + , then which of the following equations is correct?

(1) $52 \div 4 + 5 \times 8 - 2 = 36$ (2) $43 \times 7 \div 5 + 4 - 8 = 25$

(3) $36 \times 4 - 12 + 5 \div 3 = 420$ (4) $36 - 12 \times 6 \div 3 + 4 = 60$

Q.88. Which letter will appear opposite to letter D?



(1) B (2) A (3) F (4) C

Q.89. If today is Sunday. What day will it be eleven days after tomorrow?

(1) Tuesday (2) Wednesday (3) Thursday (4)Friday

Q.90. In the question below are given two statements followed by two conclusions numbered I and II. You have to take the given two statements to be true even if they seem to be at variance from commonly known facts. Read the conclusions and then decide which of the given conclusions logically follows from the two given statements. Choose the answer from given four alternatives

Statements : A) All lamps are poles.

B) All poles are doors .

Conclusions : I) some doors are lamps.

II) some poles are lamps.

(1) Only I follows (2) only II follows (3) I and II follows (4) I and II do not follow

THE END

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NATIONAL MEANS CUM MERIT SCHOLARSHIP SEARCH EXAM (NMMSSE) 2020-21

MENTAL ABILITY TEST (MAT) Std.VIII

ANSWER KEY(Corrected)

D.O.E. 13/12/2020

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



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